61684

Case. I

Spinal Caries. I.

E. P. Female. 8½. Sir William Gowers. 1910.

Op. Sir Victor Horsley.

Family History. Nil.

Previous Health. Fall at 2½ years. 3 months later spinal curvature developed. Was kept on spinal carriage for 3 years.

Present Illness. 18 months ago legs began to jump and become stiff, steadily got worse with loss of power and incontinence. 12 months ago some loss of sensation in legs.

State on Admission. 21.4.09.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Weakness of lower abdominal muscles.

Lower Extremities. Almost complete spastic paraplegia.

Sensory System.

Objective. Slight defect in sensibility to cotton wool over lower extremities. No other sensory defect.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus.	Plus.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	Absent.	Absent.
Plantars.	Extensor.	Extensor.

Sphincters. Incontinence.

Spine. Prominence of dorsal spines, apex 9th. dorsal, no local tenderness.

EX BIBL. UNIV. EDINBURGEN.

Operation. 14.5.09. Sir Victor Horsley.

Spines and laminae of 6th. to 10th. dorsal vertebrae removed. An encapsulated tubercular abscess extending from the posterior mediastinum compressed the anterior aspect of the cord at this level. Abscess opened and scraped and irrigated with 1 in 100 perchloride of mercury.

29.9.09. A sinus from the wound was scraped out.

General condition excellent. No sensory loss. Some improvement in power of legs.

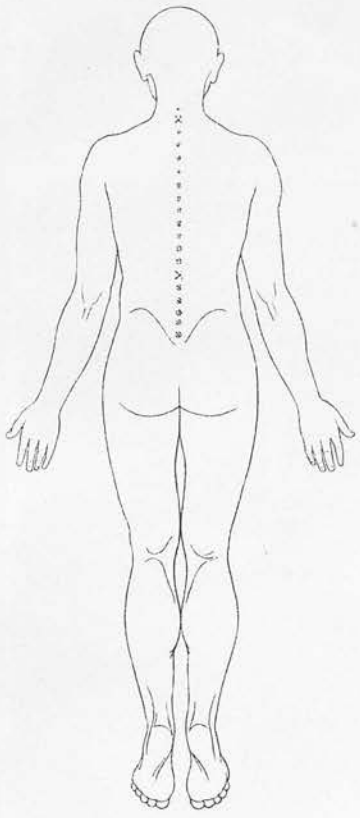
Case II.

Spinal Caries.

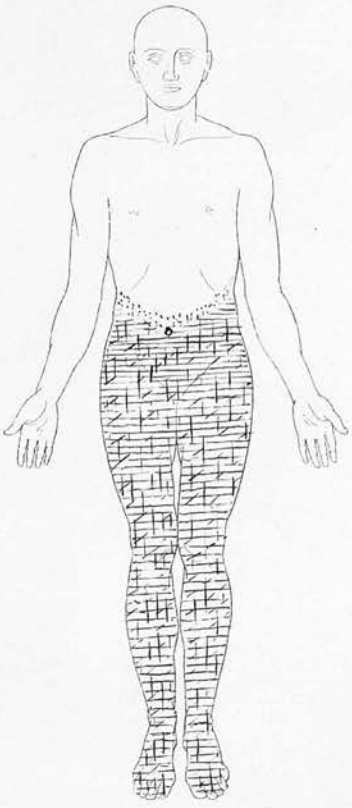
G. B. Male. 31. Sir William Gowers. 1905.

Complaint. Difficulty in walking.

Family History. Tuberculous.







Gait. Unsteady, spastic and slightly ataxic.

Sensory System.

Subjective. Girdle sensation above level of umbilicus, shooting pains at same level.

Objective. Tactile lost up to level of umbilicus. Pain and thermal diminished but not lost to same level. Sense of position good in both lower extremities. There is a zone of hyperalgesia just above level of umbilicus.

Case II.

Spinal Caries.

G. B. Male. 31. Sir William Gowers. 1905.

Complaint.	Difficulty in walking.
Family History.	Tuberculous.
Previous Health.	Deformity of spine since 2 years of age. Enteric fever 1901.
Present Illness.	5 months ago after exposure to cold developed intense pain round R. side above the iliac crest, later on L. side with girdle sensation. 4 months ago both legs became weak and numb. Difficulty in starting micturition. He was admitted into St. Thomas' Hospital where under rest he improved. He was sent out a month before admission to Queen Square.

State on Admission. 8.3.05.

Cranial Nerves.	Normal.
Motor System.	
Upper Extremities.	Normal.
Trunk.	Slight weakness of lower abdominal muscles.
Lower Extremities.	No wasting, slight spasticity and rigidity with weakness of both legs, R. greater than L. Flexor spasms at night.
Gait.	Unsteady, spastic and slightly ataxic.
Sensory System.	
Subjective.	Girdle sensation above level of umbilicus, shooting pains at same level.
Objective.	Tactile lost up to level of umbilicus. Pain and thermal diminished but not lost to same level. Sense of position good in both lower extremities. There is a zone of hyperalgesia just above level of umbilicus.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus with clonus.	Plus with clonus.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	Absent.	Absent.
Plantars.	Extensor.	Extensor.

Sphincters. Now no defection.

After 4 months treatment in bed, patient was kept at absolute rest, he improved. Extensor responses and ankle clonus still remain.

Sent out with poroplastic jacket.

Spine. Marked deformity owing to great kyphosis in upper dorsal region where there is a rounded curvature. No sign of tubercle elsewhere, no tenderness on pressure.

Case III

Spinal Caries.

R. M. Male. 57. Dr. Beevor. 1904.

Op. Sir Victor Horsley.

Family History. Good.

Previous Health. Syphilis 20 years ago, treated 3 months. Ulcerated legs 10 years and also 5 years ago.

Present Illness. 12 months ago occasional pain in L. hypochondrium.
10 months ago was pitched out of a cart but was not made worse.
8 months ago pain increased passing round to spine.
7 months ago he had weakness of L. leg with reflex spasms, also numbness in L. foot
1 week later R. leg became weak and he had some retention of urine.
6½ months ago he had incontinence of urine and was obliged to take to his bed as he could not walk. He had girdle pain about level of 6th. dorsal segment and gradually lost all power in his legs and also sensation. Had some fever at night during the last year.

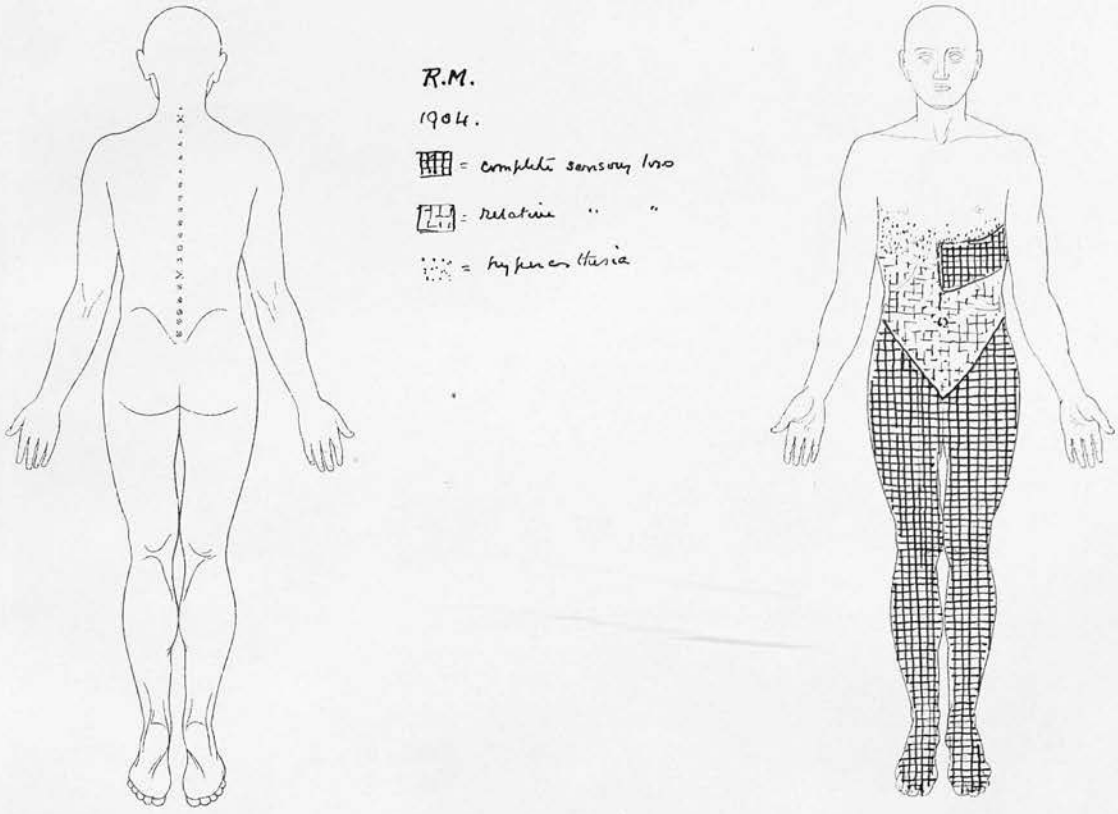
State on Admission

Cranial Nerves. Special Senses. Normal.
Motor System.
Upper Extremities. Normal.
Trunk. Slight weakness of Recti abdominis.
Lower Extremities. Spastic paralysis complete in L. leg only. Slight voluntary power to move foot and toes of R. leg. No muscular wasting.

Sensory System.

Subjective. Painful girdle sensation over hypochondrium and occasionally completely round the body at this level.

Objective. Complete loss to cutaneous pain, heat, cold and touch below the level of 12th. dorsal segment.
On L. side over the 7th. and 8th. dorsal root areas there is an area in which there is complete loss to all forms of sensibility. Over the trunk and abdomen up to the level of 7th. dorsal segment there is relative sensory loss.
Hyperaesthesia over 6th. dorsal area.



involved by granulation tissue – the root and its ganglion were removed. A communication was present at the level of the 6th. dorsal vertebra which passed from the body of the vertebra into the posterior mediastinum. Wound became infected and patient died from septic meningitis.

Sensory System.

Subjective. Painful girdle sensation over hypochondrium and occasionally completely round the body at this level.

Objective. Complete loss to cutaneous pain, heat, cold and touch below the level of 12th. dorsal segment.
On L. side over the 7th. and 8th. dorsal root areas there is an area in which there is complete loss to all forms of sensibility. Over the trunk and abdomen up to the level of 7th. dorsal segment there is relative sensory loss.
Hyperaesthesia over 6th. dorsal area.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus	Plus.
Ankle	"	"
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Cremasteric.	Present.	Present.
Plantars.	Extensor.	Extensor.

Sphincters. Incontinence of urine and constipation.

Spine. Some prominence over 6th. dorsal vertebra, tenderness on pressure over 5th. and 6th. spines and also over 7th. and 8th.
Movement limited and causing pain.
Viscera healthy.

Operation. 21.4.04. Sir Victor Horsley.

Spines and laminae of 5th. 6th. 7th. and 8th. dorsal vertebrae removed, the 6th. dorsal vertebra was diseased. The cord did not pulsate below level of 6th. vertebra, but after the removal of some tubercular tissue from in front of the body of the vertebra the cord began to pulsate. The L. root of 7th. dorsal segment was involved by granulation tissue - the root and ita ganglion were removed. A communication was present at the level of the 6th. dorsal vertebra which passed from the body of the vertebra into the posterior mediastinum. Wound became infected and patient died from septic meningitis.

Post Mortem. No disease in lungs except from congestion. Tubercular disease of spine especially in upper and mid-dorsal regions. Septic meningitis of cord and base of brain. Dura was thickened and adherent to the bone. Cord was softened. Both pleura were the seat of recent adhesions over the lower lobes.

Case IV.

Spinal Caries.

K. H. Female. 46. Dr. Ferrier. 1906.

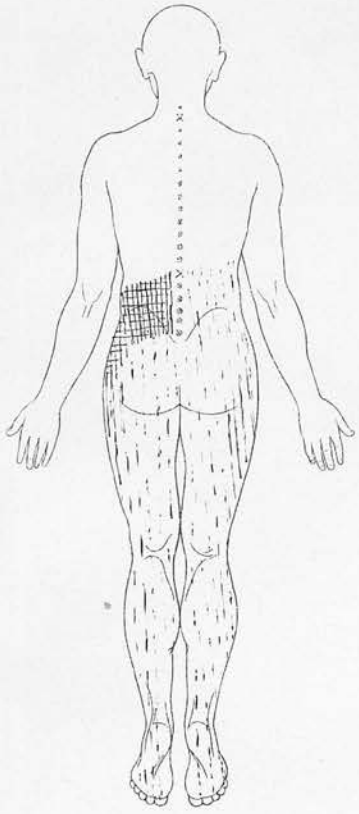
Op. Mr. Ballance.

Family History. Consumption.

6.

moderate loss to pain & touch.

very slight loss.

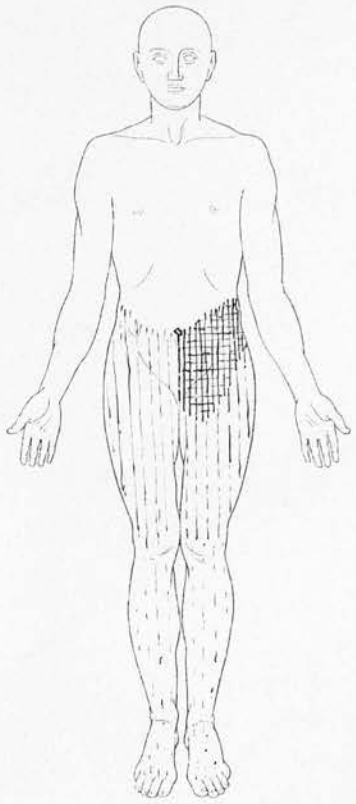


K. H. female.
1906

▦ = moderate loss to pain and touch.

▨ = Very slight loss.

Loss of sense of position in legs.



unable to stand.

Sensory System.

Subjective. Numbness in both legs. Pain and tenderness on pressure over 8th. dorsal spine.

Objective. Analgesia and anaesthesia on L. side from the level of the umbilicus as low down as and including 2nd. lumbar root area, elsewhere below level of umbilicus very slight diminution, practically none below the knees on sacral areas

Spine. Prominence of 12th. dorsal and 1st. and 2nd. lumbar. Tenderness on pressure over 8th. dorsal and 12th. dorsal and 1st - 2nd. lumbar.

Case IV.

Spinal Caries.

K. H. Female. 46. Dr. Ferrier. 1906.

Op. Mr. Ballance.

Family History. Consumption.

Previous Health. Never strong, no serious illness. 18 years ago had pain in L. sciatic nerve which lasted 5 years off and on.

Present Illness 14 months had a dull pain low down on L. side.
7 months had acute pain in lower part of Dorsal region.
6 months legs began to get weak.
3 months ago noticed numbness in legs, occasional reflex spasms.
1 month ago gave way suddenly; she had difficulty in passing her water. R. leg weaker than L. leg.

On Admission. Able to walk about with assistance, does not like turning in bed owing to pain in back.

Cranial Nerves. Normal.

Motor System.

Head and Neck. Normal.

Upper Extremities. Normal.

Trunk. Cannot rise to a sitting posture, on attempting to do so the umbilicus rises.

Lower Extremities. Some rigidity. R. leg weaker than L. No muscular wasting, occasional reflex spasms. Patient unable to stand.

Sensory System.

Subjective. Numbness in both legs. Pain and tenderness on pressure over 8th. dorsal spine.

Objective. Analgesia and anaesthesia on L. side from the level of the umbilicus as low down as and including 2nd. lumbar root area, elsewhere below level of umbilicus very slight diminution, practically none below the knees on sacral areas

Spine. Prominence of 12th. dorsal and 1st. and 2nd. lumbar. Tenderness on pressure over 8th. dorsal and 12th. dorsal and 1st - 2nd. lumbar.

Operation. 2.2.06. Mr. Ballance.

An abscess was found pressing the theca backwards which apparently started from between the 7th. and 8th. dorsal vertebrae. A tubercular abscess was also opened on the L. side which originated from L. 6th. rib and infiltrated muscles on L, side of spine.

6.3.06. Definite improvement in motor power. Some loss to cotton wool below the knees on both sides and also loss of sense of position, otherwise sensation normal. Sphincters normal.

14.3.06. No sensory loss whatever.

2.5.06. She went out, had slight power of movement of legs but unable to walk.

Case V.

Spinal Caries.

P.K. Male. 18. Dr. Beevor. 1906.

Op. Sir Victor Horsley.

Complaint. Inability to walk, pain in chest and spine.

Family History. Nil.

Previous Health. Good.

Previous Illness. 3 months ago pain like a knife round his waist - shortly afterwards he noticed that his back was becoming curved.
6 weeks ago found on getting up one morning legs very weak and numbness over abdomen and legs, he had not noticed any numbness or weakness before. Patient was put to bed in hospital where his legs gradually became stiff and he developed trouble with his water

State on Admission.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Thorax. Normal.

Trunk. Weakness of lower abdominal muscles.

Lower Extremities. Spastic paralysis in both legs and now especially in R. No movements in R. leg, but all movements are present although weak in L. leg.

Sensory System.

Subjective. Sharp pain round lower abdomen.

Objective. There is anaesthesia below the level of 6th. dorsal segment, rather more intense on L. side, the same for pain and temperature.

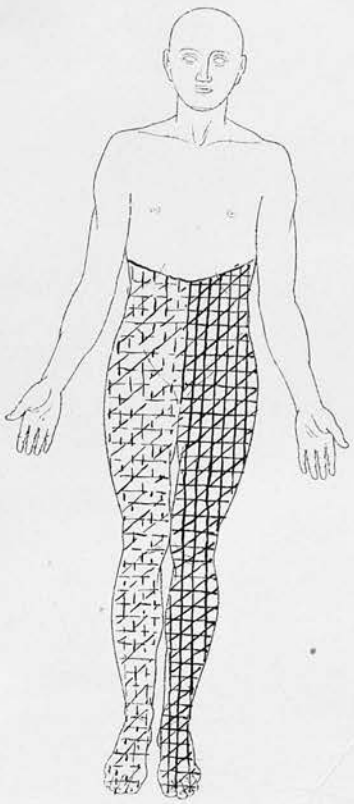
Reflexes.

Deep.	Right.	Left.
Arm.	Normal	Normal.
Knee.	Increased	Increased.
Ankle.	"	"

P. K.

Loss to Pain
Heat
Cold
Touch

Partial loss
Pain
Heat
Cold.
Touch.



	Superficial.	Right.	Left.
	Epigastric.	Normal.	Normal.
	Abdominal.	Absent.	Absent.
	Cremasteric.	"	"
	Plantars.	Extensor.	Extensor.
Sphincters.	Difficulty in starting micturition.		
Spine.	Kyphosis - angular curvature, apex at 8th. dorsal.		
Viscera.	Healthy.		

Operation. 3.11.05. Sir Victor Horsley.

5th. 6th. 7th. 8th. and 9th. laminae removed. Tubercular granulation tissue involving dura with chief focus of disease in body of 7th. dorsal vertebra anterior to the cord. The tubercular material was swept away and wound swabbed out.

5.11.05. Incontinence of urine and faeces.

2.1.06. Pain in back, superficial abscess over the prominence, this was opened.

29.1.06. Some wasting of interossei of R. hand and numbness in ulnar border of hand with slight analgesia

30.1.06. 2nd. Operation. All the Dorsal spines above the previous removed ones were removed, the theca was intact but cord not pulsating. 5th. and 6th. dorsal vertebrae aukylosed, tubercular abscess on R. of cord at this level.

4.2.06. Slight improvement in motor condition of legs. Sensory loss much as before.

Patient was sent to infirmary where he died about 4 months later.

Case VI

Spinal Caries.

B. M. Female. 23. Dr. Taylor. 1911.

Op. Mr. Sargent.

Family History. Good. 1 brother (tubercular bone)

Previous Health. Typhoid at 6 years. Anaemic 18 or 19 years.

Present Illness. 12 months ago fell down 4 or 5 steps, hurt her face but nothing wrong noticed till 3 weeks later when she noticed that her legs felt shaky when she was carrying heavy things, and that they were rather stiff. She kept on working for the next 8 months, however, although her legs got worse, she used to drag them and her toes scraped the floor and caused her to fall several times. At the end of that time she got more rapidly worse and went into a hospital. She could only walk with a stick. At this time she had a heavy aching pain in the shoulder blades. When she left the hospital she was unable to walk at all and her legs were very stiff.

State on Admission. 19.8.10.

Cranial Nerves. Very slight nystagmus on looking to L.

Motor System.

Head, and Neck. Normal.

Upper Extremities. Normal.

Trunk. Cannot sit up. Spinal muscles and Recti weak and rigid.

Lower Extremities. Spastic both legs, no wasting, almost no voluntary power. Passive movements - fair range when spasticity is overcome. Reflex spasms in legs.

Gait. Cannot stand or walk.

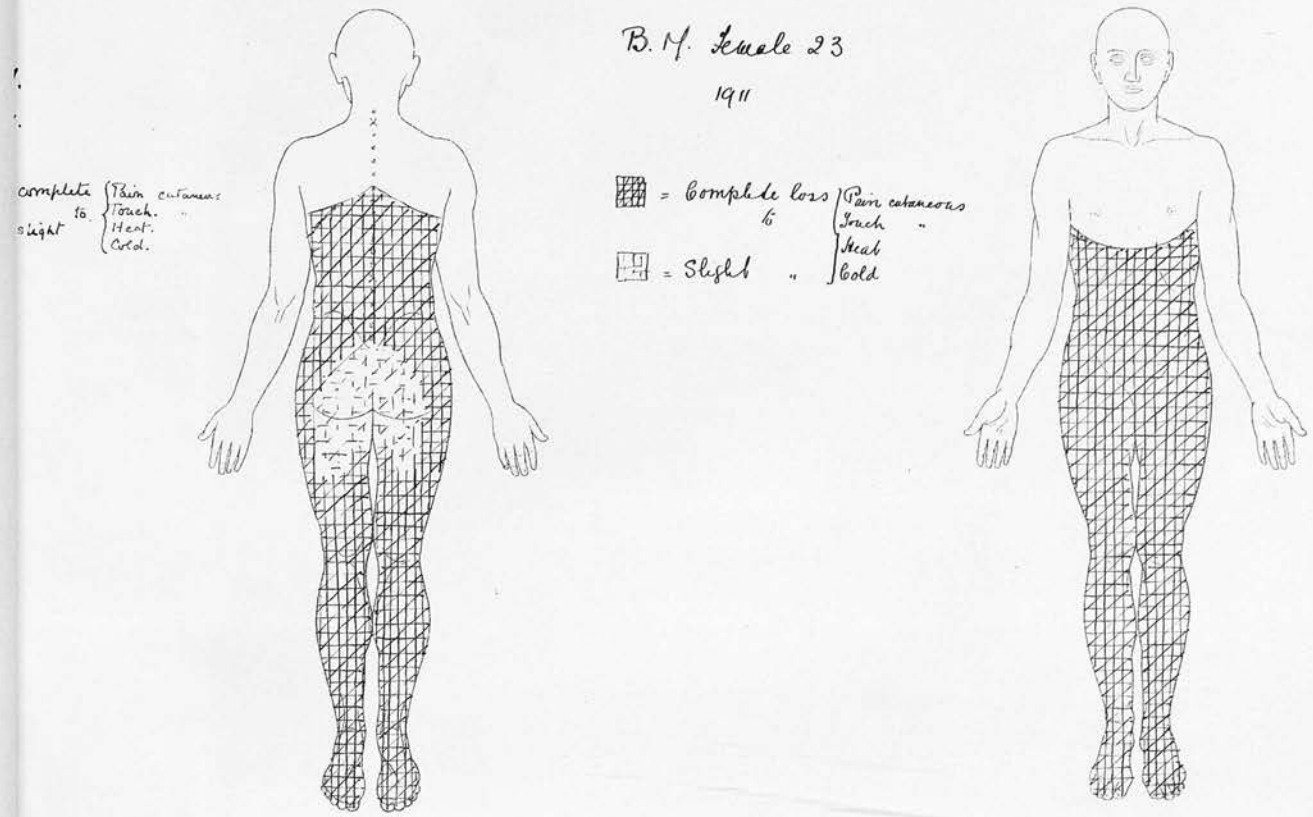
Sensory System.

Subjective. No pain.

Objective. Cutaneous Pain.) Lost below 5th. dorsal
Tactile.) area, but only partial
Thermal.) loss over 2nd. 3rd. 4th.
and 5th. sacral areas.
Joint sensation. Lost in legs.
Deep Pain. Lost in legs, good in arms.
Topognosis. Good with hands.

Reflexes.

Deep. Right. Left.



Poor in L. " "

March 1911. Lumbar abscess formed on L. side.

7.4.11. Second Operation. Tubercular abscess in connection with the last rib on the L. side excavated.
10.5.11. Patient sent to country.

Objective. Cutaneous Pain. } Lost below 5th. dorsal
Tactile. } area, but only partial
Thermal. } loss over 2nd. 3rd. 4th.
and 5th. sacral areas.
Joint sensation. Lost in legs.
Deep Pain. Lost in legs, good in arms.
Topognosis. Good with hands.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Brisk.	Brisk.
Knee.	Plus clonus	Plus clonus.
Ankle.	" "	" "
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Not affected.
Spine. Some rigidity - no deformity - no tenderness on pressure.

Operation. 29.8.10. Mr. Sargent.
Incision 6 inches long from 7th. cervical spine to 5th. dorsal muscles over the 2nd. to 5th. dorsal laminae found to be infiltrated with ? growth. The laminae were rarified and the growth had infiltrated the body of the 5th. dorsal vertebra and also the dura. It was scraped away and the cavity in the vertebra swabbed out with 1 in 100 perchloride and the wound closed.

18.10.10. Some recovery of power in the legs, a little amount possible at all joints. Sensory loss not so complete. Reflexes as before.

7.11.10. Joint sense - fair in R. lower extremity.
Poor in L. " "

March 1911. Lumbar abscess formed on L. side.

7.4.11. Second Operation. Tubercular abscess in connection with the last rib on the L. side excavated.
10.5.11. Patient sent to country.

Case VII

Caries

T. K. Male. 12. Dr. Beevor. 1906.

Op. Sir Victor Horsley.

Complaint. Paralysis and spasms of arms and legs.

Previous Health. Always delicate, clever.

Family History. Tubercular.

Present Illness. 4 months ago was noticed to use his R. hand awkwardly, first came on when he was playing cricket.
3 weeks later had cramps in his arms.
2 weeks later R. leg became weak.
1 week ago L. hand became stiff and weak.
5 days ago pain in his neck.

State on Admission.

Cranial Nerves. Slight lateral nystagmus to R. and L., otherwise normal.

Motor System.

Upper Extremities. Frequent spasms in arms which are spastic, and power feeble. L. arm not so much affected as R.

Thorax & Trunk. No special weakness.

Lower Extremities. Both legs spastic with contractures, all movements present but feeble.

Sensory System.

Subjective. Some pain in neck.

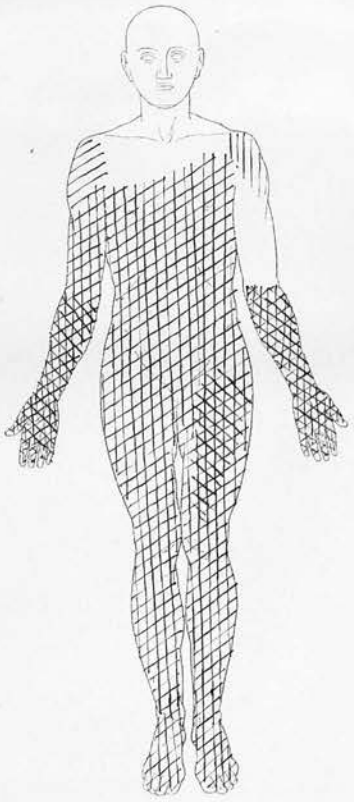
Objective. No tactile anaesthesia. Analgesia, loss over R. arm below 5th. cervical, over L. arm below elbow and some over the shoulder and over the whole of trunk and anterior aspect of lower extremities. Feet and sacral areas not being affected.
Loss of sensation to heat very similar to the analgesia except that the 5th. cervical is involved on R. side and not on L. side.
Loss of sensation to cold over both forearms, hands and a little over the front of L. thigh.

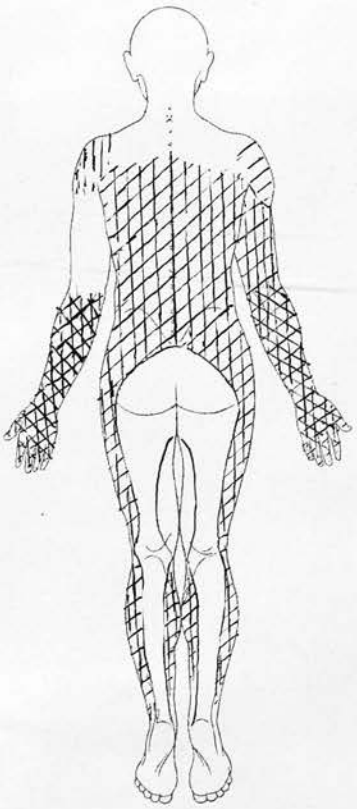
T. K.
1906.

= Cutaneous Anæsthesia

= Loss to Heat.

= Loss to Cold.





Reflexes.

Deep.		Right.	Left.
	Jaw.	Normal.	Normal.
	Biceps.	Brisk.	Brisk.
	Triceps.	"	"
	Supinator	"	"
	Knee.	"	"
	Ankle.	Not obtained owing to contracture.	Clonus.
Superficial.			
	Epigastric.	Absent.	Absent.
	Abdominal.	"	"
	Plantar.	Extensor.	Extensor.

Sphincters. Not affected.
Spine. No deformity.

11.11.05. Relative anaesthesia over upper cervical areas including the 4th.
Motor. Marked weakness of diaphragm and of costal and trunk muscles.

Operation. 30.11.05. Sir Victor Horsley.

3rd. and 4th. laminae removed. The theca slightly distended, it was incised, cord appeared normal. An incision was made in posterior median fissure but no abnormality detected.

The wound suppurated, 2 or 3 small pieces of bone came away, however, wound eventually healed up.

8.1.06. Some improvement in R. arm, less spasticity.
L. arm about the same.
Lower Extremities. All movements can be performed weakly, spasticity less.
Reflexes. Ankle clonus on both sides, otherwise as before.

4.11.06. He left hospital considerably improved.

10.5.07
Patient developed well marked
right hemiplegia

Case VIII

W. L. Male. 47. Dr. Taylor. 1911.

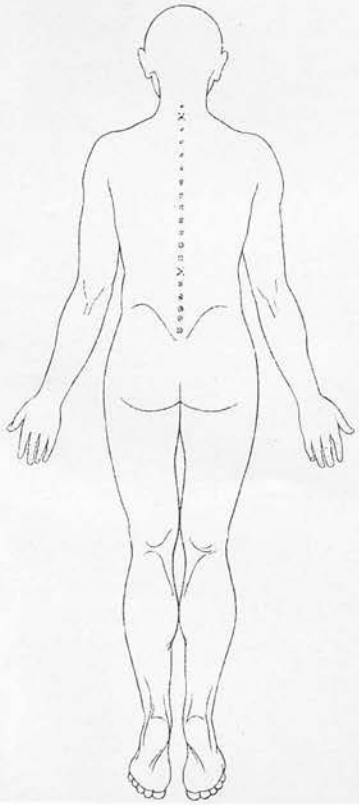
Op. Mr. Sargent.

Family History. Nil.

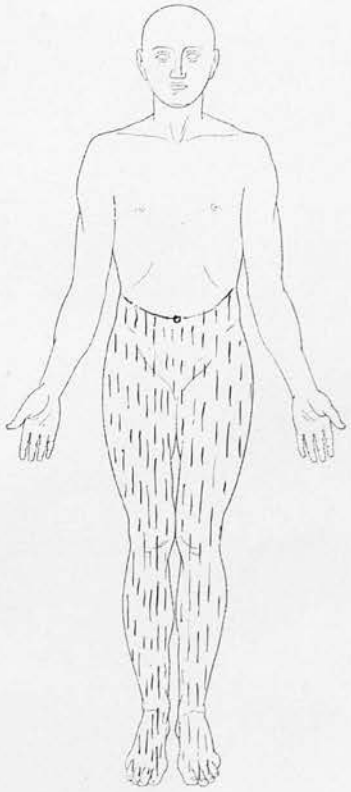
Previous Health. Gonorrhoea.

Present Illness. 15 months ago pain in the small of the back and cold feeling.
14 months ago knees weak.
10 months ago gave up work. Flexor spasms in both legs especially in L. which was weak. (Had sensory loss then).

State on Admission. 7.12.10.
Cranial Nerves. Normal.
Motor System.
Lower Extremities. Spastic weakness of both legs, L. more than R. Cannot walk or stand.
Sensory System. Diminished sensibility to tactile up to 10th. dorsal area on both sides, also to pain, heat and cold,



W. L. male 47
1911.



Case VIII

W. L. Male. 47. Dr. Taylor. 1911.

Op. Mr. Sargent.

Family History. Nil.

Previous Health. Gonorrhoea.

Present Illness. 15 months ago pain in the small of the back and cold feeling.
14 months ago knees weak.
10 months ago gave up work. Flexor spasms in both legs, especially in L. which was weak. (Had sensory loss then).

State on Admission. 7.12.10.
Cranial Nerves. Normal.
Motor System.
Lower Extremities. Spastic weakness of both legs, L. more than R. Cannot walk or stand.
Sensory System. Diminished sensibility to tactile up to 10th. dorsal area on both sides, also to pain, heat and cold, more on R. side.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Delay and incontinence.
Spine. Normal.
Wasserman. Blood. Negative.

Operation. 3.2.11. Mr. Sargent.
The spines and laminae of 5th. 6th. 7th. 8th. 9th. and 10th. dorsal vertebrae were removed. Nothing abnormal outside theca. On opening theca the arachnoid and dura were the seat of a chronic meningitis. No tumour found.

20.3.11. Voluntary power better, legs less spastic.
Sensory. Loss to same level but not so severe.
Sphincters. Has to "hurry", no loss of control.

Case IX

Spinal Caries Cervical.

A. W. Male. 4. Dr. Beevor. 1904.

Op. Sir Victor Horsley.

Family History. Good.

Previous Health. Good.

Present Illness. 12 months has not been able to move head properly, neck seems stiff.
2 weeks ago Mother noticed R. arm weak, has gradually become worse.
2 or 3 days later R. leg began to get weak and he could not walk properly.
2 to 3 days ago L. arm became weak,, and he was unable to walk.

State on Admission. 31.10.04.

Cranial Nerves. Normal.

Motor System.

Head. Movement limited owing to disease of cervical vertebra. No wasting of muscles noticeable.

Upper Extremities. R. arm slightly spastic and quite powerless.
L. arm very weak.

Chest. Respiration mostly diaphragmatic.

Lower Extremities. Spastic, paralysis worse in R. leg. Very little volitional movement present in either limb.

Gait. Cannot stand or walk.

Sensory System. Affected, but cannot be properly tested owing to child's age and fretful state.

Reflexes.

Deep.	Right.	Left.
Arm, biceps.	Brisk.	Brisk.
" triceps.	"	"
Knee) Ankle.(	Increased with clonus.	Increased with clonus.
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Affected

Spine. Thickening round spines of upper cervical vertebrae and some lateral displacement of 3rd. and 4th. spines.

Viscera. Healthy.

Operation. 4.11.04. Sir Victor Horsley.

Spines and laminae of 3rd. and 4th. cervical vertebrae removed also the arch of the axis and atlas. No tubercular disease, abscess or granulation tissue was found, but the dura was closely bound down to the spinal canal by firm connective tissue, this was freed.

28.3.05. The child left hospital in excellent health, able to walk alone.

9.11.11. He died. General Tuberculosis.

Post Mortem. There was no return of vertebral disease.

Case X

Spinal Caries.

E. C. Male. 6. Dr. Ferrier. 1904.

Op. Mr. Ballance.

Family History. Good.

Previous Health. Good.

Present Illness. 18 months ago pian in back, slight deformity at back of neck, some thickness there. Patient was kept on his back for 12 months. On being allowed up he remained quite well until 3 weeks ago when he could not walk properly and became unable to stand and had difficulty in passing his water.

State on Admission. 28.9.04.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Chest. Respiration diaphragmatic.

Trunk. Abdominal muscles very weak.

Lower Extremities. Spastic paralysis with rigidity and spasm. Voluntary movements present in bed but unable to stand.

Sensory System.

Subjective. No pain.

Objective. Very slight relative degree of anaesthesia and analgesia up to the level of the 4th. dorsal segment.

Reflexes.

	Deep.	Right.	Left.
	Arm.	Normal	Normal.
	Knee.	Plus.	Plus.
	Ankle.	"	"
Superficial.	Abdominal.	Absent.	Absent.
	Epigastric.	"	"
	Plantars.	Extensor.	Extensor.

Sphincters. Difficulty in micturition.

Spine. Deformity in cervico dorsal region with prominence of 7th. cervical and upper 4 dorsal spines - rigidity and thickening, no tenderness on pressure.

Operation. 17.1.05. Mr. Ballance.

3rd. and 4th. dorsal spines and laminae removed. The cord was found to be compressed on all sides by caseous matter, this was scraped out and wound closed up. Patient suffered a good deal after operation from shock but appeared to be fairly well 7 hours afterwards. An hour later he lifted up his arms and died suddenly.

Post Mortem. There was blood found right down in spinal canal. The source of the haemorrhage was not apparent. The cord showed signs of constriction at level of 4th. dorsal segment, pressure being exerted more on anterior surface than elsewhere.

3rd. dorsal vertebra was carious and collapsed and the prominence of the 4th. dorsal vertebra apparently was pressing on cord; spine elsewhere healthy.

Case XI

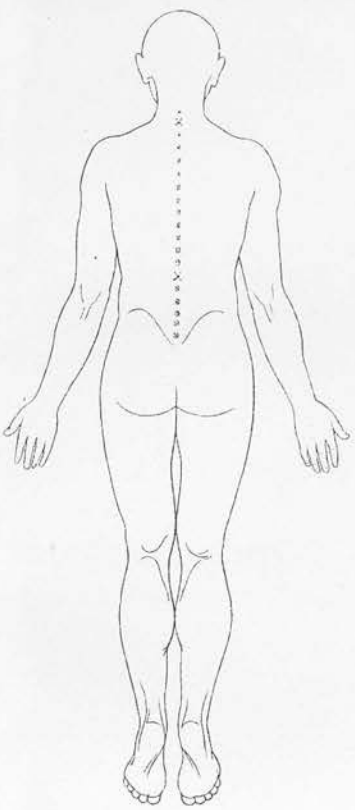
Spinal Caries.

J. M. Male. 60. Dr. Ferrier. 1904.

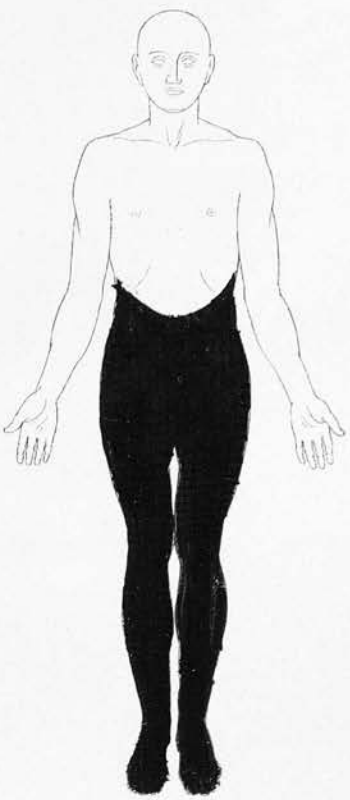
Op.

Previous Health. Good.

Family History Good



J. M.
1904.
Loss of all forms of Sensation below 4th Dorsal area.



Subjective. Girdle sensation at level of umbilicus. Total loss of all forms of sensation below 7th. dorsal area.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus with clonus.	Plus with clonus.
Ankle.	Plus with clonus.	Plus with clonus.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	Absent.	Absent.
Plantar.	Extensor.	Extensor.

Case XI

Spinal Caries.

J. M. Male. 60. Dr. Ferrier. 1904.

Op.

Previous Health. Good.

Family History. Good.

Present Illness. 14 months ago pain in mid dorsal region.
10 months ago pain so severe that he was unable to walk although the legs were not paralysed.
3 months ago gait became affected, legs weak and heavy.
6 weeks ago unable to walk, gradually lost all power of movement in legs, reflex spasms in both, also commencing sphincter trouble - girdle sensation at level of umbilicus.

State on Admission.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Weakness of the lower ¾ of the abdominal muscles.

Lower Extremities. Slightly rigid, muscles wasted, becoming flabby. Reflex spasms at night. Complete loss of voluntary power.

Sensory System.

Subjective. Girdle sensation at level of umbilicus. Total loss of all forms of sensation below 7th. dorsal area.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee.	Plus with clonus.	Plus with clonus.
	Ankle.	Plus with clonus.	Plus with clonus.
Superficial.			
	Epigastric.	Normal.	Normal.
	Abdominal.	Absent.	Absent.
	Plantar.	Extensor.	Extensor.

Sphincters.	Total loss of sphincter control. Trophic changes in skin of legs. No bed sore.
Spine.	Prominence of 7th. 8th. and 9th. dorsal spines, tenderness on pressure at this level, also on movement.
Lungs.	Dulness over lower lobes close to the spine.

Operation. 8.12.03.

Spines and laminae of 5th. 6th. 7th. 8th. and 9th. dorsal vertebrae removed, dura pressed backwards, no pulsation. An abscess was found on the anterior surface of the dura, it was evacuated. The bodies of the 6th. and 7th. dorsal vertebrae were much diseased. The dura was opened and cord found softened at 8th. dorsal segment.

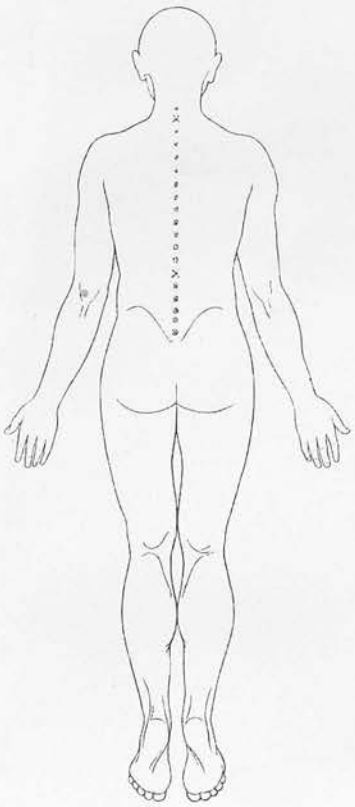
29.12.03. Legs becoming very spastic, some improvement in power, much reflex spasm. Sensory loss to same level as before but not quite so severe.

7.4.04. The patient died.

Post Mortem. He died from tubercular meningitis. There was an old healed tubercle at the apex of L. lung. Some pleurisy and collapse in the lungs opposite the level of the spinal disease.

Case XII

Spinal Caries.



A.C. 21.

30.10.08.

|||| = loss of all forms of cutaneous sensibility.

Deep pain } much impaired in lower extremities.
Sense of position }



Sensory System.

Objective. Loss to all power of ~~central~~ cutaneous sensibility below 7th. dorsal segment. Blunting of deep pain and sense of position in both lower extremities.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	Absent.	Absent.
Plantars.	Extensor.	Extensor.

Sphincters. Difficulty in starting micturition.

Spine. Prominence of 7th. and 8th. dorsal. Pain on pressure.

Operation. 10.11.09. Sir Victor Horsley.

Spines and laminae of 6th. 7th. 8th. and 9th. dorsal vertebrae were removed. Tubercular granulation

Case XII

Spinal Caries.

C. Male. 21. Sir William Gowers. 1909.

Op. Sir Victor Horsley.

ily History. Nil.

vious Health. Good.

sent Illness. 2 years ago pain round lower part of chest on movement.
10 months ago reflex spasms in L. leg.
5 months ago weakness in L. leg.
4½ months weakness in R. leg.
4 months ago rapid loss of power in both legs. Sensory loss. Delay in micturition, no incontinence.

te on Admission.
nial Nerves. Normal.
or System.
Head & Neck. Normal.
Upper Extremities. Normal.
Trunk. Weakness of lower abdominal muscles.
er Extremities. Complete spastic paralysis in both.
Sensory System.
Objective. Loss to all power of ~~central~~ cutaneous sensibility below 7th. dorsal segment. Blunting of deep pain and sense of position in both lower extremities.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee.	Plus.	Plus.
	Ankle.	Plus clonus.	Plus clonus.
Superficial.			
	Epigastric.	Normal.	Normal.
	Abdominal.	Absent.	Absent.
	Plantars.	Extensor.	Extensor.

Sphincters. Difficulty in starting micturition.
Spine. Prominence of 7th. and 8th. dorsal. Pain on pressure.

Operation. 10.11.09. Sir Victor Horsley.
Spines and laminae of 6th. 7th. 8th. and 9th. dorsal vertebrae were removed. Tubercular granulation

tissue lay in front of the dura and adherent to it coming from tuberculous disease of the bodies of the 7th. and 8th. vertebrae.

12.11.09. Incontinence of urine.

7.12.09. General condition improved. Nervous symptoms unchanged.

Case XIII

Spinal Caries.

G. O. Male. 26. Dr. Tooth. 1911.

Op. Sir Victor Horsley.

Family History. Nil.

Previous Health. Good.

Present Illness. Caries. 3 years. Poroplaster jacket.
6 months. L. leg weak.
4 months R. leg weak, sensory loss and loss of sphincter control.

State on Admission. 24.5.11.

Motor System.
Lower Extremities. Complete spastic paralysis of both.

Sensory System. Impairment of all forms of sensation below the 10th. dorsal segment.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	Absent below 10th. dorsal.	Absent below 10th. dorsal.
Plantars.	Extensor.	Extensor.

Sphincters. Precipitant micturition, loss of rectal control.

Spine. Angular curvature. Dorsal 9-11.

Operation. 30.5.11. Sir Victor Horsley.

The spines and laminae of the 8th. 9th. 10th. and 11th. dorsal vertebrae were removed. A lot of tubercular granulation tissue was compressing the cord, it was removed with a spoon and wound swabbed out with 1 in 100 perchloride solution.

Patient died of septic poisoning.

Case XIV.

Spinal Caries.

R. S. Male. 13. Dr. Beevor 1898.

Op. Mr. Ballance.

Family History. Tubercular.

Previous Health. Good.
3 years ago he was knocked down and hurt his back, but did not notice immediate effect.
1 year later had pain in the back coming round to the front of the waist.
7 months ago began to walk stiffly.
6 months ago prominence in back between shoulder blades appeared.
5 weeks ago became unable to walk, had numbness in legs and sphincter trouble.

State on Admission. 18.3.98.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk & Chest. Normal. On attempting to sit up the umbilicus is drawn up.

Lower Extremities. Some spastic weakness of legs, L. greater than R.

Sensory System.

Subjective. Girdle sensation round waist.

Objective. Slight loss to touch over the legs.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee.	Plus.	Plus.
	Ankle.	Plus.	Plus.
Superficial.			
	Epigastric.	Present.	Present.
	Abdominal.	Absent.	Absent.
	Plantar.	Present.	Present.

Sphincters. No incontinence.

Operation. 26.4.98. Mr. Ballance.

Tubercular granulation round the cord which was exposed from the 7th. to 12th. dorsal spines.

After the operation there was incontinence of urine. Absolute paraplegia of lower limbs and sensory loss to the level of the umbilicus.

A fortnight later sphincter control was regained, and the patient slowly improved.

10.6.98. He was discharged.

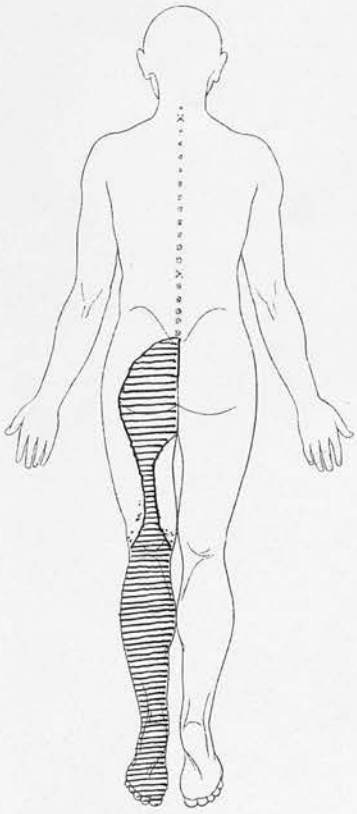
Case XV

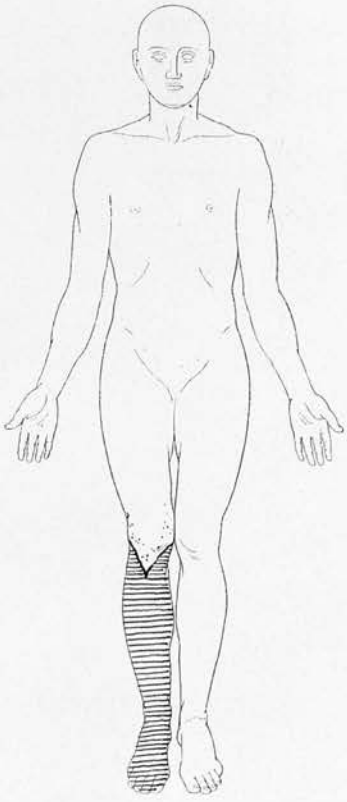
Sarcoma. Cauda Equina.

S.J. 14.

900.

= total loss.
: indefinite





Sensory System. Impaired sensibility to touch and pain over 5th. lumbar root distribution on R. side.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Absent.	Present.
Ankle.	"	Absent.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantars.	Absent.	Flexor.

Sphincters. Incontinence of urine.

5.6.00. Tumour larger, now sensory loss over 4th. and 5th. lumbar and all sacral root areas on R. side.

15.6.00. Patient had a pleural effusion which was tapped.
Patient died.

Case XV

Sarcoma. Cauda Equina.

G. J. Female. 14. Sir William Gowers. 1900.

Complaint. Loss of power in legs - pain in R. leg.

Family History. Good.

Previous Health. Good.

Present Illness. 5 months ago shooting pains in R. leg, worse on lying down. Pain increased and both legs gradually became weak. 10 days before admission, incontinence of urine.

State on Admission. 11.5.00.

A round nodular hard mound-like swelling over the sacrum more on the R. than L., not tender on pressure. Some enlarged glands felt in the groin. No growth could be found in the chest or abdomen.

Motor System. Flaccid paralysis in both legs, R. more than L.

Sensory System. Impaired sensibility to touch and pain over 5th. lumbar root distribution on R. side.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Absent.	Present.
Ankle.	"	Absent.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantars.	Absent.	Flexor.

Sphincters. Incontinence of urine.

5.6.00. Tumour larger, now sensory loss over 4th. and 5th. lumbar and all sacral root areas on R. side.

15.6.00. Patient had a pleural effusion which was tapped.
Patient died.

Case XVI

Sarcoma - Extra dural. (Spine)

E. L. Female. aet 32. Dr. Grainger Stewart. 1910.

Op. Mr. Armour.

Complaint. Pain in R. leg from back of hip down thigh and calf. Wasting of R. leg and thigh.

Family History. Good.

Previous Health. Good.

Present Illness. In October 1909. began to suffer from pain in Back of R. hip and down back of thigh and calf - pain was slight and intermittent but gradually became more severe and constant.
In January 1910. pain was very severe, was worse when lying on her back, so much so that in order to get any sleep she had to sleep sitting up in a chair. There was little aggravation of pain on movement, but pressure over lower part of back caused pain. She began to notice weakness of R. leg, dragging of the foot so that when she walked she had to lift R. leg higher than the L. About this time also she noticed a dead feeling in the R. foot.
In February 1910. she first noticed wasting in R. buttock, later in the ham strings and finally in calf and leg muscles of the R. side, and in addition to this she began to waste generally and became very thin.
In March, 1910. she began to suffer from similar pain in L. thigh. No sphincter trouble.

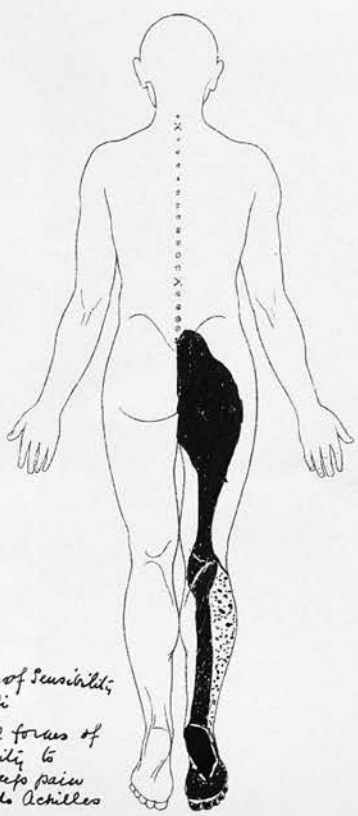
State on Admission. 25.4.10.

Pale emaciated woman. Visceral organs healthy, nothing felt P.V. and P.R.

Cranial Nerves. Nothing abnormal except that the eyes are rather prominent.

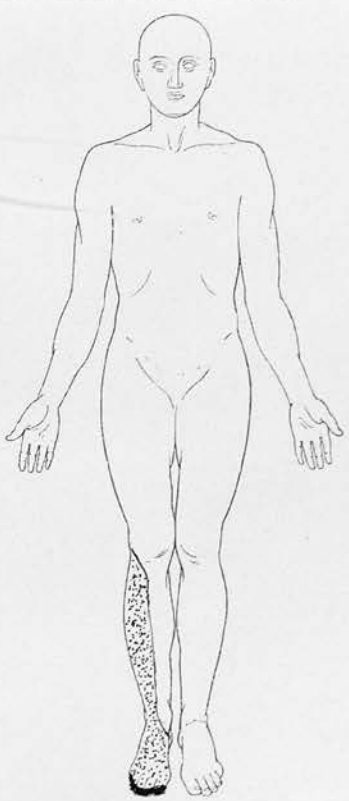
Motor System.	
Upper Extremities.	Normal.
Abdominal.	"
Trunk.	"
Lower Extremities.	Wasting of R. especially of buttock, ham strings, calf muscles and anterior leg muscles. Slight wasting of L. buttock. No spasticity, the wasted muscles are flaccid. Al movements are well performed on L. side but diminished on the R.
Gait.	Extension of R. foot very feeble.
Electrical Reaction.	All the wasted muscles in the R. leg show a diminished reaction to Faradism.
Sensory System.	Complete loss to all forms of cutaneous sensibility over the sacral areas 5th. 4th. 3rd. and 2nd. on the R. side with relative loss over the 1st. There was no sensation over R. side of rectum and vagina. Deep pain diminished over 3rd. 4th. and 5th. sacral areas, also loss of vibration. Sense of position impaired but

act. 32.



Area of Relative loss of Sensibility to Cutaneous stimuli

Complete loss to all forms of cutaneous sensibility to vibration, also to deep pain on pressure of Tendo Achilles



Motor System.

Upper Extremities.	Normal.
Abdominal.	"
Trunk.	"
Lower Extremities.	Wasting of R. especially of buttock, ham strings, calf muscles and anterior leg muscles. Slight wasting of L. buttock. No spasticity, the wasted muscles are flaccid. Al movements are well performed on L. side but diminished on the R.
Gait.	Extension of R. foot very feeble.
Electrical Reaction.	All the wasted muscles in the R. leg show a diminished reaction to Faradism.
Sensory System.	Complete loss to all forms of cutaneous sensibility over the sacral areas 5th. 4th. 3rd. and 2nd. on the R. side with relative loss over the 1st. There was no sensation over R. side of rectum and vagina. Deep pain diminished over 3rd. 4th. and 5th. sacral areas, also loss of vibration. Sense of position impaired but not lost in R. leg.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Present.	Brisk.
Ankle.	Absent.	Brisk, no clonus.
Superficial.		
Epigastric.) Abdominal.)	Brisk & equal.	Brisk & equal.
Plantars.	Absent.	Flexor.

Sphincters.	No sphincter trouble, can feel passage of urine and faeces.
Spine.	No deformity - nothing seen on X ray examination but pressure on the R. half of the sacrum causes pain down the back of the R. thigh and leg.

Operation. 26.6.10. Mr. Armour.

A vertical median incision was made from spine of 5th. lumbar to 4th. sacral. The muscles were cleaned from the spines and laminae. At the level of 2nd and 3rd. sacral on R. the laminae and part of the bodies were absorbed and replaced by a thick walled cyst surrounded by tumour growth which involved the 2nd. 3rd. and 4th. sacral vertebrae on the R. side. The growth was scraped out - the theca was opened and the 2nd. sacral posterior root on R. side and the 3rd. sacral roots anterior and posterior were divided. A lot of haemorrhage - the patient suffered from shock.

27.6.10. The patient improved but there was retention of urine.

Seven days after operation the wound burst open and a large amount of clear fluid escaped - the cavity extended down to the bone and opening.

The wound healed steadily and on July 7th. there was only a small sinus. There had been no more pain. Sphincters perfectly normal, the patient sleeping well and putting on weight.

Sensory System. After operation it was found that the sensory loss was complete over all the sacral areas and relative sensory loss over 5th. lumbar area on R. side.

January.1912. The sensory loss remains the same as after operation. The patient has had no pain, there is still weakness in R. leg, but the power in all movements has improved so that patient is able to look after her mother, and to walk about without discomfort although extra exertion makes her easily tired. There is no sphincter trouble. No evidence of any recurrence, the wound is quite healthy, there is a considerable depression in the middle line over the sacrum at the seat of operation.

Microscopical examination of tumour reported that the growth was a fibro sarcoma.

Case XVII

Sarcoma of Spine implicating Cauda Equina.

J. C. Female. 13. Dr. Bastian. 1894.

Family History. Good.

Previous Health. Good.

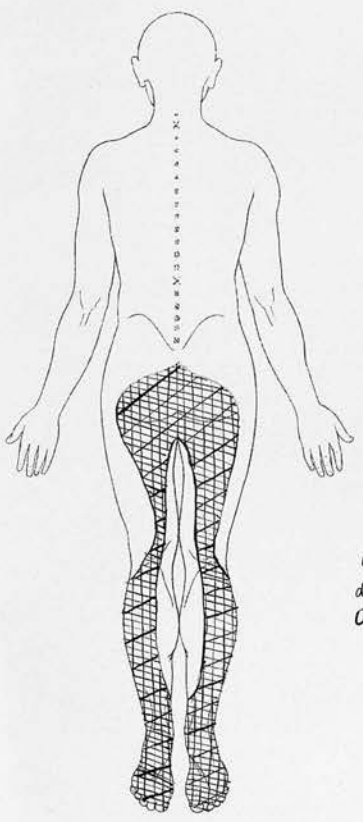
Present Illness. 8 weeks ago suddenly felt ill when kneeling at prayers and when she got up she could not stand properly. That night lost power in legs and could only walk with help. She had a tight feeling about the perineum.
3 days later lost feeling in her legs.
6 weeks ago gradually lost power over bladder and rectum and also the knowledge of when she needed to go.
5 weeks ago legs ceased to get worse. Never any reflex spasm.

State on Admission. May 1893.
Cranial Nerves. Normal.
Motor System.
Upper Extremities. Normal.
Trunk. Normal.
Lower Extremities. All muscles below the knees wasted, hamstrings, extensors of knees, gluteus maximus - less of adductors of thighs. No movement of R. toes and feet, only inversion feebly in L. Only slight flexion in R. knees - extension fair. In L. flexion very slight, extension very slight. In R. hip flexion was fair, extension very weak, abduction very weak - adduction fair, external rotation absent and internal rotation fair. In the L. hip the flexion was fair, extension and abduction were absent - adduction present, external rotation absent and internal rotation present.

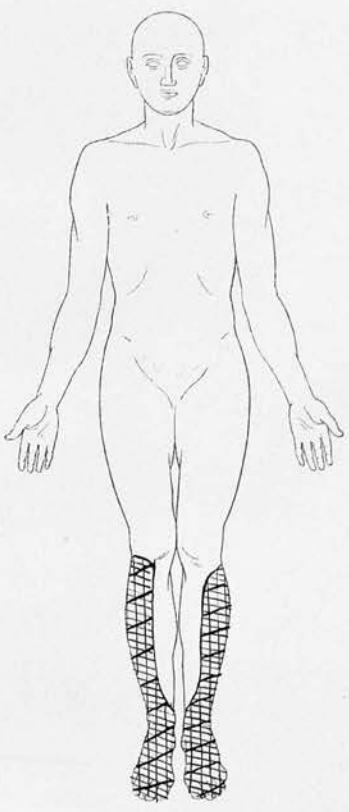
Sensory System.

Subjective.	No pain or tingling - no feeling of tightness now in perineum.
Objective.	Touch - marked anaesthesia in marked areas. Defined - gap left behind knee. Pain - marked analgesia in marked areas. Thermal - loss as pain.

13



J. C. 13
1894



Analgesia
Loss of Thermal Sensation.
Anaesthesia.

The growth involved dura beneath cord and some roots of Cauda Equina were bound together by the growth.
Secondary growth - lungs.

Sensory System.

Subjective. No pain or tingling - no feeling of tightness now in perineum.

Objective. Touch - marked anaesthesia in marked areas.
Defined - gap left behind knee.
Pain - marked analgesia in marked areas.
Thermal - loss as pain.

eflexes.

Deep.	Right.	Left.
Knee.	Absent.	Absent.
Ankle.	Absent.	Absent.

Superficial.
Epigastric. } Present and equal.
Abdominal. }
Gluteal. }
Plantars. Absent. Absent.

hincters. Complete incontinence and loss of feeling.

ophic. No bedsores.

ine. No deformity noted.

.7.93. Swelling of 2nd. 3rd. and 4th. lumbar spines noted - fixed and hard.

.7.93. Much pain and tenderness superficial over outer side of both thighs, especially L.

.8.93. More pain, swelling larger than before. Legs much wasted above and below knees. Sensation in statu quo.

.4.94. Post Mortem.

Bedsores on great trochanters and sacrum.
rcoma - spines not affected directly but hypertrophied.
The growth involved dura beneath cord and some roots of Cauda Equina were bound together by the growth.
Secondary growth - lungs.

Case XVIII

Sarcoma of Sacrum.

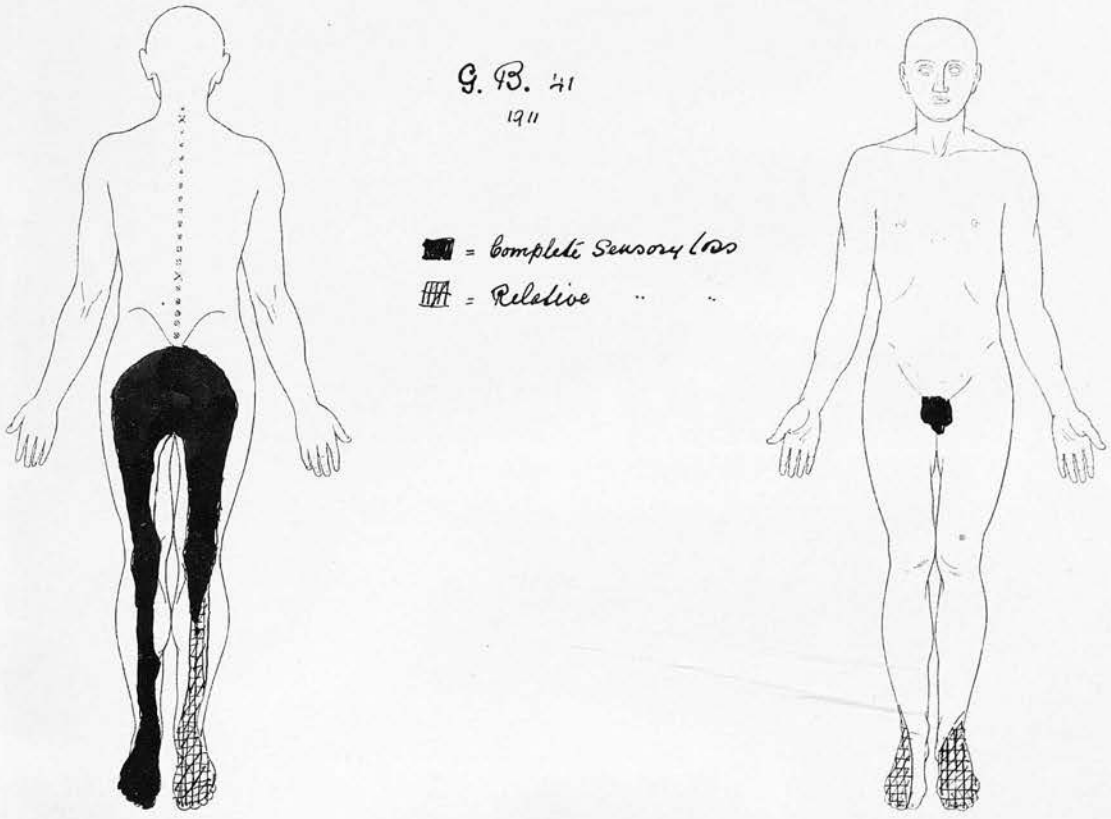
G. B. Male. 41. Dr. Grainger Stewart. 1911.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Good.

Present Illness. 7 months ago had difficulty with passage



Gait.

Sensory System.

Objective. Total loss of sensibility over sacral 5th. 4th. 3rd. 2nd. and 1st. areas on L. and partial loss over 5th L. 1st. and 2nd S. on R. and over 5th L. lumbar on both sides except on lower part where loss is not complete. Joint sense unimpaired. Deep pain lost over analgesic areas.

Case XVIII

Sarcoma of Sacrum.

G. B. Male. 41. Dr. Grainger Stewart. 1911.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Good.

Present Illness. 7 months ago had difficulty with passage of faeces and urine, later precipitancy of urine and incontinence.
3 months ago began to notice that he did not feel passage of faeces and urine.
2 months ago no sensation of passage of urine and faeces. Aching pain in small of back making walking difficult and painful, but not passing down legs.
1 week ago some numbness and pins and needles in L, foot and toes.

State on Admission. 7.4.11.
Pus in the urine.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. Great wasting of glutei, weakness of extension of hip and dorsi-flexion of L. foot. Other movements apparently normal, but as movement of L. leg causes pain in sacrum patient does not put forth full strength.

Gait. Walks bent forward, shuffles.

Sensory System.

Objective. Total loss of sensibility over sacral 5th. 4th. 3rd. 2nd. and 1st. areas on L. and partial loss over 5th L. 1st. and 2nd S. on R. and over 5th L. lumbar on both sides except on lower part where loss is not complete. Joint sense unimpaired. Deep pain lost over analgesic areas.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	"	"
Ankle.	Absent.	Absent.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantar.	Flexor.	Flexor.

Sphincters. Complete incontinence, of loss of tone.

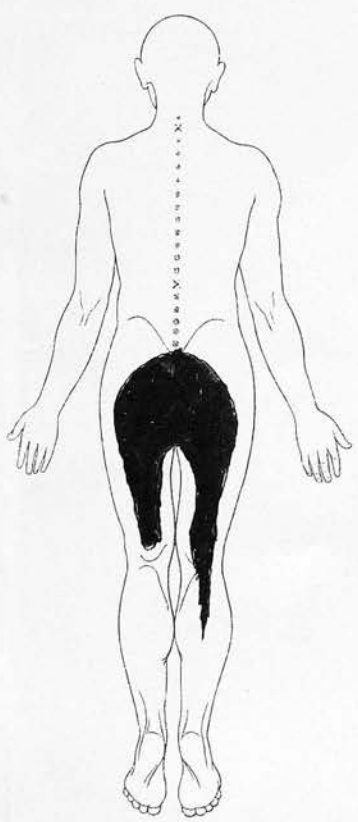
Spine. Over sacral regions there is a swelling which is almost fluctuating on palpation - pain on deep pressure. X ray showed no evidence of caries.

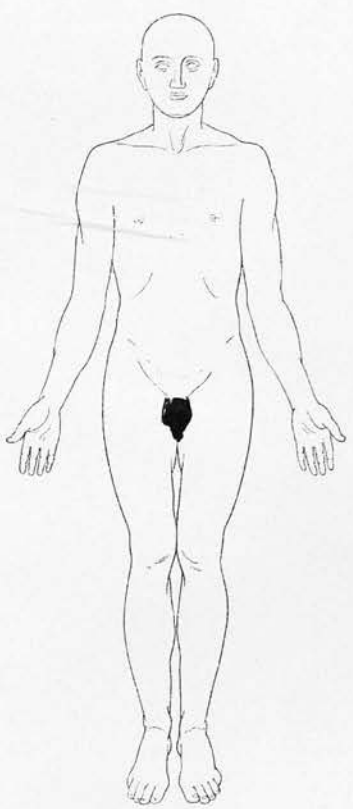
Operation. 2.5.11. Mr. Armour.

Sarcoma was found to have infiltrated the sacrum and bodies of 5th. and 1st. sacral vertebrae, also muscles over lower lumbar vertebrae. The spinal canal was filled with growth up to level of point of emergence of 3rd. lumbar roots. As much of tumour as possible was removed, but the spinal cord broke away at level of 2nd. sacral segment and some of the roots were removed with the tumour. Patient had complete paralysis of ankle and toe movements and complete sensory loss over the sacral areas and 4th. and 5th. lumbar areas with loss of sense of position in

B.

Complete anaesthesia





Reflexes.

Deep.		Right.	Left.
	Arm.	Normal.	Normal.
	Knee.	"	"
	Ankle.	Absent.	Absent.
Superficial.			
	Epigastric.	Normal.	Normal.
	Abdominal.	"	"
	Plantar.	Flexor.	Flexor.

Sphincters. Complete incontinence, of loss of tone.

Spine. Over sacral regions there is a swelling which is almost fluctuating on palpation - pain on deep pressure. X ray showed no evidence of caries.

Operation. 2.5.11. Mr. Armour.

Sarcoma was found to have infiltrated the sacrum and bodies of 5th. and 1st. sacral vertebrae, also muscles over lower lumbar vertebrae. The spinal canal was filled with growth up to level of point of emergence of 3rd. lumbar roots. As much of tumour as possible was removed, but the spinal cord broke away at level of 2nd. sacral segment and some of the roots were removed with the tumour. Patient had complete paralysis of ankle and toe movements and complete sensory loss over the sacral areas and 4th. and 5th. lumbar areas with loss of sense of position in toes and to a certain extent in ankles, but not in hip or knee.. Total incontinence.

Reflexes.	Deep.	Right.	Left.
	Knee.	Normal.	Normal.
	Ankle.	Absent.	Absent.
	Superficial.		
	Plantars.	Absent.	Absent.

Deep pain lost on the calves but present on front of legs.

2.10.11. Patient was discharged.

Case XIX

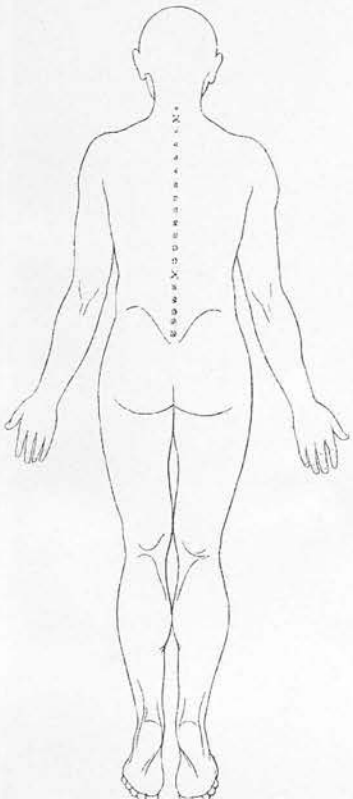
Carcinoma of Spine. (2nd. to breast).

E. K. Female. 49. Dr. Beevor. 1898.

Family History. Nil.

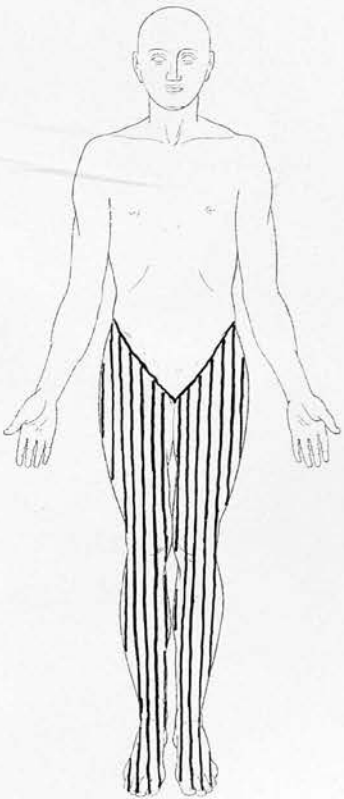
Previous Health. Carcinoma of breast, noticed 2 years ago.
4 months ago she slipped and fell striking the lower part of her back heavily, since then has had pain in the back radiating down back of R. leg.
3 weeks ago both legs began to get weak and numb, also sphincter trouble.

State on Admission.
Cranial Nerves. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. Normal.
Lower Extremities. Total spastic paralysis of both.
Sensory System.
Objective Complete sensory loss below 12th. dorsal area and hyperaesthesia above this level.
Reflexes.



E. K. 49.

||| = complete sensory loss.



Case XIX

Carcinoma of Spine. (2nd. to breast).

E. K. Female. 49. Dr. Beevor. 1898.

Family History. Nil.

Previous Health. Carcinoma of breast, noticed 2 years ago.
4 months ago she slipped and fell striking the lower part of her back heavily, since then has had pain in the back radiating down back of R. leg.
3 weeks ago both legs began to get weak and numb, also sphincter trouble.

State on Admission.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Lower Extremities. Total spastic paralysis of both.

Sensory System.

Objective Complete sensory loss below 12th. dorsal area and hyperaesthesia above this level.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee.	Plus.	Plus.
	Ankle.	"	"
Superficial.			
	Epigastric.	Present.	Present.
	Abdominal.	Absent.	Absent.
	Plantars.	Brisk.	Brisk.

Sphincters. Reflex incontinence.

General Health. Carcinoma of L. breast with axillary glands.

Spine. Prominence of Lower dorsal and upper lumbar spines.

Patient was discharged and died outside with malignant disease.

Case XX

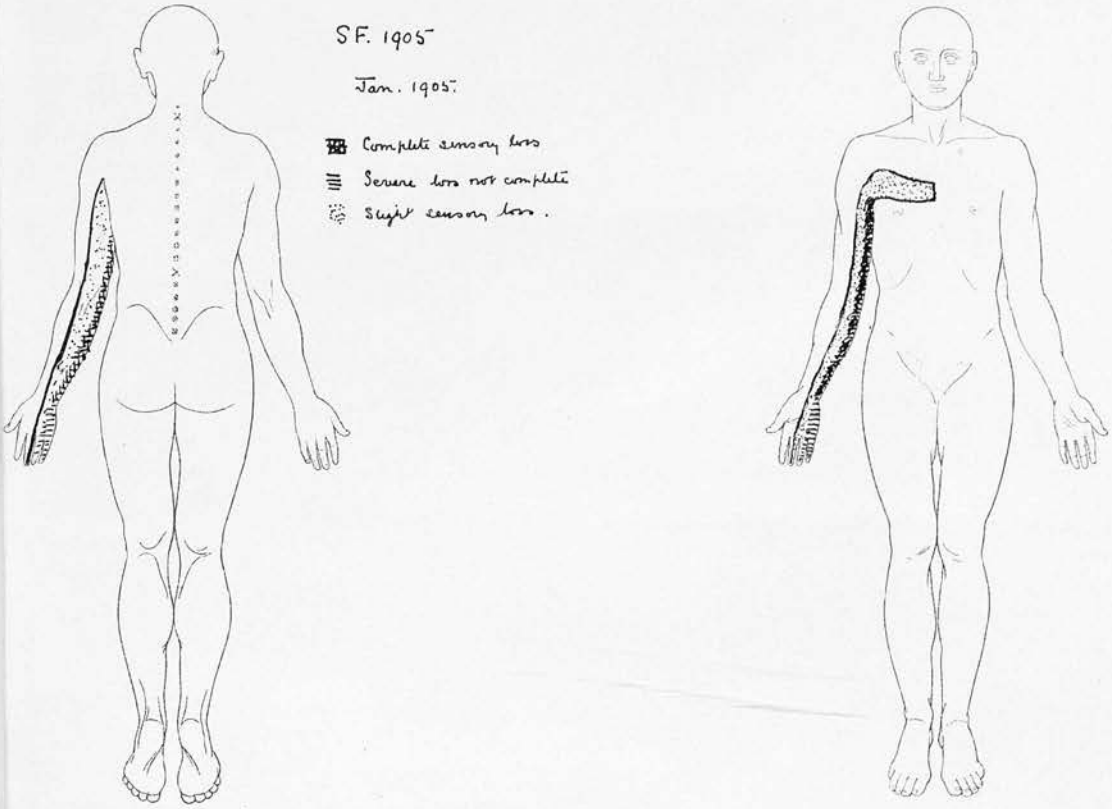
Carcinoma of Spine.

S. F. Male. 37. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

Complaint. Pain in R. arm, R. side of trunk, level of 2nd cervical rib, weakness of R. arm.

Previous Health. Fits after drinking since 1886.



Sensory System.

Subjective. Aching pain round body at level of 2nd. rib and down ulnarside of R. hand.

Objective. Complete loss to pain over 1st. 2nd. and 3rd. Dorsal, incomplete loss to pain over 7th. and 8th. cervical areas. Anaesthesia similar to pain, and thermal loss the same.

Case XX

Carcinoma of Spine.

S. F. Male. 37. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

Complaint. Pain in R. arm, R. side of trunk, level of 2nd cervical rib, weakness of R. arm.

Previous Health. Fits after drinking since 1886.

Present Illness. 14 months ago pain starting at back of neck to between shoulders, constant, worse on movement.
12 months ago pain extended to front of chest to level of 2nd. rib.
9 months extended down ulnar border of R. arm into ulnar fingers.
8 months ago weakness of R. hand progressive, also noticed R. eye smaller than L. (cervical sympathetic)
2 months ago wasting of R. hand, pain constant but worse on movement or when jarred, always in same position.

State on Admission.

Slight paralysis of R. cervical sympathetic.

Cranial Nerves. Normal.

Motor System.

Neck. Muscles good.

Upper Extremities. L. Normal. R. flaccid wasting of forearm and hand muscles, slight weakness of triceps.

Trunk. Normal.

Lower Extremities. Normal.

Sensory System.

Subjective. Aching pain round body at level of 2nd. rib and down ulnar side of R. hand.

Objective. Complete loss to pain over 1st. 2nd. and 3rd. Dorsal, incomplete loss to pain over 7th. and 8th. cervical areas. Anaesthesia similar to pain, and thermal loss the same.

Post Mortem. A large mass of growth surrounded the cord from 6th. cervical to 2nd. dorsal roots. It involved 7th. and 8th. cervical and 1st. and 2nd. dorsal on R. side and 8th. cervical and 1st. and 2nd. dorsal on L. side. The growth was easily stripped from the dura except at the point of exit of the 1st. dorsal root on R. side where it invaded the membranes and projected within the thecal cavity. An incision into the cord was visible just below the entry of the 1st. dorsal posterior root on R. side.

The tumour was a columnar celled carcinoma similar to tumour found in lungs. Viscera not examined. Ascended degeneration of 7th. and 8th. cervical and 1st. dorsal roots on L. side. Degeneration in the dorsal fibres of Goll's column on R. side. Descending degeneration of the endogenous fibres in R. posterior column.





Case XXI

Carcinoma of Spine.

T. B. Male. 67. Sir William Gowers. 1906.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Good. A year ago he fell heavily on his back - an accident. Pain in back afterwards but recovered same night.

Present Illness. 10 months ago pricking pain in L. buttock, spreading a short way down back of thigh, became more frequent was stabbing and paroxysmal in character. Became worse - used to come on at any time.
6 months ago numbness in L. buttock, feeling as if it were "going to burst." Unable to sit comfortably since.
3 months ago a sudden severe pain in the bladder - pain felt situated deeply in the pelvis, unable to pass water and has had to be catheterised regularly ever since.
He also began to suffer from gradual loss of power in L. leg and some wasting in L. buttock, thigh and leg.
2 months ago pain in R. buttock of same character but not so severe or frequent.
Since the beginning of illness patient has suffered from constipation, some loss of sexual power and has lost over a stone in weight.

State on Admission.

No evidence of malignant disease was found in the chest, abdomen, rectum or prostate.

Mental Condition. Normal.
Cranial Nerves. Normal.
Motor System.
Upper Extremities. Normal.
Trunk. Normal.
Lower Extremities. Both buttocks wasted - wasting in ham strings in L. thigh and slightly of the muscles below the knee.
Weakness in R. leg hardly noticeable. Decided weakness in flexion and

extension of L. thigh and L. knee.
Some weakness of the dorsi-flexors and flexors of L. ankle.

Sensory System.

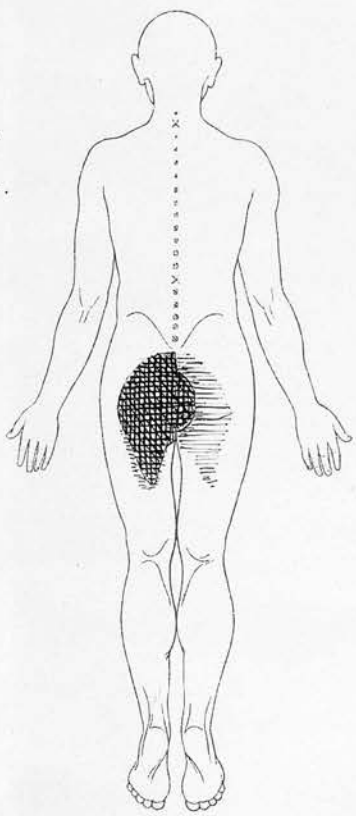
Subjective. Almost constant numb gnawing pain on both sides of anus, disturbs his sleep and is aggravated by constipation, does not radiate.

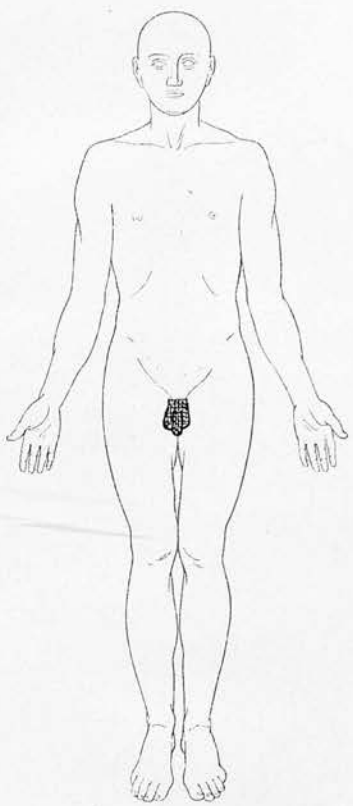
Objective. Practically complete loss of sensation over the scrotum penis and 4th. and 5th. sacral areas on both sides and 3rd. sacral on R. No sense of passage of water and dull sense of passage of faeces.
Sensory loss on L. side of scrotum and L. sacral areas is not absolute.
Some loss of sensation in 3rd. sacral

67½.
8.6.06
Total Sensory Loss.
Slight Sensory Loss.

T.B. 67 Male
8.6.06.

▦ = Total Sensory Loss
≡ = Slight Sensory Loss.





Post Mortem. Autopsy-spinal cord only. Laminactomy wound from 10th. dorsal to 5th. lumbar. There was malignant disease of spine and sacrum but no pressure on the cord, the sacral roots were involved as they passed through the sacral foramina. The 5th. 4th. 3rd. and 2nd. sacral roots on both sides were involved.

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extension of L. thigh and L. knee.
Some weakness of the dorsi-flexors and flexors of L. ankle.

Sensory System.

Subjective. Almost constant numb gnawing pain on both sides of anus, disturbs his sleep and is aggravated by constipation, does not radiate.

Objective. Practically complete loss of sensation over the scrotum penis and 4th. and 5th. sacral areas on both sides and 3rd. sacral on R. No sense of passage of water and dull sense of passage of faeces.
Sensory loss on L. side of scrotum and L. sacral areas is not absolute.
Some loss of sensation in 3rd. sacral area.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Present (equal)	Present. (equal).
Ankle.	Absent ~~both sides~~.	Absent ~~both sides~~.
Superficial.		
Epigastric.	Present.	Present.
Abdominal.	Absent.	Absent.
Cremasteric.	Present.	Absent.
Plantar.	Flexor.	Flexor.

Sphincters. Cannot pass urine.
Defaecation ~~is~~ constipation except after purgatives when loss of control.

Spine. Nothing abnormal noted.

Operation. 19.6.06. Mr. Armour.

The cauda equina and lower end of spinal cord exposed, nothing abnormal was found. The patient recovered from the operation but gradually became worse.

9.8.06. Patient died.

Post Mortem. Autopsy-spinal cord only. Laminactomy wound from 10th. dorsal to 5th. lumbar. There was malignant disease of spine and sacrum but no pressure on the cord, the sacral roots were involved as they passed through the sacral foramina. The 5th. 4th. 3rd. and 2nd. sacral roots on both sides were involved.

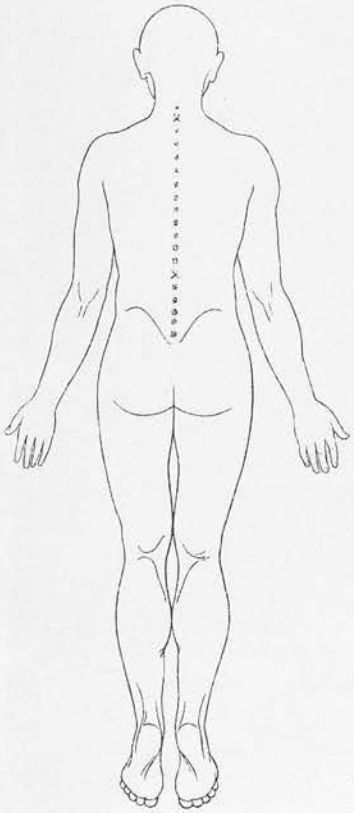
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Case XXII

Carcinoma of Spine.

J. T. Male. 61. Dr. Bastian. 1901.

Complaint Paralysis of legs for 9 weeks

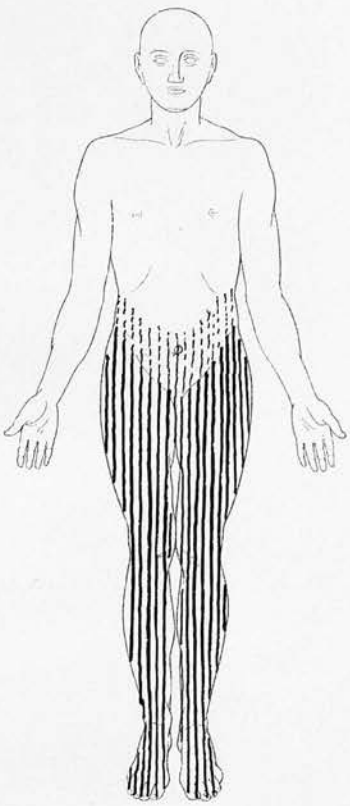


J. T 61.

16.9.01.

|||| = total sensory loss

|||: = relative " "
to all forms of
Cutaneous Sensibility



Sensory System.

Subjective. No pain with the exception of girdle sensation.

Objective. Complete loss of sensibility to pain, touch and temperature on legs and thighs - some blunting on abdomen extending in front to 2 inches above umbilicus and posteriorly to 10th. dorsal spine.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	"	"
Ankle.	Not obtained.	Not obtained.
Superficial.		
Plantars.	Extensor.	Extensor.
Abdominal.	Not obtained.	Not obtained.

Case XXII

Carcinoma of Spine.

J. T. Male. 61. Dr. Bastian. 1901.

Complaint. Paralysis of legs for 9 weeks.

Family History. Good.

Previous Health. Syphilis 35 years ago.

Present Illness. For 12 months legs have been getting thinner and he has been losing flesh generally for 6 months.
9 weeks ago legs became weak and paralysis came on very rapidly. girdle sensation.
6 weeks ago complete loss of control over urine and faeces with loss of sensation. Bed sore.

State on Admission. 16.9.01.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Power good, no loss of movement.

Lower Extremities. Absolute paralysis of both at all joints, marked wasting and flaccidity.

Trunk. Marked weakness of lower muscles - impossible to test properly as he cannot lie on his back.

Sensory System.

Subjective. No pain with the exception of girdle sensation.

Objective. Complete loss of sensibility to pain, touch and temperature on legs and thighs - some blunting on abdomen extending in front to 2 inches above umbilicus and posteriorly to 10th. dorsal spine.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	"	"
Ankle.	Not obtained.	Not obtained.
Superficial.		
Plantars.	Extensor.	Extensor.
Abdominal.	Not obtained.	Not obtained.

Sphincters.	Complete incontinence.
Trophic.	Large bedsore over sacral and lumbar region about 6 inches in diameter, also bedsores on both heels.
Spine.	No deformity. Some tenderness on firm pressure over 8th. and 9th. dorsal vertebrae on both sides.

1.10.01. Patient much more feeble. There is a large subcutaneous abscess over R. shoulder containing creamy pus. Bedsore over L. trochanter.

No sign of extension of anaesthesia but there is tingling in fingers of L. hand (? due to lying on that arm).

9.10.01. Steadily getting worse. Tingling and pain in L. side of abdomen.

18.10.01. Patient gradually sank and died from asthenia. No pain at all severe at any time during his stay in the hospital. Emaciation extreme.

Case XXIII.

Extra dural Hydatid. Operation. recurrence. 2nd operation. cure

C. P. Female. 21. Dr. Turner. 1903.

Op. Mr. Ballance.

Complaint. Inability to walk - dead feeling from toes to chest. Difficulty in passing water and motions. Pain across shoulders and under each breast when she moves or sits up.

Duration. First attack - gradual onset 1.1.03. Second attack - 2.4.03.

Family History. Good.

Previous Health. Good.

Present Illness. Oct. 02. had "rheumatic pain" under L. shoulder blade, with at times a tight feeling - nothing else - nervous. Shooting pain from chest to back after food, said to be due to indigestion.

Jan.03.pain passed off but she felt "numb" in the toes which gradually spread up and reached level of chest in April 03. - ground felt soft under feet.

Jan.03. walking affected, feet heavy and dragged, also unsteady, especially in the dark.

March 03. Sphincter trouble first noticed, difficulty in passing urine and motions.

In April was in Tottenham Hospital. could only walk with assistance, legs felt stiff and heavy, no flexor spasms. L. leg worse than R.. Loss of tactile and pain sensation to level of breasts. Sharp pain across between shoulders. Could not pass urine or motions. Was in bed for 3 weeks. Pain stopped, could walk alone. Still had trouble with sphincters, retention. L. leg felt dead.

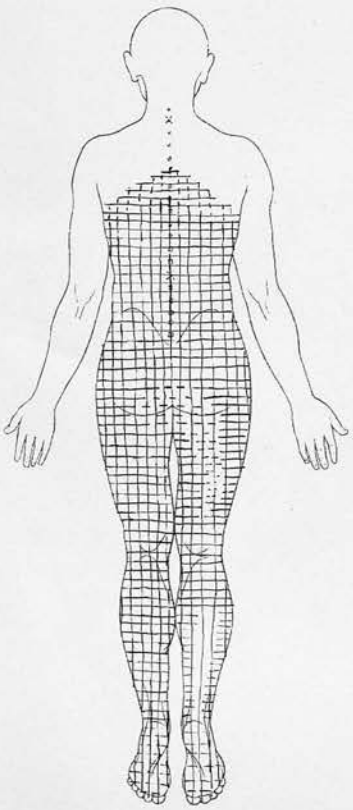
Remained in statu quo for 6 weeks. Then legs became weak and stiff, with flexor spasms - and total paresis. Pain returned at same level. Loss of sensation to below breasts. Complete retention.

State on Admission.

Patient had a sallow, muddy complexion, slightly anaemic.
Development and nutrition good.

Special Senses. Normal.
Cranial Nerves. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. Normal.
Trunk. Spastic paralysis of Recti Abdominis and Erector Spinae.
Lower Extremities. No wasting, muscles spastic, flexor spasms. No voluntary movement, cannot stand or walk.
Sensory System.
Subjective. Numb dead feeling up to level of chest. Pain round below breasts on movement.
Objective. Tactile, pain and thermal sensation

C.P. aet 21.
24.4.03

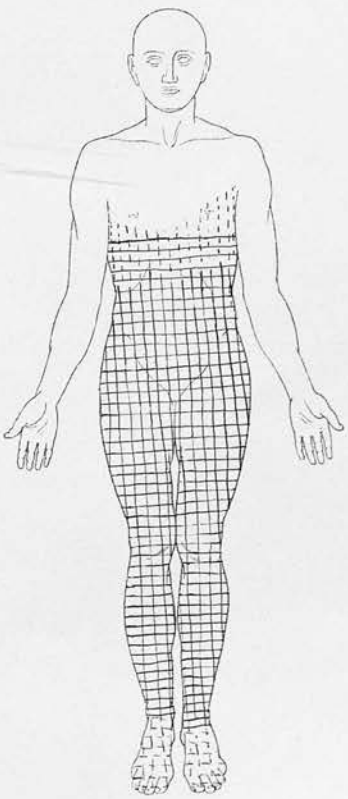


= Complete Analgesia and thermal loss.

= Complete Anaesthesia

= Highest limit Relative analgesia

= Relative anaesthesia.



Remained in statu quo for 6 weeks. Then legs became weak and stiff, with flexor spasms - and total paresis. Pain returned at same level. Loss of sensation to below breasts. Complete retention.

State on Admission.

Patient had a sallow, muddy complexion, slightly anaemic.
Development and nutrition good.

Special Senses. Normal.
Cranial Nerves. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. Normal.
Trunk. Spastic paralysis of Recti Abdominis and Erector Spinae.
Lower Extremities. No wasting, muscles spastic, flexor spasms. No voluntary movement, cannot stand or walk.
Sensory System.
Subjective. Numb dead feeling up to level of chest. Pain round below breasts on movement.
Objective. Tactile, pain and thermal sensation diminished to 4th. dorsal root area, lost below 7th. dorsal root area. Sense of position lost up to 7th. dorsal. Muscle pain sense diminished up to 7th. dorsal.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Absent equal.
Knee.	Plus.	Plus clonus.
Ankle.	Plus clonus.	" "
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Retention of urine and faeces.
Trophic. No disturbances.
Spine. Tenderness on pressure over 2nd. to 6th. dorsal spines, also on movement. No evidence of deformity ordabscess.
Lungs. Healthy.
Other organs healthy.

Operation. 12.8.03. Mr. Ballance.

The 2nd. to 6th. dorsal spines were removed, also laminae. On removing spines a small round body escaped from the level of the 4th. spine - hydatid cyst. A cavity the size of a tangerine orange was found eroded transverse processes, part of laminae of 3rd. and 4th. vertebrae and eaten deeply into 4th. dorsal vertebra. Lot of small cysts escaped. The wall of the cavity was dense and tough and adherent to dura mater, also to pleura. Patient collapsed after operation, was infused and made a good recovery.

19.8.03. Wound healed. More flexor spasms and return of voluntary power. Anaesthesia less marked, no pain.

11.3.04. Patient walks normally, power excellent. Sensation normal. Reflexes, R. and L. plus, no clonus. Plantars flexor. Sphincters not affected.

1905. Return of Paralysis

2nd Operation - more cysts removed.

1910. Seen by myself. - no paralysis. plantars flexor. no sensory loss no sphincter trouble. looks in excellent general health.

Case. XXIV

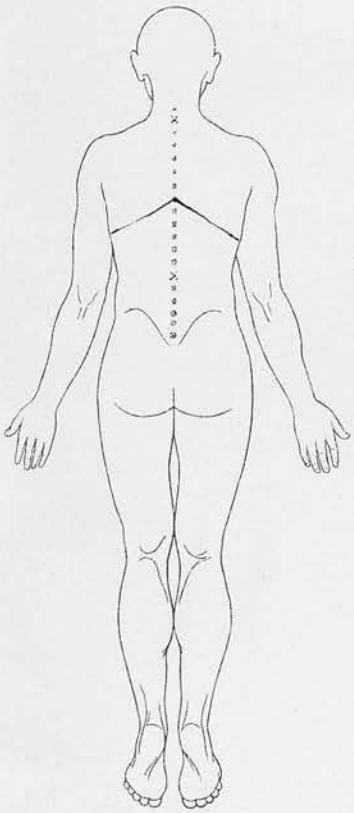
Extra Dural Cyst. ?Hydatid. Later 2nd operation. Hydatids.

H. H. Male. 47. Sir William Gowers. 1904.

Op. Sir Victor Horsley.

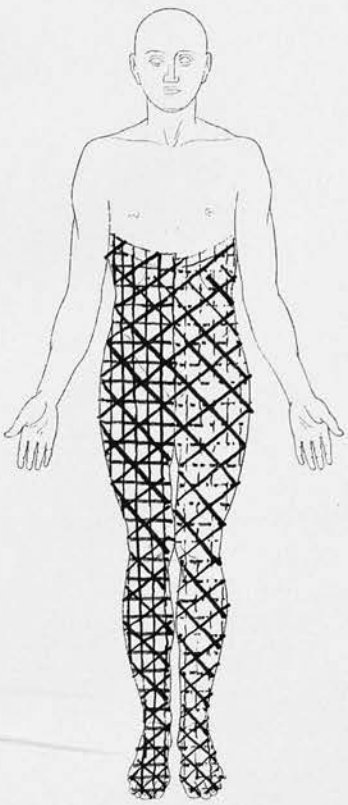
Complaint. Weakness in legs, sphincter trouble, sensory loss.

Duration. 10 to 11 years.



H.H. 47.
17.6.04.

complete anæsthesia
partial anæsthesia
complete analgesia
partial analgesia
heat loss
cold. loss
No loss of sense of position



Sensory System.

Subjective. Pain round R. side over the lower ribs, and girdle sensation in same area.

Objective. No loss of sense of position. Tactile loss practically complete on R. side up to level of 6th. dorsal spine behind, and 1½ inches below xyphoid in front. Sharp upper margins. On L. side only relative loss to same level.

Case. XXIV

Extra Dural Cyst. ?Hydatid. Later 2nd operation. Hydatids.

H. H. Male. 47. Sir William Gowers. 1904.

Op. Sir Victor Horsley.

Complaint. Weakness in legs, sphincter trouble, sensory loss.

Duration. 10 to 11 years.

Previous Health. Good.

Present Illness. 10 years ago found he did not recognise pain, heat and cold in the legs.
8 years ago R. leg began to tire easily.
7 years ago reflex spasms and weakness in both legs.
5 to 6 years ago sensory loss more in R. leg than L. Pain in R. side and buttock. Difficulty in starting micturition.

State on Admission. 17.6.04.

Healthy looking man.

Viscera. Normal.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. "

Trunk. Rigidity and weakness of lower halves of Recti Abdominus and lower trunk muscles.

Lower Extremities. Spasticity in both, R. more than L.

Gait. Spastic, drags R. toes.

Sensory System.

Subjective. Pain round R. side over the lower ribs, and girdle sensation in same area.

Objective. No loss of sense of position. Tactile loss practically complete on R. side up to level of 6th. dorsal spine behind, and 1½ inches below xyphoid in front. Sharp upper margins. On L. side only relative loss to same level.

Cutaneous Pain. On R. practically complete analgesia up to a band about 1½ inches higher than the anaesthesia with a sharp upper limit.
On L. marked reduction of the pain perception on pin prick, also lost to about ½ inch above the upper limit of the anaesthesia.
Complete loss to heat on both sides, with the upper limit corresponding to that of the analgesia.
Complete loss to cold on R. about ½ inch below the anaesthetic level.
and on the left
Complete loss up to a line round the trunk midway between the nipple and the umbilicus, and slight reduction from this level up to the anaesthesia limit.

Reflexes.

	Deep.	Right.	Left.
	Arm.	Normal.	Normal.
	Knee.	"	"
	Ankle.	Plus clonus.	Plus & slight clonus.
	Superficial.		
	Epigastric.	Brisk reaction only from upper half of Recti abdominis.	
	Abdominal.	Absent.	Absent.
	Plantar.	Extensor.	Extensor.

Sphincters. Difficulty in starting micturition; obstinate constipation.

Spine. No deformity but slight rigidity. No pain on movement, but slight tenderness on percussion over the 5th. and 6th. dorsal spines.

Operation. 24.6.04. Sir Victor Horsley.

The 5th. and 6th. dorsal laminae were removed. Perithecal fat pushed backwards especially under 6th. lamina. On dissecting it off an elongated tumour was found lying on R. side of cord completely outside the dura. It measured about ¾ inch in length, was rather

thicker than a lead pencil and rounded at its two ends. It was greyish-white in colour and fluctuating. In position it corresponded to the upper part of 6th. dorsal vertebra and its junction with the 5th. On incising it pale yellowish fluid escaped in a considerable quantity, no daughter cysts. There was no apparent adventitial wall, but a considerable amount of haemorrhage from a large vein in the wall of the cyst which was stopped with difficulty. A drainage tube was inserted in the wound into the mouth of the cyst and was then closed up. The cyst was thought to be hydatid.

A month later there was practically no change.

31.7.04. No definite sensory loss on L. side but still complete cutaneous analgesia to the original level on R. side. The motor power remains much as it was before the operation.

8.9.04. Cannot walk alone but can move R. foot and leg better than formerly. Sensation as before - analgesia on R. side up to original level. Sphincter control improved.

1905-06. Gradual increase in paralysis with complete sensory loss

1906. 2nd operation - hydatid cysts found & removed

no improvement.

Case. XXV.

Hydatid of Spine.

H. F. Male. 42. Sir William Gowers. 1896.

Op. Sir Victor Horsley.

Complaint. Pain in back, loss of power in legs.

Family History. Good.

Previous Health. Epilepsy 9 years ago.

Present Illness. 11 months ago in the morning had sudden severe pain above R. trochanter. This continued and in a few days it spread round both buttocks and down front of thighs as far as the knees. Pain most severe in R. leg. Pain worse on exertion, intermittent in severity but constant. No weakness of legs, no anaesthesia. Knee jerks normal.

5 months ago pain much more severe for a fortnight, then weakness of legs, could not raise them when sitting on a chair. Feet and legs both numb up to knees. Retention of urine and constipation.

3 months ago wasting round R. hip, pain across small of back and round hips.

State on Admission.

Special Senses. Normal.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. Can only flex R. hip slightly, L. hip fairly well. No rigidity of muscles. Marked wasting of buttocks, especially glutei, and wasting of thighs. ~~Sensation~~ scars on legs (hot water bottle) oedema of ankles. Tache produced over all above 3rd. lumbar, slightly on 3rd. lumbar, none below.

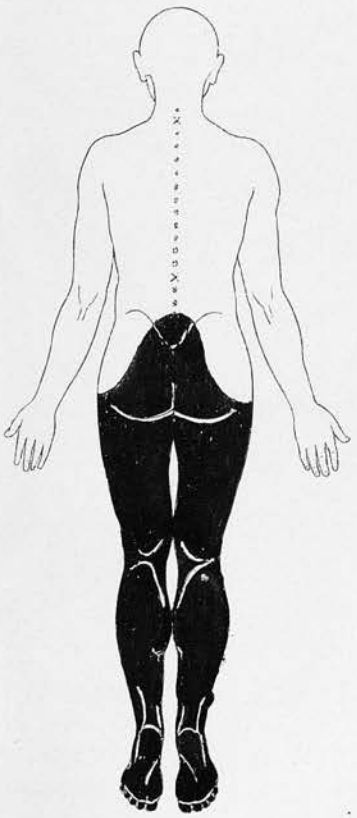
Trophic

Penis becomes slightly erect on (stimulation).

Sensory System.
Objective.

Complete loss to all forms below knees, sides and back of thighs, buttocks, genitals, meatus and [illegible] bladder, also much diminished in rectum. Tactile sensation remains. Slight affection of sensation of ?3rd. lumbar.

W. F. 42

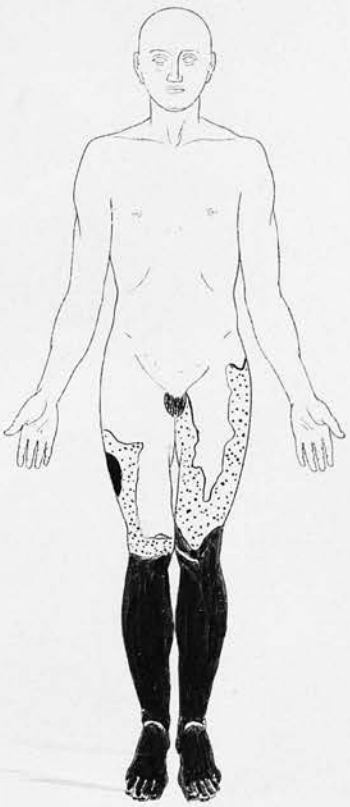


W. F. male 42.
1896

= Partial

= Complete

Loss of Cutaneous Sensibility



passing down R. side between 11th. and 12th. dorsal, a small hydatid cyst was found, then several more escaped from cyst cavity which extended from the upper border of 11th. dorsal to the middle of 1st. lumbar.

Sensory System.

Objective. Complete loss to all forms below knees, sides and back of thighs, buttocks, genitals, meatus and bladder, also much diminished in rectum. Tactile sensation remains. Slight affection of sensation of ?3rd. lumbar.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Absent.	Absent.
Ankle.	No clonus.	No clonus.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantars.	Absent.	Absent.
Gluteal.	"	"
Cremasteric.	Present.	Present.

Sphincters. Complete retention.

Electrical Reaction. To plus Faradism. Slight dorsi-flexion of L. big toe and ankle Anterior of Flexor. Breirs hallucis. All other muscles, thigh and buttock — No reaction to Faradism or galvanism. Anterior tibials respond to plus galvanism.

Spine - Lateral curvature. tenderness on pressure + pain on movement.

Operation. Sir Victor Horsley.

The spines and laminae of the 11th. and 12th. dorsal and 1st. and 2nd. lumbar were removed. The cord pulsated above the 11th. dorsal vertebra, theca was distended below that and there was no pulsation. On passing a probe down R. side between 11th. and 12th. dorsal, a small hydatid cyst was found, then several more escaped from cyst cavity which extended from the upper border of 11th. dorsal to the middle of 1st. lumbar.

Case XXVI.

Spinal Hydatids.

C. G. Male. 13. Dr. Bastian. 1901.

Op. Sir Victor Horsley.

Complaint. Inability to walk, numbness of legs, pain in L. side, difficulty in micturition.

Duration. 6 weeks.

Family History. Mother died of cancer.

Previous Health. Measles several years ago, otherwise good.

Present Illness. Patient was at school when he noticed a sharp pain in L. side, lasted a few hours and passed off but returned next day. A day or two afterwards his legs became weak, L. worse than R. They were inclined to drag, and his knees "gave way".

10 days ago pain was very bad, legs becoming weaker.

9 days ago unable to walk although he could move his legs in bed. Legs weaker with numbness and slight difficulty in passing water.

2 months ago he had a sharp pain in the small of the back which lasted for about an hour - he has had none since.

State on Admission. 21.5.00.

Cranial Nerves. Normal.

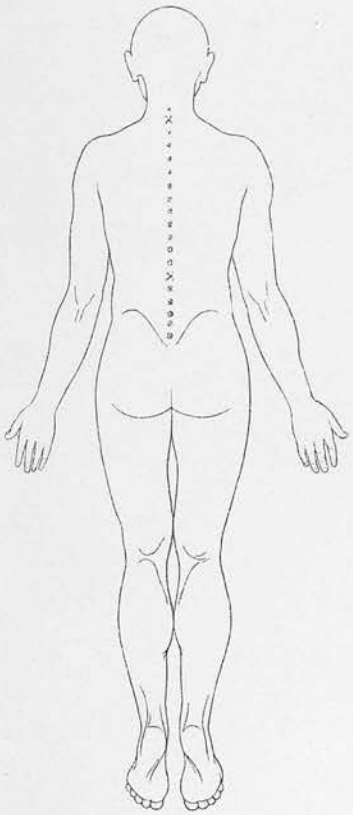
Motor System.

Upper Extremities. Normal.

Lower Extremities. Completely paralysed. Slight rigidity of the ham strings. Flexor spasms, no wasting.

Sensory System.

Subjective.	Pain in the 2nd. 3rd. and 4th. lumbar spines and the whole of the L. lumbar region.
Objective.	Severe loss to all forms to 12th. dorsal, relative loss to pain to 6th. dorsal. No vasomotor or trophic skin changes

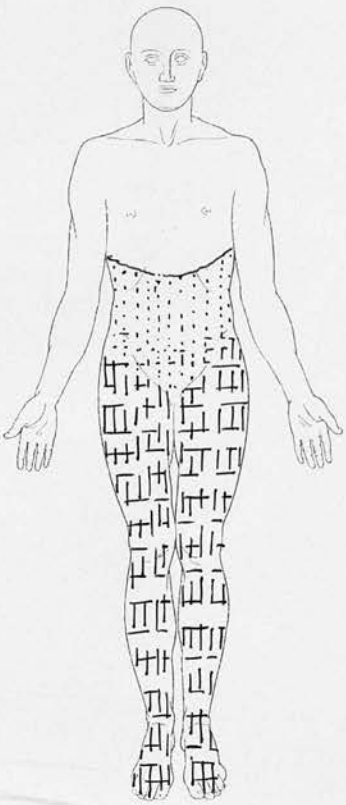


C.S.
1901.

= slight loss to pain

= severe loss to pain heat + cold

= relative anaesthesia



stitched up.

17.7.00. Pain about the R. costal margin in front when he took a deep breath.

2.8.00. Anaesthesia to light touch below iliac crests. Twitching in L, leg, and slightly in R.
Bladder. A little more control.

13.9.00. Gradual return of tactile sensibility.

20.3.01. Sensibility quite good. Can walk with two sticks. Sphincter control good.

Sensory System.

Subjective.	Pain in the 2nd. 3rd. and 4th. lumbar spines and the whole of the L. lumbar region.
Objective.	Severe loss to all forms to 12th. dorsal, relative loss to pain to 6th. dorsal. No vasomotor or trophic skin changes.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Ankle.	Plus with clonus both sides.	
Knee.	Normal.	Brisk.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Difficulty in passing water.

Spine. Prominence of 8th. and 9th. dorsal spines, but no tenderness or deformity.

15.6.00 Patient has absolutely no power of voluntary movement in the legs.

22.6.00. Reflex incontinence of urine.

30.6.00. Incontinence of faeces. Umbilicus rises when sitting up.

Operation. 6.7.00. Sir Victor Horsley.

The spines and laminae of the 6th. 7th. and 8th. dorsal vertebrae were removed. The bones were rarified. Several small clear cysts escaped, ruptured and flattened like the skins of small grapes, not much larger than a pea. No large cavity was found. The wound was stitched up.

17.7.00. Pain about the R. costal margin in front when he took a deep breath.

2.8.00. Anaesthesia to light touch below iliac crests. Twitching in L, leg, and slightly in R.
Bladder. A little more control.

13.9.00. Gradual return of tactile sensibility.

20.3.01. Sensibility quite good. Can walk with two sticks. Sphincter control good.

Case XXVII.

Extra Dural Hydatid.

C. C. Male. 35. Dr. Ormerod 1906.

Op. Sir Victor Horsley.

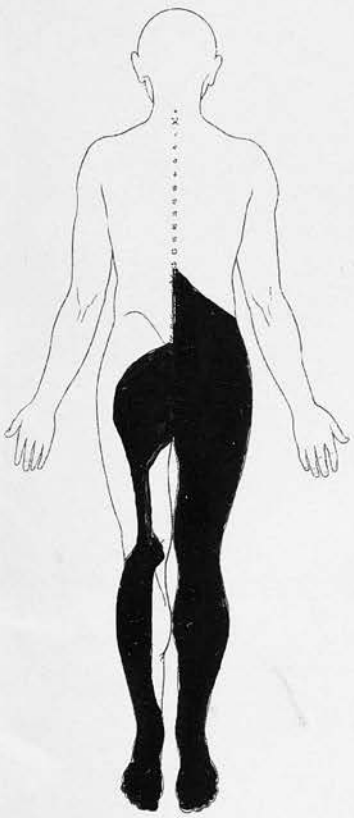
Complaint. Inability to walk, wasting of legs. Pain in back and thighs.

Previous Health. Good.

Present Illness. 12 months ago occasional sharp shooting pains in sacral region.
10 months ago similar pain in front of R. thigh, drawn and tight feeling,

C.C. 1906.

■ = Sensory loss.



C. C. 35
1906

■ = Sensory loss.



Sensory System.

Subjective. Pain in sacral regions and front of R. thigh.

Objective. Sensory loss up to level of 11th. dorsal area.

Case XXVII.

Extra Dural Hydatid..

C. C. Male. 35. Dr. Ormerod 1906.

Op. Sir Victor Horsley.

Complaint. Inability to walk, wasting of legs. Pain in back and thighs.

Previous Health. Good.

Present Illness. 12 months ago occasional sharp shooting pains in sacral region.
10 months ago similar pain in front of R. thigh, drawn and tight feeling, in R. groin, occasional radiating pains.
8 months ago pain in L, buttock and back of upper half of L. thigh.
4 months ago pain in front and inner aspect of R. leg.
8 weeks ago unable to cross R. leg over L. or raise foot from floor.
6 weeks ago weakness of L. leg, could draw it up but not straighten it in bed.
4 weeks unable to walk or stand. Wasting of thighs.
3 weeks difficulty in passing water. Numbness in R. foot and leg.

State on Admission.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. Great wasting in both thighs and buttocks. Voluntary power very feeble.

Electrical Reactions. R. D. all thigh muscles.

Sensory System.

Subjective. Pain in sacral regions and front of R. thigh.

Objective. Sensory loss up to level of 11th. dorsal area.

Reflexes.

	Deep.	Right.	Left.
	Knee.	Absent.	Absent.
	Ankle.	"	"
	Superficial.		
	Plantar.	Absent.	Absent.

Sphincters. Difficulty in starting micturition, constipated.

Operation. 9.11.04. Sir Victor Horsley.

Incision over dorsal spines, 11th. dorsal to 1st. sacral. Operation was chiefly performed from R. Numerous hydatid cysts in muscles. Articular and lateral processes of upper lumbar vertebrae eroded, these were partly removed and cysts scraped out. The 12th. dorsal and 1st. lumbar laminae were removed. More cysts in canal, and cord much compressed. Canal not blocked at any other level, probe passed up and down. Drainage tubes inserted - dura not opened. Operation was well borne. The wound was irrigated with 1/100 perchloride and healed well.

4.2.04. Retention of urine.

28.3.04. Swelling of knee joints, fluid, pain, increased on movement. Ankle, knee and plantar responses absent. Complete loss of touch and pain in L. leg and thigh, less complete in R.

21.4.04. Electrical reactions R. leg Faradism nil. In L. leg below the knee, nil. Thigh muscles all reacted.

16.5.04. No fluid in knees. R. leg swollen round knee and calf. Incontinence of urine and faeces.

Readmission. 12.3.06.

Patient has become worse. Sharp pains in legs, sometimes in ankle alternating from one leg to the other. Had the same sort of pains slightly before operation and has had them ever since; they have become much more frequent and severe of late. Cystitis very bad for last 6 months, urine very thick and exceedingly offensive.

Complaint. Increase of pain and condition of urine.

State on Admission.

Curvature over lower dorsal and lumbar spine to R. Tense cyst, size of hen's egg just above R. sacro iliac synchondrosis. Legs much wasted.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. "

Trunk. Slight weakness.

Lower Extremities. Absolutely no movement of any kind in R., great wasting. Extreme wasting of L. Deep ulcer on heel.

Electrical Reactions. R. leg - no response to Faradism or galvanism in any muscle.

Trophic. Ulcers on L. heel and toes.

Sensory System.

Subjective. Pain in both legs of a shooting character. Loss of sensation of urine and faeces.

Objective. Complete analgesia and anaesthesia of R. leg to iliac crest. Fairly intense but incomplete analgesia and anaesthesia of L. buttock, centre of L. thigh posteriorly and down aspect of L. leg and L. foot. Tenderness and aching complained of coccygeal region. Loss of sense of position in R. hip, knee, ankle and toes, also L. ankle and toe.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Present.	Present.
Knee.	Absent.	Absent.
Ankle.	"	"
Superficial.		
Abdominal.	Very brisk.	Very brisk.
Epigastric.	" "	" "
Cremasteric.	Absent.	Absent.
Plantar.	"	"

Sphincters. Complete incontinence of urine, constipation.

Patient discharged in same state.

Case XXVIII.

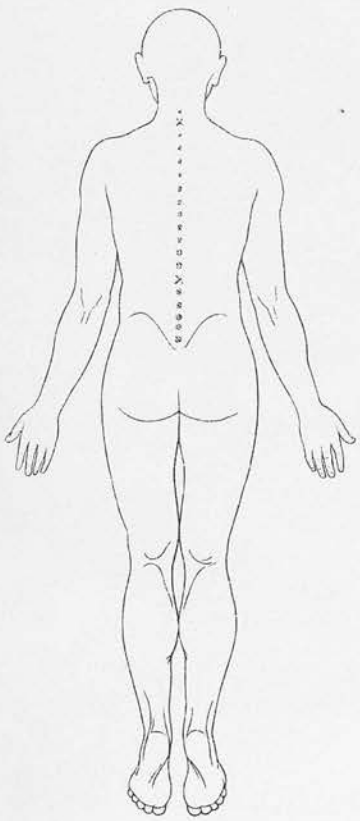
Dural Tumour. Sarcoma. Fibro sarcoma. (died not operated upon)

R. M. Female. aet 46. Dr. Turner. 1907.

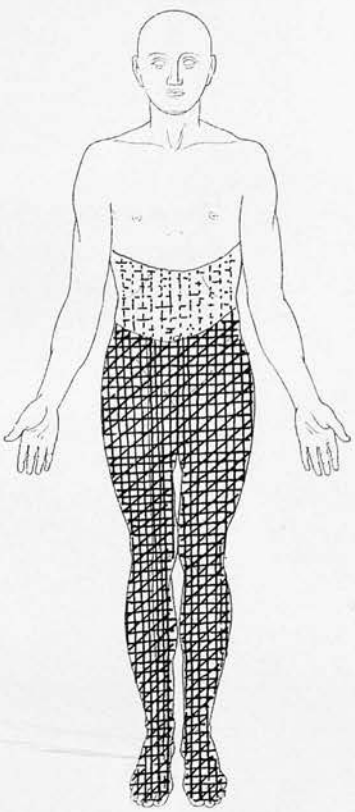
Family History. Nil.

Previous Health. Good.

Present Illness. 5 years ago both legs felt cold and



R.M.



Sensory System. There was complete sensory loss below 9th. dorsal segment, and relative sensory loss up to level of 6th. dorsal segment. Deep pain and sense of position diminished in lower extremities.

Case XXVIII.

Dural Tumour. Sarcoma. Fibro sarcoma. (died not operated upon)

R. M. Female. aet 46. Dr. Turner. 1907.

Family History. Nil.

Previous Health. Good.

Present Illness. 5 years ago both legs felt cold and very tired. Pain at bottom of back, more of a numbness at first (not shooting), sometimes a feeling of burning in back.

4 years ago R. leg gave way suddenly, ankle turning over, followed almost immediately by L. Patient went to bed, noticed numbness of legs.

After 2 months got about again. She had bronchitis, and legs were worse, and so on with remissions till

1 year ago took to bed, quite unable to walk since then and lost complete power. Spasms started, causing intense shooting pains.

Precipitant micturition

State on Admission.

Cranial Nerves. Normal.
Special Senses. "

Motor System.

Upper Extremities. Normal.
Trunk. Weakness of abdominal muscles, especially lower.
Lower Extremities. Both legs very spastic, especially R. No voluntary movement present.

Sensory System. There was complete sensory loss below 9th. dorsal segment, and relative sensory loss up to level of 6th. dorsal segment. Deep pain and sense of position diminished in lower extremities.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee & Ankle.	Not obtained owing to spastic contraction.	— Increased with clonus.
Superficial.			
	Epigastric.	Absent.	Absent.
	Abdominal.	"	"
	Planters.	Extensor.	Extensor.

Sphincters. Incontinence.

Spine. Some prominence of 6th. dorsal spine, tenderness on pressure over 6th. and 7th. dorsal spines.

General Condition. Patient is emaciated and looks ill.
She has a large Parenchymatous goitre.
Heart enlarged, double Mitral disease.
Pulse irregular.
Oedema of both legs.
Patient died from cardiac failure.

Post Mortem.

Tumour found growing from the Dura Mater extending externally along the L. posterior aspect of the cord, from 6th. dorsal segment to the upper border of 9th. dorsal segment. The posterior aspect of the dura was covered with growth from over the level of the 6th. and 7th. dorsal segments, as well as the anterior surface of L. side of the cord, but as the cord was pushed over to the R. side it was not pressed upon from before backwards.

On opening the dura the large firm boss of growth was seen to protrude pushing cord over to R. and compressing it severely at level of 7th. dorsal segment. The growth was entirely limited to the dura. It was 6.5 c.ms. in length and 2 cms. at widest part in breadth.

R.M.

Fibro sarcoma of Dura.



Tumour on inner aspect comprising the cord 6th - 7th dorsal segments.

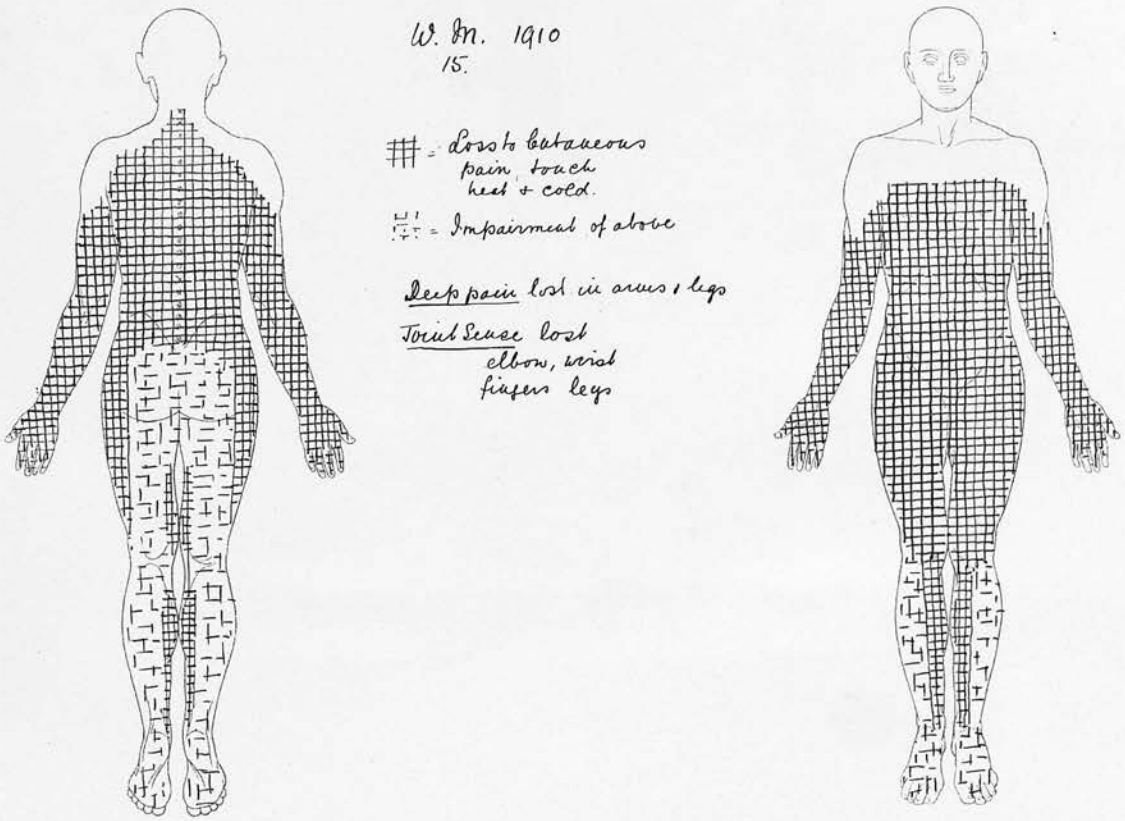
Tumour on outer aspect of Dura Mater.

The cord is displaced to the right and is indented by the tumour.

Case XXIX

Extra dural Extra Medullary. Fibro sarcoma. Died operation just below seat of tumour.

W. M. Male. 15. Dr. Buzzard. 1910.



Objective. Tactile loss below the level of the 5th. cervical area, except on the outer sides of both legs and over the 4th. and 5th. sacral areas where there is slight loss. Pain, heat and cold lost in the same areas as tactile, but occasionally feels a pin prick on the outer side of the arms and on the L. side of the trunk. Deep pain is lost in the arms and legs. Joint sense lost at the elbows, wrist, fingers and legs.

Case XXIX

Extra dural Extra Medullary. Fibro sarcoma. Died operation just below seat of tumour.

W. M. Male. 15. Dr. Buzzard. 1910.

Op. Mr. Armour.

Family History. Good.

Previous Health. Rheumatic fever at 7 and 13.

Present Illness. 1 year ago much weakness of L. arm, first in lifting, secondly in grasping.
10 months ago L.leg weak.
6 weeks ago R. arm weak.
4 weeks ago R. leg weak.
3 weeks ago precipitate micturition.

State on Admission. March 1910.

Cranial Nerves. Normal.

Upper Extremities. Spastic weakness in both arms, no wasting, no voluntary movements in either forearm or hand.

Trunk. Daiphragm good. Recti, trunk and costal muscles weak.

Lower Extremities. Very spastic, only voluntary movement present is slight extension of hips.

Electrical Reaction. Normal.

Sensory.System.

Objective. Tactile loss below the level of the 5th. cervical area, except on the outer sides of both legs and over the 4th. and 5th. sacral areas where there is slight loss. Pain, heat and cold lost in the same areas as tactile, but occasionally feels a pin prick on the outer side of the arms and on the L. side of the trunk. Deep pain is lost in the arms and legs. Joint sense lost at the elbows, wrist, fingers and legs.

Reflexes.

Deep.	Right.	Left.
Jaw.	Plus.	Plus.
Arm.	"	"
Knee.	"	"
Ankle.	"	"
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Precipitate micturition and defaecation.
Spine. Normal.

3.5.10. Patient got worse.

Operation. 6.5.10. Mr. Armour.

The spines of the 4th. 5th. 6th. and 7th. cervical & 1st Dorsal were removed. There was no pulsation in cord, but nothing found.

Diaphragm was paralysed after operation.

8.5.10. Patient's respiration very weak, but pulse good.
Patient died.

Post Mortem. Operation scar in cervical region. On removing laminae of 2nd. 3rd. and 4th. cervical, an oval tumour was seen lying on the L. vertrolateral aspect of the cord outside the dura. The lower end of the tumour was ½ inch lateral to and slightly lower than the operation incision into the dura. The tumour did not invade the vertebrae but had hollowed them out and it extended along the roots through the intra vertebral foramina on the L. side of the 3rd. and 4th. cervical and infiltrated.

The tumour lay along the anterior surface of the spinal cord and was attached to the dura there, but not to the cord. Microscopically the tumour was a spindle celled sarcoma. The tumour did not infiltrate the nerve roots and did not extend outside the foramina.
Some degeneration of the pyramidal tracts and of the nerve (anterior) roots, also above the lesion generation, more especially marked in the spinal cerebellar tract and posterior columns.

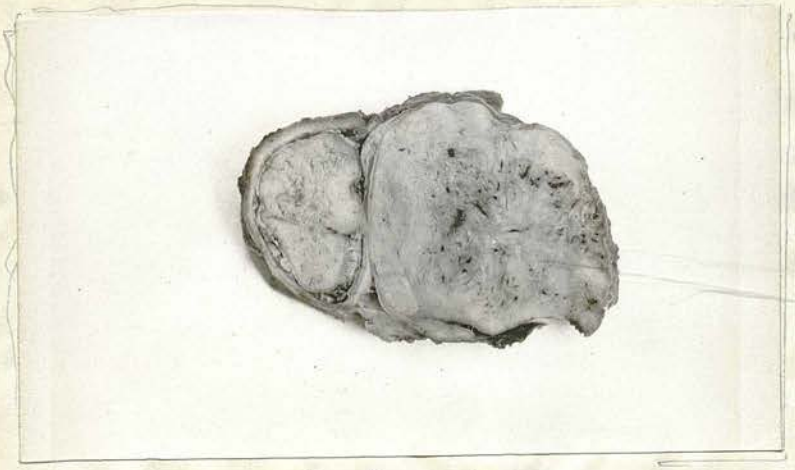
Photographs.

W.M. 1910.

1.



2.



1. Extra dural tumour. which compressed the upper cervical cord

2. Transverse section shewing tumour outside theca and the manner in which it compressed the cord.

Case XXX.

Dural & Extra Dural Sarcoma. (Recovery)

J. W. B. Male. 55. Dr. Batten. 1906.

Op. Mr. Sargent.

Complaint. Pain in lower part of back and round abdomen. Difficulty in walking for 15 months.

Family History. Good.

Previous Health. Good.

Present Illness. 15 months ago difficulty in walking, pain in lower part of back.

13 months ago began to suffer a sharp shooting pain in sacral region passing round abdomen - patient was easier sitting up than lying down. Pain very severe after stooping and was of a throbbing character like pulse beats.

10 months ago he improved somewhat and was able to walk, but still had the pain on stooping or if he jarred himself.

5 months ago the pain returned, was unable to sit up with comfort - easier to stand or to lie. Pain in L. lumbar region on coughing, as if a plaster were being ripped off his back and as if stings were mixed up in his abdomen. He has had some difficulty in micturition and constipation and also reflex spasms in the legs for the last 5 months.

State on Admission. 27.7.06.

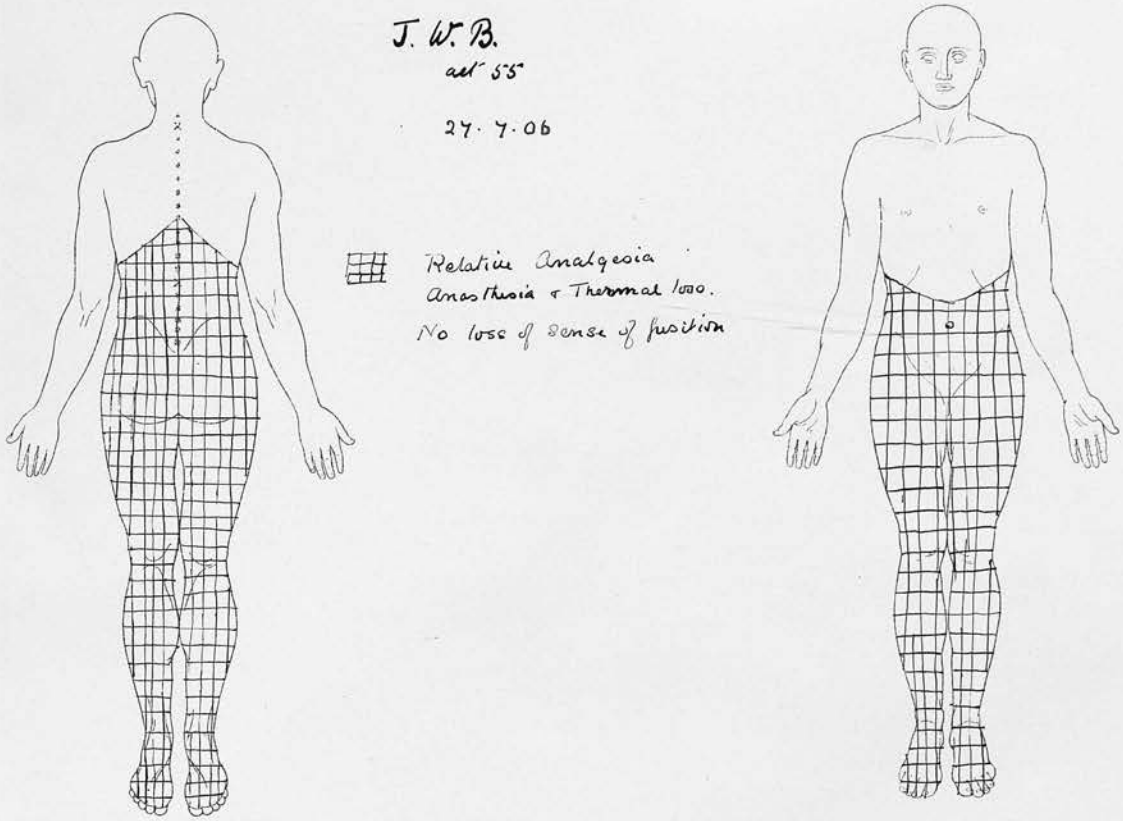
Mental Condition. Normal.
Special Senses. Normal.
Cranial Nerves. Normal.

Motor System.

Head & Neck.	Some stiffness.
Upper Extremities.	Normal.
	General muscular condition poor, flabby.
Trunk.	Cannot stoop very well, moves only from the hips, partly because of the pain.
Lower Extremities.	All movements present, but feeble - muscles not spastic.

Sensory System.

Subjective.	Pain and sense of constriction in lower abdomen, not definitely localised. Severe pain, shooting in character in lower spine on L. side, brought on by moving, coughing or laughing.
Objective.	Very slight relative anaesthesia and analgesia and thermal loss from level of 8th. rib downwards. No loss of sense of position.



Motor System.

Head & Neck. Some stiffness.

Upper Extremities. Normal.
General muscular condition poor, flabby.

Trunk. Cannot stoop very well, moves only from the hips, partly because of the pain.

Lower Extremities. All movements present, but feeble - muscles not spastic.

Sensory System.

Subjective. Pain and sense of constriction in lower abdomen, not definitely localised. Severe pain, shooting in character in lower spine on L. side, brought on by moving, coughing or laughing.

Objective. Very slight relative anaesthesia and analgesia and thermal loss from level of 8th. rib downwards. No loss of sense of position.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee, & Ankle.	Plus no clonus.	Plus no clonus.
Superficial.		
Epigastric.	Present.	Present.
Abdominal.	Absent below 8th.	Absent, below 8th.
Cremasteric.	Present.	Present.
Plantar.	Extensor.	Extensor.

Sphincters. Some difficulty in starting micturition.

General condition. No disease found of the viscera.

Spine. No deformity - movements limited owing to pain caused by movement. Tenderness to pressure over 6th. to 8th. dorsal spines.

Operation. 20.8.06. Mr. Sargent.

The spines and laminae of the 5th. 6th. 7th. and 8th. dorsal vertebrae were removed, no pulsation in dura which appeared thick and rough with adherent perithecal fat. The dura was incised opposite the 7th.

dorsal - it was about ¼ inch thick - it appeared to be involved by growth at this point. The cord itself appeared normal and pulsated well. The growth which was on the outer side of dura in the shape of an oval plaque about 1 to 1½ inches long lay on its posterior aspect a little to the L. side with its centre opposite the level of the 7th. dorsal spine. The tumour was stripped off easily from the R. side, but on the L. it came away piecemeal, and a small circumscribed tumour the size of a pea remained adherent to the L. posterior aspect of the dura. On attempting to remove this it ruptured and a small bead of white matter appeared (?pus or broken down growth). The dura was closed and wound sewn up.

Patient improved and was able to walk with a stick. He had no more pain in back, but occasionally pain in L. iliac fossa. He complained of a numbness in L, leg and was slightly anaesthetic up to the knee. Deep reflexes still increased, and plantars extensor.

Jan. 7.10.

Seen at Harley Street by Dr. Batten. Has been very well but still has pain, but no evidence of pressure on the cord.

Case XXXI

Extra dural Fibro Sarcoma. (Improvement)

H. G. male. 38. Sir William Gowers. 1906.

Op. Mr. Armour.

Family History. Good.
Previous Health. Good

15 years ago began to suffer from pains in legs and small of the back attributed to his occupation and r rheumatism. After a year he began to take tincture of opium and in 3 years was taking as much as an oz. three times a day.
During these years the legs became weak but the patient was able to walk.
10 years ago he had an abscess on R. foot, legs appeared to be weaker after this. During next 4 years he led an aimless existence doing nothing in particular. 6 years ago took to his bed and has not been out of it since. His legs at first were stiff and straight, they gradually contracted up. He has had some trouble with his water during last 10 years. During last 6 years has noticed a progressive loss of sensation in his legs, and a feeling of numbness at the very base of the spine.
Wasting of legs commenced after taking to bed, has been very constipated since he started taking opium. During past 6 months he has been prevented from getting any drugs.

On Admission

Cranial nerves. normal.
Motor System.
Upper extremities.
Normal.
Trunk and lower extremities.
Patient usually lies on one or other side with the legs slightly flexed at the hip and more so at the knee. No involuntary movements noticed in the legs - marked contracture (flexor) to hip and knees.

Impossible to straighten leg at hip or knee. The glutei are somewhat wasted as are also the extensors of the knee. The adductors of thigh are practically normal. Below the knees marked atrophic paralysis of all muscles, the toes are flexed, the feet can be moved about like a flail.

Movements.

Flexion of hip present.
Extension of hip prevented by the flexor contracture.
Adduction of thighs good
Abduction of thighs poor.
Flexion of knee rather weak.
Extension of knee fairly good.
No movements at ankles or toes.

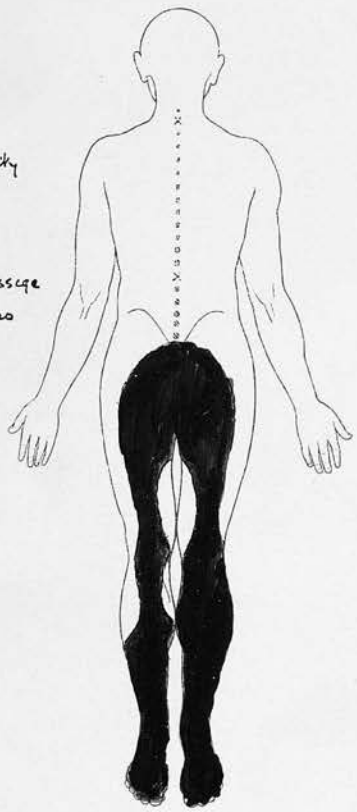
Sensory.System.

Objective. Much, almost complete loss of all forms of cutaneous sensibility and diminution of deep sensibility below the 3rd. lumbar segment.

G. 38.

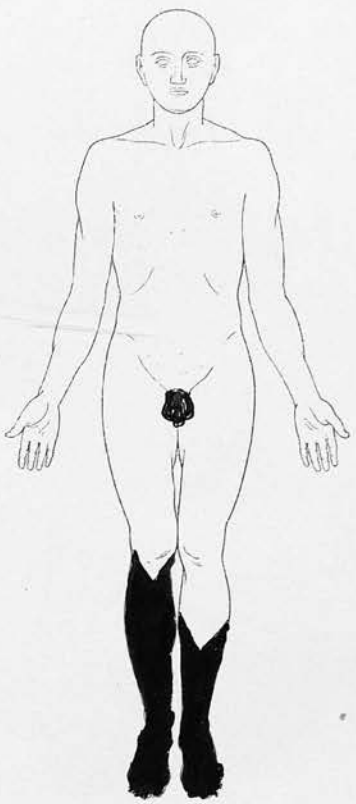
9.4.06.

Diminished Sensibility
Cutaneous Pain
Tactile
Thermal.
No sensation of passage of urine or faeces



H. G. 38.
9.4.06

Much Diminished Sensibility
to Cutaneous Pain
Tactile
Thermal
No sensation of passage of urine or faeces.



It had a definite capsule. Mr. Armour managed to

Impossible to straighten leg at hip or knee. The glutei are somewhat wasted as are also the extensors of the knee. The adductors of thigh are practically normal. Below the knees marked atrophic paralysis of all muscles, the toes are flexed, the feet can be moved about like a flail.

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Extension of hip prevented by the flexor contracture.
Adduction of thighs good
Abduction of thighs poor.
Flexion of knee rather weak.
Extension of knee fairly good.
No movements at ankles or toes.

Sensory.System.

Objective. Much, almost complete loss of all forms of cutaneous sensibility and diminution of deep sensibility below the 3rd. lumbar segment.

Reflexes.

	Right.	Left.
Deep.		
Arm.	normal	normal
Knee	absent	absent
Ankle.	"	"
Superficial.		
Epigastric.	present	present
Abdominal.	"	"
Plantar	absent	absent

Sphincters. Loss of sphincter control with no sensation of passing of water.

Operation. 6.5.06. Mr. Armour.

The laminæ and spines of the 12th. Dorsal to 5 lumbar were removed, the whole of lower part of spinal cord and upper part of cauda equina and spinal roots were exposed. A sausage-shaped tumour was found growing in the spinal canal lying in front and slightly to left of the theca, its uppermost point was opposite the upper border of 5th. lumbar vertebra. The tumour passed downwards into sacral canal apparently increasing in size, the dura and roots were drawn over to the R. by a blunt hook and an attempt was made to remove the tumour. The tumour was apparently attached anteriorly to the membrane lying inside the canal. It had a definite capsule. Mr. Armour managed to

remove the greater part of the tumour intact but there was some situated so low down that he was unable to reach it.
After operation July. Slight improvement in movements of legs at the hips and knees but no recovery of movements in toes and feet.
Sensation. Remained much the same, if anything the loss to pain is less acute, the contractures still remain. The patient improved to a certain extent, was able to walk with assistance or ride in a go-cart. The contractures are somewhat better but the condition of sphincters and sensation remain as before.

14. 11. 06. He went to an infirmary in Carlisle.

Case XXXII

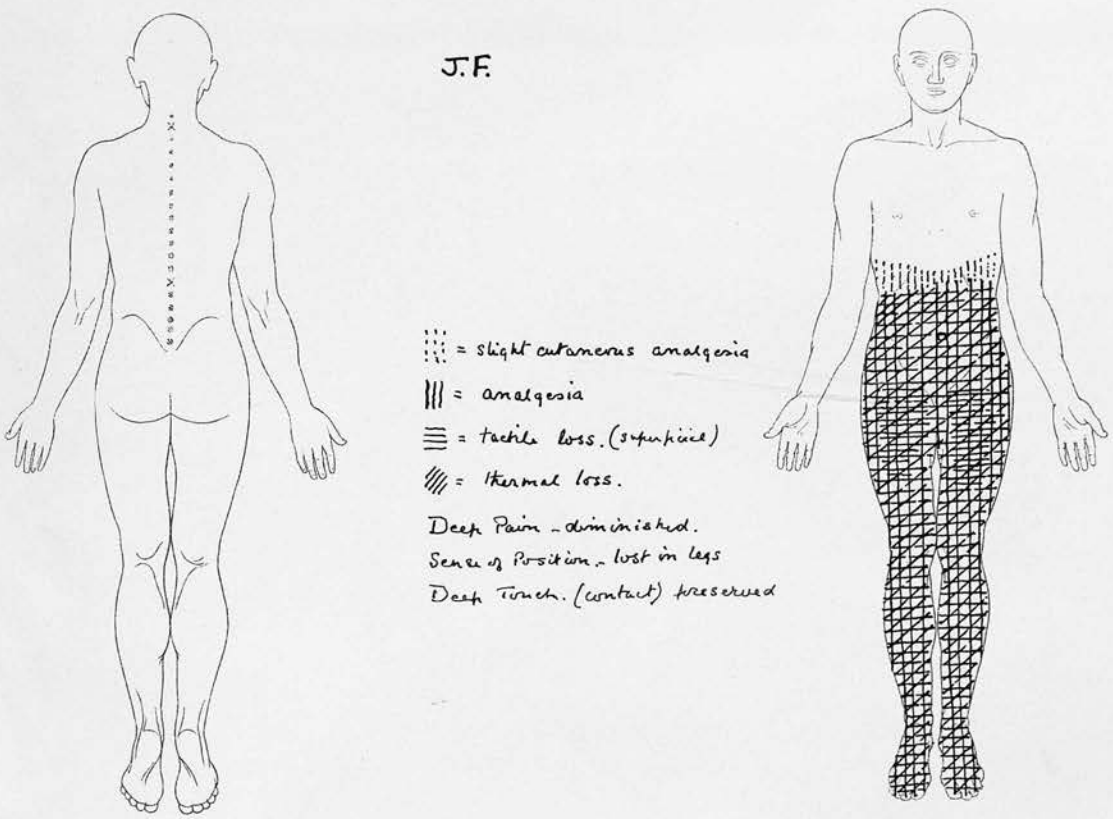
Extra -dural Fibro Myxoma. (Recovery)

J. F. male. aet. 25. Dr. Turner. 1902.

Op. Mr. Ballance.

Complaint. Progressive weakness of legs 7. months.
Family History. Good.
Previous Health. Smallpox 20 years ago., Weakness of
PRESENT ILLNESS. 18 mths ago. R. ankle and later of R. knee. The L. leg was affected about a fortnight later. Weakness gradually increased and he had a girdle sensation (tight feeling) round lower abdomen.
6 weeks ago had to take to his bed and was troubled with hesitating micturition. Was in Middlesex Hospital for six weeks and got no better.

State on Admission. May 23.02.
Slight nystagmus on lateral deviation



Reflexes. As before.
Sensory. A definite loss of superficial pain. Thermal, tactile to level of 7. Dorsal segment on both sides and slight loss of pain to level of 6th. dorsal segment.

Case XXXII

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Complaint. Progressive weakness of legs 7. months.
Family History. Good.
Previous Health. Smallpox 20 years ago., Weakness of
PRESENT ILLNESS. 18 mths ago. R. ankle and later of R. knee. The L. leg was affected about a fortnight later. Weakness gradually increased and he had a girdle sensation (tight feeling) round lower abdomen.
6 weeks ago had to take to his bed and was troubled with hesitating micturition. Was in Middlesex Hospital for six weeks and got no better.

State on Admission. May 23.02.

Slight nystagmus on lateral deviation of the eyes.
Cranial Nerves Otherwise normal.
Motor System.
Upper extremities. Normal.
Trunk. Normal above umbilicus, below this level the abdominal muscles are weak and on attempting to sit up the umbilicus rises 1 inch.
Lower Extremities. Both legs weak and spastic, R. more than L. Cannot stand.
Sensory System.
Subjective. Girdle sensation level of 11th. dorsal both sides.
Reflexes.

Deep.	Right.	Left.
Arm.	normal	normal.
Knee.	plus clonus	plus clonus.
Ankle.	" "	" "
Superficial.		
Epigastric.	diminished	diminished.
Abdominal.	absent	absent.
Plantar.	extensor	extensor.

Sphincters. Hesitating micturition. Constipation.
August. 02. Only movement present in R. leg is movement of big toe.
Reflexes. As before.
Sensory. A definite loss of superficial pain. Thermal, tactile to level of 7. Dorsal segment on both sides and slight loss of pain to level of 6th. dorsal segment.

Cutaneous Sensation. Most impaired over the front of the thigs. Loss of sense of position in both legs and diminution to deep pain.

Spine. Normal.

Present Health. Good.

Operation. August 29th. 02. Mr. Ballance.

3, 4, 5, 6, dorsal spines and laminae removed. Cord exposed and a large reddish-grey tumour extended down the posterior aspect of cord for about 1½ inches, from opposite lower part of 4th. dorsal vertebra to middle part of 6th. Cord pulsated above and below tumour. 7th. dorsal laminae and spine were then removed. The tumour was found to be free both above and below and was only attached to the dura opposite the junction of 5th. and 6th. dorsal vertebrae. This adhesion was removed by dissection, the dura not being opened. The tumour then appeared to be perfectly free except that a portion extended round R. side of cord at junction of 5th. and 6th. vertebrae where it apparently grew down the bone. However, by careful manipulation Mr. Ballance found that the tumour was not attached to the bone but that a rounded projection fitted in to a deep pocket in the spinal column at this level. The tumour was removed and this rounded projection which was incapsulated and quite free from the bone was found to be fully ½ inch in length. Patient was very collapsed but recovered from the effects of the operation.

September 15th. Patient can perform all movements with his legs the return being first noticed in toes and feet.

Sensory System. Sense of position, tactile sensibility superficial and deep pain normal. Appreciation of slight degree of heat and cold being the only form of sensation that is now deficient.

3 years later. Patient absolutely well. Extensor response on the R.

Case XXXIII

Extra dural FIBRO-SARCOMA. (Recovery)

M. R. Female. 36. Sir William Gowers. 1899.

Op. Mr. Ballance.

Family History. Good.

Previous health. Good.

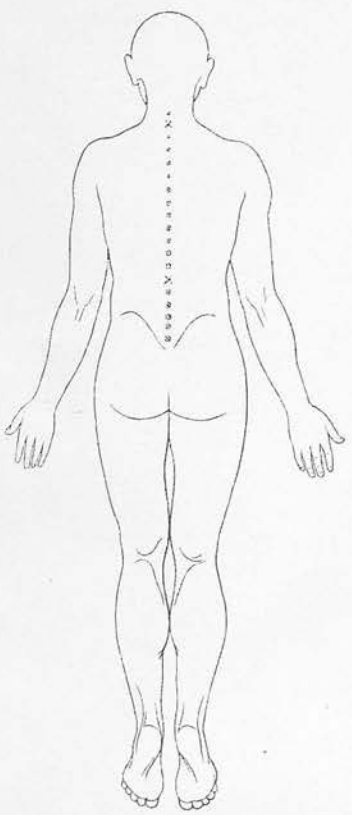
Present illness. 6 weeks ago pain in L. leg became stiff and dragged. 2 days later R. leg affected. 1 week ago retention of urine. Reflex spasms.

State on Admission. 29.9.99.

Spastic paralysis of abdominal muscles and lower extremities, unable to walk, legs about equally affected

Sensory System.

Absolute loss of lower power. Complete loss to the lower level of 5th. dorsal area and deficient sensibility up to the lower level of 4th.



M.R. 36. Gowers.

29·9·99.

|||| = Complete sensory loss

:::: = incomplete " "



Case XXXIII

Extra dural FIBRO-SARCOMA. . (Recovery)

M. R. Female. 36. Sir William Gowers. 1899.

Op. Mr. Ballance.

Family History. Good.

Previous health. Good.

Present illness. 6 weeks ago pain in L. leg became stiff and dragged. 2 days later R. leg affected. 1 week ago retention of urine. Reflex spasms.

State on Admission. 29.9.99.

Spastic paralysis of abdominal muscles and lower extremities, unable to walk, legs about equally affected

Sensory System.

Absolute loss of lower power. Complete loss to the lower level of 5th. dorsal area and deficient sensibility up to the lower level of 4th.

Reflexes.

	Right.	Left.
Deep.		
Arm.	normal	normal.
Knee.	absent	absent
Ankle.	"	"
Superficial.		
Epigastric	absent	absent.
abdominal	"	"
Plantars.	extensor	extensor.

Sphincters. Retention.

Spine. Some prominence of middle dorsal vertebrae, not tender on pressure.

Operation. 10.30.99. Mr. Ballance.

1st. Operation. Removed spines and laminae of 10th. 9th. 8th. 7th. and 6th. dorsal vertebrae inclusive, cord did not pulsate.

8.11.99. 2nd. operation. Spines and laminae of 5th. 4th. and 3rd. dorsal vertebrae removed. The tumour was found at level of 4th. dorsal segment lying exactly

in the middle line attached to the theca on its dorsal surface, and having eroded the arch of the 4th. dorsal vertebra. From this tumour a process extended along the R. side of the theca and had made a cavity in the vertebral body. The tumour was removed and wound closed.

17.11.99. Some incontinence of urine instead of retention.

22.11.99. Sphincter control established.

20.12.99. Some movement in both lower extremities with fair power.

12.1.00. Stood and walked a few steps with assistance.

9.2.00. Great improvement in power and sensation clearing up, although at the same level.

20.3.00. Could walk with two sticks.

1.5.00. Able to walk without sticks.

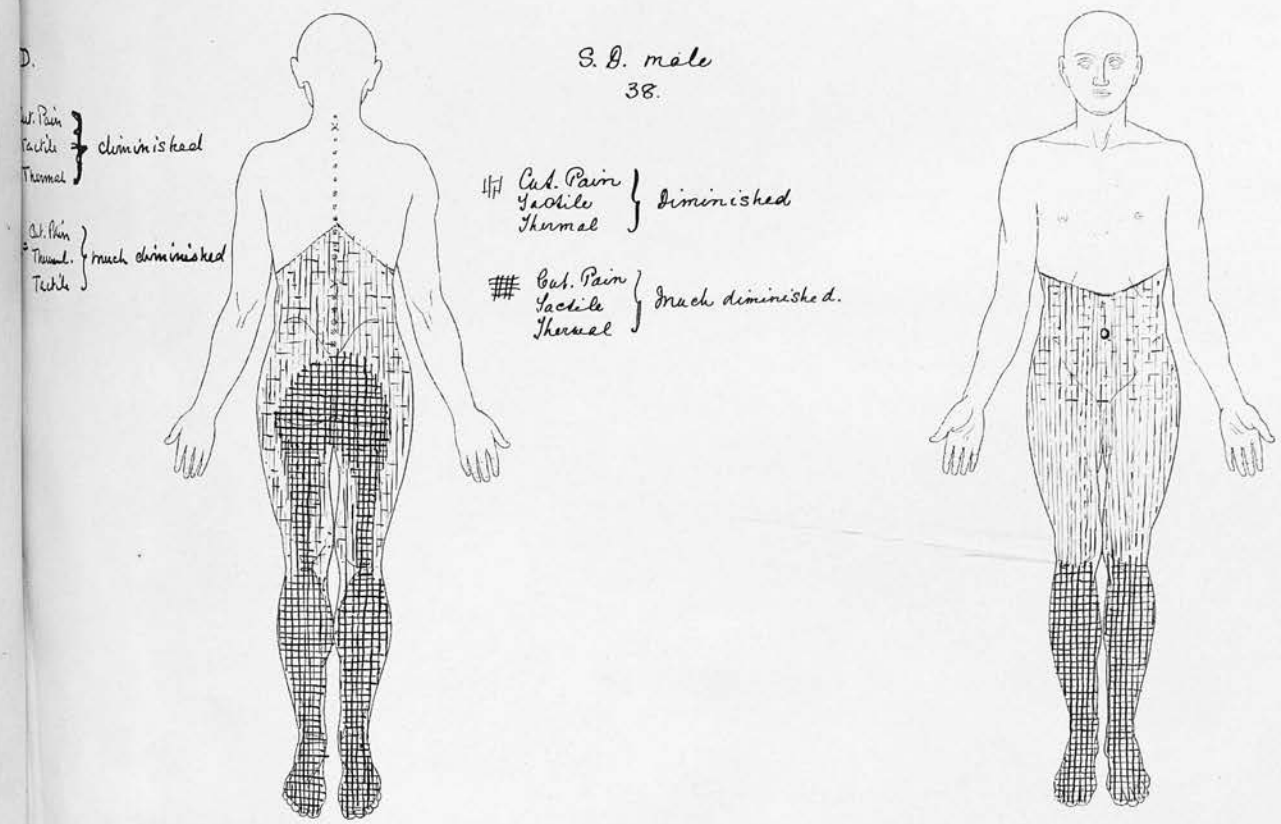
Case XXXIV

Extra dural Endothelioma. (Recovery)

S. D. male 38. Sir William Gowers 1906.

Op. Mr. Ballance.

Complaint.	Loss of power in legs.
Duration.	6 months.
Fam. History.	Good.
Previous Health.	Good.
Present Illness.	6 months ago noticed gradual weakness of both knees and aching pains in both calves, weakness steadily increased more especially during past 2 months, since then weakness of L. leg has been greater than that of R.



Sensation. Subjective.

Girdle sensation round the abdomen both sides.

Objective.

Cutaneous pain diminished up to the level of 7th. dorsal segment.

Complete loss to pain in lower lumbar

Case XXXIV

Extra dural Endothelioma. (Recovery)

S. D. male 38. Sir William Gowers 1906.

Op. Mr. Ballance.

Complaint. Loss of power in legs.
Duration. 6 months.
Fam. History. Good.
Previous Health. Good.
Present Illness. 6 months ago noticed gradual weakness of both knees and aching pains in both calves, weakness steadily increased more especially during past 2 months, since then weakness of L. leg has been greater than that of R. He has been unable to walk for last 9 weeks. A month ago he began to suffer from precipitate micturition and defaecation and also complained of numbness in both legs and of a tight feeling round the abdomen above the level of the umbilicus. During the last fortnight he suffered from pain at the base of the spine and during the last week has lost all power and movement in L. leg. Both legs have spasms at night.

On Admission. January 3rd. 1906.

Pres. Condition. Patient stout well developed.
Cranial Nerves. Normal.
Upper Extremities. Normal.
Thorax. Normal.
Trunk. Weakness of all the abdominal and lower spinal muscles, the former flaccid.
Lower extremities. Weakness and spacticity of R. lower extremity with only very feeble voluntary movements possible. The L. lower extremity not so spastic as R. but complete absence of all voluntary movement. No muscular wasting.
Sensation. Subjective.
Girdle sensation round the abdomen both sides.
Objective.
Cutaneous pain diminished up to the level of 7th. dorsal segment.
Complete loss to pain in lower lumbar

and sacral segments.
Tactile sensibility defective up to 7th. dorsal segment, but only lost in the lower lumbar and sacral segments.
Thermal sensation is lost in a similar way to pain.

		Right	Left.
Reflexes.	Deep.		
	Arm Jerks	normal	normal
	Knee "	plus clonus	plus clonus
	Ankle "	plus "	plus "
	Superficial.		
	Epigastric	absent	absent
	Abdominal	"	"
	Plantar	extensor	extensor

Sphincters. Retention of urine precipitate defaecation.

Spinal Column and viscera - Normal.

Operation. 9.1.06. Mr. Ballance.

Spines and laminæ of 6. 7. Dorsal removed. Surrounding the theca there was a mass of highly vascular tissue which bled freely. A portion of this was dissected off the theca from which it separated easily. The theca was then opened and cord exposed both of which appeared normal. There were no adhesions inside the dura.

Owing to haemorrhage from the theca and perithecal tissues the spine and laminæ of the 8th. dorsal laminae were removed and the haemorrhage controlled. A portion of the growth was removed for examination and owing to the patient's condition the wound was closed.

2nd. Operation. 24.1.06. Mr. Ballance.

The wound was reopened and the growth was removed from round the theca as far as possible from 4th. to 10th. dorsal vertebrae.

September 1906.

He was walking alone with a stick rather weak in his legs but had no sphincter trouble.

The tumour was an endo-thelioma.

1912. Recovery practically complete. walks alone and is able to work.

Case XXXVI

Extra dural Endothelioma. (Improved)

G. W. male. 41. Sir William Gowers. 1904.

Op. Sir Victor Horsley.

Complaint. Difficulty ~~Stiff~~ in walking, pain in legs.
Previous Health. Good.
Family History. Good.
Present Illness.

Jan. 1904. Pain in small of back - in bed 9 weeks - on leaving bed pain had not disappeared and back was stiff and painful on movement - pain sharp and severe - limited to the region of the spine, did not radiate.

May 1904. Gait becoming affected. Feet kicked one another - gradually unable to go upstairs. Later began to drag toes along ground when ~~we~~ walking. Later still had difficulty in rising from a chair unless he used his hands.

Six weeks ago began to suffer from pain of a dull aching character in front of R. thigh and to a less extent in front of L., pain sometimes radiated round to back but never went below the knee or above the groin. Pain worse at night. He also had pain in the ball of his foot and to a less extent in toe of R. foot.

During last four weeks has staggered and tottered in walking, the thighs and legs have wasted and his feet swell if he is on them for any length of time. He has had no girdle sensation, parasthesia or sphincter trouble.

Present Condition
On admission 23. 9.04.

A well built man who has evidently lost flesh. Visceral organs - healthy.
Spine normal.

Mental condition. Good
System
Cranial Nerves. Normal.
Upper extremities. Normal.
Trunk. Normal.

Motor System.

Lower Extremities.

Right. Thighs wasted, and some wasting below knee, no fibrilation. All movements at hip very feeble. Knee movements very weak and no movement of ankle or toes.

Left. Same condition. No spasm in muscles.

Gait. Cannot walk alone, can stand with support.

Electrical Reaction. No Faradic responses in muscles below knee on either side, feeble response in the glutei and ham strings.

Galvanic Reactions. R. D.
Other Muscles react normally.

Sensory System.

Subjective. Pains in balls of great toes and fronts of both thighs.

Objective. No sensory change at all.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal	normal
knee.	absent.	absent.
ankle.	"	"
Superficial.		
Epigastric.	normal	normal.
abdominal.	"	"
cremasteric.	absent	"
plantar.	"	absent.

Sphincters. Not affected.

Spine. 9th. dorsal prominent, also 2nd. lumbar. No local pain or tenderness on movement or percussion. Movement limited - no abscess.

Operation. 14.10.04. Sir Victor Horsley.

Laminae and spines 12th. dorsal to 2nd. lumbar inclusive removed. A large cavity was discovered in the bodies of 1st. and 2nd. vertebrae. The intervertebral disc remaining. The cavity was full of a growth-like granulation tissue and opened into the spinal canal at the junction of 1st. and 2nd. vertebræ..

At the operation this mass was thought to be tubercular, it was scraped out and cavity swobbed with 1 in 100. On microscopical examination the tissue removed was found to be an endothelioma.

Progress.

30.11.04. Condition improved, putting on flesh, no pain.

Motor System.	Much the same.
Sensation.	Unaffected.
17.1.05.	As before but slight loss to touch over feet.

Case XXXVI

Extra dural Endothelioma. Slight improvement. relapse 2nd operation for removal of scar tissue. no improvement. death 6 months later.

H. S. male. aet 23. Sir William Gowers 1905-06.

Op. Sir Victor Horsley.

Previous Health. Denies venereal disease but admits risk.

May 1902. Gradual progressive weakness R. leg.

Nov. 1902. Reflex spasms at night.

Nov. 1902. Weakness of L. leg.

Dec. 1902. R. arm began to become weak and stiff. About a fortnight afterwards L. arm also became weak and stiff and was worse than R. Greatly troubled with spasms in arms and legs but has had no weakness or pain and no sphincter trouble. Unable to stand since beginning of 1905.

Present Illness.

On Admission 5.4.05.

Mental condition - Good.

Special senses. Normal.

Cranial Nerves. Normal.

Motor System. Upper Extremities - Both arms rigid and weak L. R. No wasting of muscles and the weakness is mostly below the deltoid.

Trunk and abdomen muscles spastic and weak.

Lower Extremities. Great rigidity and frequent flexor spasms in legs. Voluntary movement is present but impaired on account of great rigidity. No wasting. Patient cannot stand alone or sit up without help.

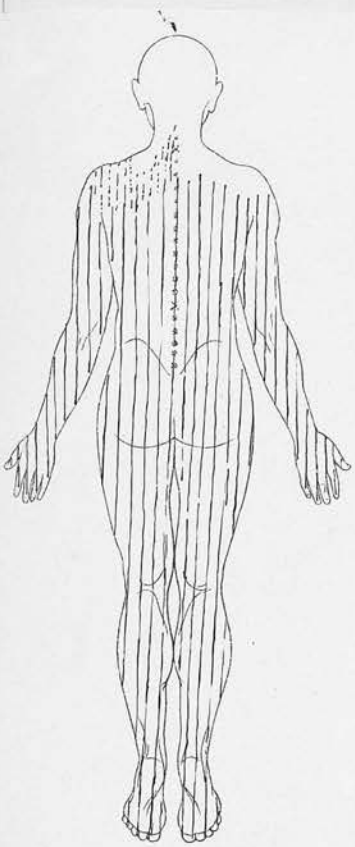
Sensory System.

Objective. There is definite impairment of cutaneous pain in the lower extremities, trunk, and chest, also on either side of the arms and over fore-arms and hands and a slighter degree of loss over both upper arms and over the area of 4th. Cervical root on L. side. Thermal sensibility is definitely diminished over both forearms and hands and over both lower extremities from a little above the dura downwards. There is complete loss of sense of position in upper and lower extremities. No loss to deep pain.

H.S.

8.4.05

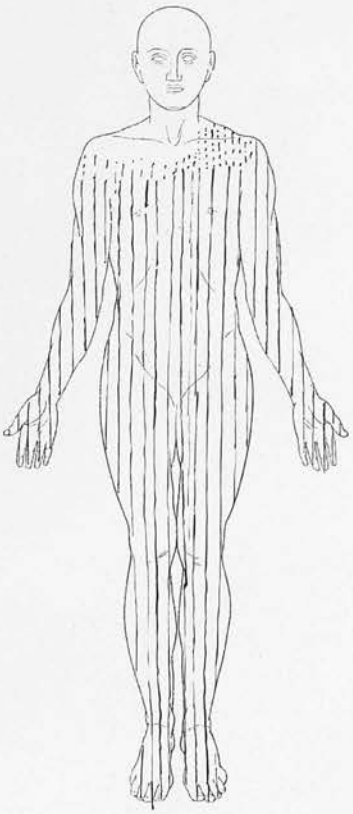
= slight } degrees of cutaneous analgesia
= severe }



W. S. male 23

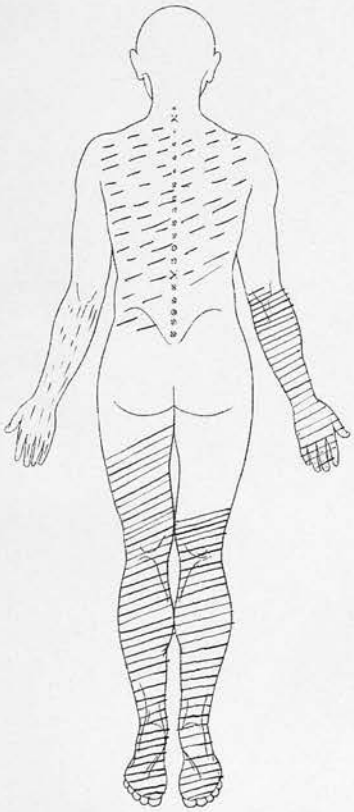
8.4.05.

= slight } degrees of cutaneous analgesia
= severe }



S
23
4.05

o diminution
heat and cold.



H. S. aet 23

8. 4. 05.

Loss or diminution heat and cold.



Reflexes.

Deep.	Right.	Left.
Jaw jerks	normal	normal
Biceps.	plus	plus
Triceps.	"	"
Supinator.	"	"
knee	" clonus	" clonus.
Ankle	" "	" "
Superficial.		
Epigastric	absent	absent
abdominal.	"	"
cremasteric	"	"
plantar	extensor	extensor.

Sphincters. Not affected.

Spine.

Some slight lateral curvature in dorsal region with convexity to L. No tenderness.

Operation. 13.5.05. Sir Victor Horsley.

The laminae and spines of 4, 5, 6, cervical were removed, the cord was pushed over to L. by a tumour which lay in the vertebral canal and was attached to the R. 5th. cervical root. The root was divided and the tumour removed. (?6th).

There was no sign of any dural tumour. Pulsation of cord was quite good after tumour was removed.

Description of Tumour.

A firm circumscribed mass bilobar shaped. It measured 3 c.ms. in breadth and in extreme length. Each lobe separately measuring about 1½ c.m. to 2 in breadth. The point of attachment of tumour was at the upper end of smaller lobe, it was an endothelioma.

Day after operation there was great flaccidity of lower extremities and to a lesser extent of upper. There was complete incontinence of urine and faeces.

3.6.05. Incontinence still exists but there is a return of spasticity in legs, arm movements are definitely better on both sides.

October. 15.05 Loss to pain + thermal on L. side - no tactile loss.

15.10.05 Great improvement in motor condition of R. arm. L. arm very slightly better, practically no change in condition of trunk and lower extremities.

November 23. He left hospital.

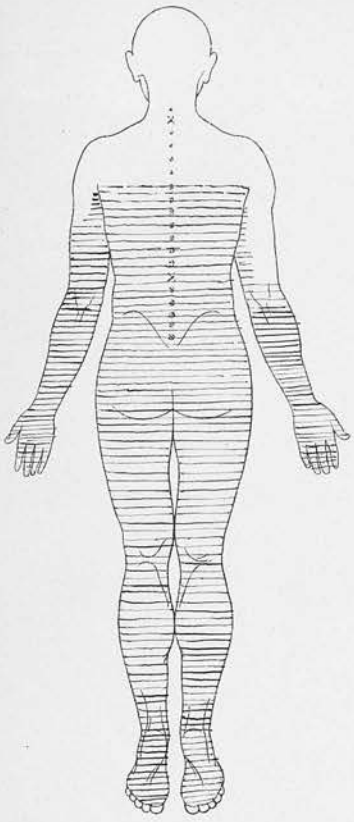
8 June 06. Re-admitted to hospital.

Some improvement in condition of R. arm but otherwise no change. He had had no sphincter trouble. Motor condition much the same as on first admission. Spacticity, rigidity and complete paralysis of lower extremities.

H.S.

~~Sept.~~

15.10.05
5 months after Operation.
Cutaneous Anaesthesia

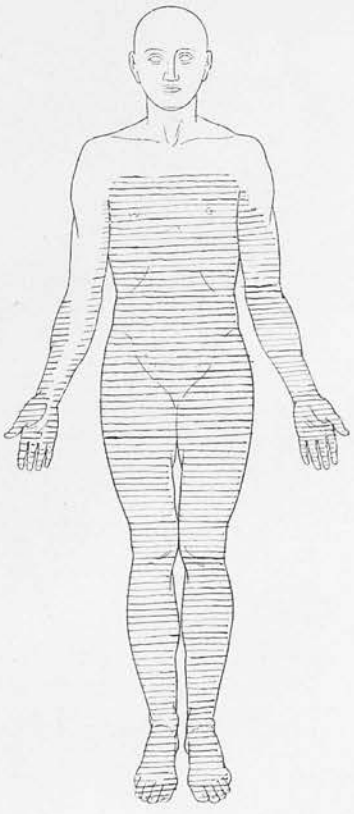


N. S. male 23

15.10.05

5 months after Operation.

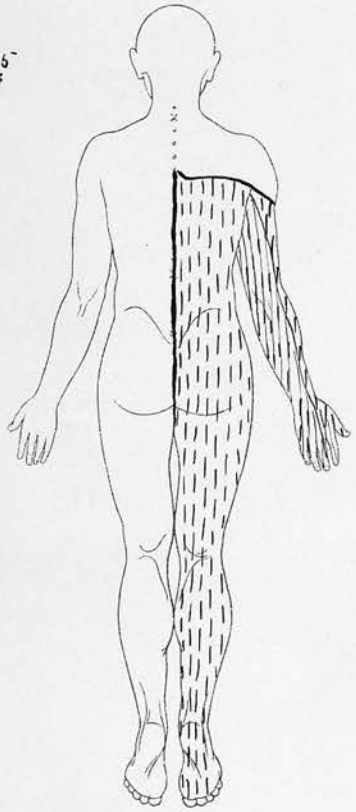
Cutaneous Anaesthesia.



...el 23

...peration 15.10.05 ~~1.9.05~~

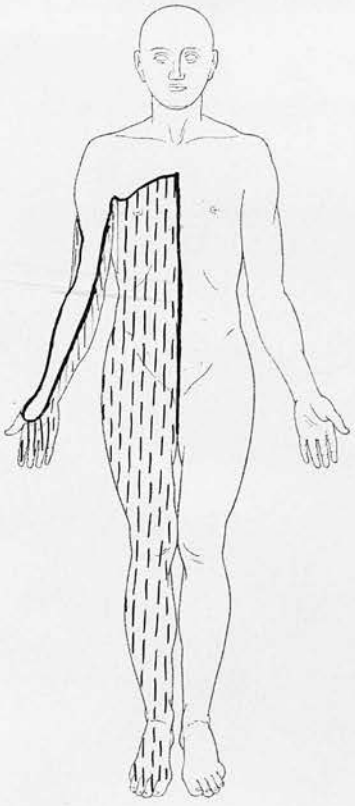
...al & Pain. Loss



N. S. aet 23

After Operation 15.10.05

Thermal & Pain Loss.



Sensory System.

Sensory loss below the level of the 6th. cervical segment was practically complete to all forms of cutaneous and deep sensibility. The dissociation of deep pain from superficial and all thermal sensibility was no longer apparent.

2nd. Operation. 19.6.06. Mr. Armour.

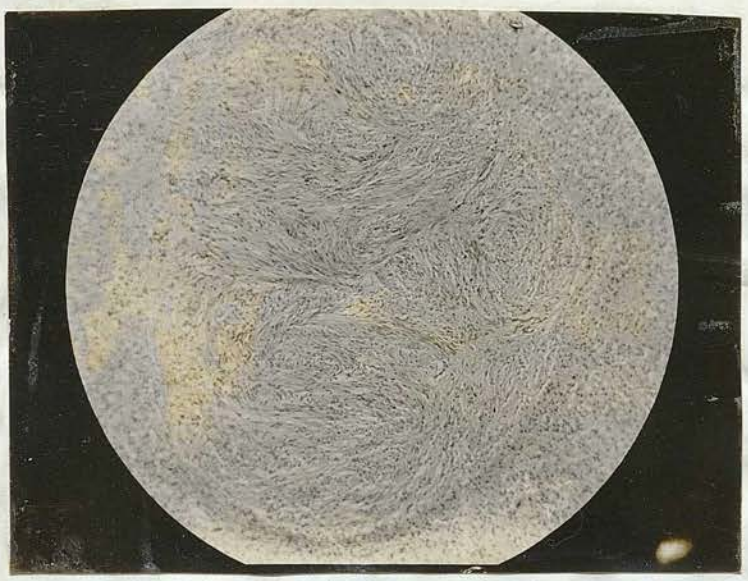
The wound was full of scar tissue and Mr. Armour had to remove the 7th. cervical lamina and spine in order to get normal dura. He opened the dura at this level and stripped it up and found that the cicatrix, the dura could be pulled off the cord, they were adherent to the arachnoid and in places to the cord itself. The posterior columns of cord looked as if they were infiltrated by growth. They were incised and a scraping taken.

The patient recovered well from the operation.

He was discharged 21.8.06. and there was no change in his condition.

He died at home January 1907.

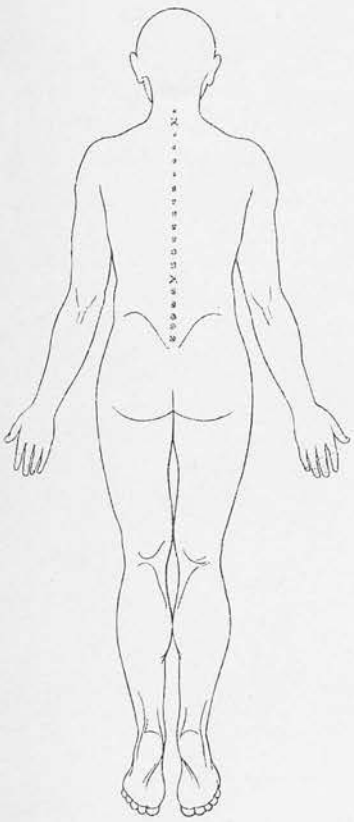
Section of Tumour. Endothelioma shewing whorl like arrangement.



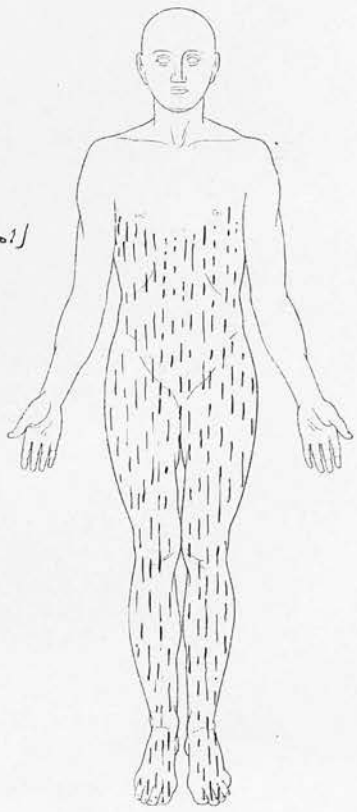
Case XXXVII

Extra dural Sarcoma. (Died 2 months after operation)

L. J. male. 10. Dr. Bastian. 1902.



L. J. 10.
14.7.02.
Diminished. Sensibility
to Cutaneous Pain
Tactile stimuli (cotton wool)
Thermal. stimuli



Electrical Reaction. normal.

Sensory System.

Subjective. Pain in 7th. costal spaces on the L. side, slight loss of all forms of cutaneous sensibility up to level of 5th. dorsal.

Reflexes.

Deep.	Right.	Left.
Arm.	normal	normal.
Knee	absent	absent
Ankle.	"	"
Superficial.		
Epigastric	absent	absent.
abdominal.	"	"
Plantars.	Extensor	Extensor.

Patient suffered from priapism.

Operation. 5.9.02. Mr. Ballance.

Spines and Laminae from 4-7 dorsal removed. Outside the theca, more anteriorly there was a mass of tumour extending up and down the cord more R. than L. There was no apparent pressure on the cord. Much of tumour was removed.

Case XXXVII

Extra dural Sarcoma. (Died 2 months after operation)

L. J. male. 10. Dr. Bastian. 1902.

Op. Mr. Ballance.

Family History. Unimportant.
Previous Health. Diphtheria 4 years ago. Scarlet fever 2 years ago.
Present illness. 2 weeks ago for no apparent reason began to suffer pain in back and legs, this was followed a week later by loss of power in legs and in the sphincters.

State on admission. 14.7.02.

Cranial nerves, and Neck. Normal
Motor System.
Upper extremities. normal.
Trunk. Weakness of costal movements below 6th. dorsal. Abdominal muscles weak, especially upper portion. Umbilicus rises ¾ inch on attempting to sit up.
Lower extremities. Almost complete flaccid paralysis of both, only movement present slight flexion of the hips and abduction of R. hip. Muscles not wasted.
Electrical Reaction. normal.
Sensory System.
Subjective. Pain in 7th. costal spaces on the L. side, slight loss of all forms of cutaneous sensibility up to level of 5th. dorsal.

Reflexes.

Deep.	Right.	Left.
Arm.	normal	normal.
Knee	absent	absent
Ankle.	"	"
Superficial.		
Epigastric	absent	absent.
abdominal.	"	"
Plantars.	Extensor	Extensor.

Patient suffered from priapism.

Operation. 5.9.02. Mr. Ballance.
Spines and Laminae from 4-7 dorsal removed. Outside the theca, more anteriorly there was a mass of tumour extending up and down the cord more R. than L. There was no apparent pressure on the cord. Much of tumour was removed.

After operation. Patient showed no improvement, he gradually became pale and weak, developed cystitis and bed sores.

20.11.02. Patient died.

Post Mortem.

There was no evidence of tumour outside the vertebral canal. Adherent to anterior and L. aspect of the dura from 3-9 dorsal vertebrae were the remains of a pale firm greenish growth, it did not appear to exert any pressure on the cord and was easily separated from the inner surface of the vertebral canal. It appeared to arise from either the dura mater or the loose areolar tissue between the periosteum and the dura. Inside the theca there was no growth and the cord appeared normal except at 11th. dorsal segment where it was narrowed and softened. There were haemorrhages in the retinae.

Case XXXVIII

Extra dural Sarcoma. (Died 2 months after operation)

I. B. female. 15. Dr. Batten. 1906.

Op. Mr. Sargent.

Family history. Good.

Previous History. Never very strong, had to give up gymnasium at school. Measles and chickenpox as a small child. Menstruation at 13. irregular, two monthly.

Present Illness. Nov. 1905. Had a severe pain in the L. side of back about level of waist and going down to L. hip. Came spontaneously, considered to be pleuritic because caught her on breathing. Treated for muscular rheumatism, sent to bed and had plasters and baths. The pain remained for 4 or 5 days hurting her when she breathed or moved, never shooting in character and always in the same situation. This got quite better.

Jan. 1906. Fell ill with German measles after which she began to have pain again in the same place - the waist of the same side, a constant dull ache extending down the L. hip and occasionally into the groin - never extended down the leg at all.

April 1906. Mumps very slightly, pain still continuing in same place, relieved by walking. Treated for sciatica.

May 1906. Had a severe fall from a swing, fell on her back but got up alright. A day or two afterwards the seat of pain changed and went into the bottom of the back and spread across whole of bottom of back but never came forwards to the front of the abdomen, very bad if she coughed or walked, but no actual loss of power on walking.

12.6.06. Went to swimming baths - same evening bad pain in back - could not sleep.

9.7.06. Dragging of legs - could not raise herself on her toes - fell down occasionally.
11.7.06. Noticed numbness of legs L. more than R. but next day R. completely numb. No tingling or parasthesia previously. Legs never stiff, no spasms.
12.7.06. Woke up with severe pain - legs quite powerless and she has never moved them since. Incontinence of urine at first, follwed by retention.

State on admission. 24. 9. 06.
Normal above umbilicus. No trouble with arms or sight, no headaches. Has had a good deal of iodide of potassium, vomits occasionally. Very constipated, unconscious of passage of faeces.

Present condition. Patient is a fragile looking over-grown child of 15, very thin. No evidence of disease in the cardiac respiratory or abdominal systems. Urine contains a trace of albumen. Complete flaccid paralysis of both legs below the hip.
General wasting - more marked in tibial muscles than elsewhere.

Mental Condition. Normal.

Cranial Nerves. Normal.

Special Senses. Normal.

Motor System

Upper Extremities. No tremors or inco-ordination, all movements being carried out with good range, fair power and precision.

Trunk. Is unable to raise herself up in bed, on attempting to do so the umbilicus deviates slightly upwards, only the upper ¾ of each rectus abdominis appearing to contract.

Lower Extremities. Complete flaccidity, the limbs lying as placed in bed. No contractures - no voluntary movements possible in either limb

Electrical Reaction. Loss to Faradism in all paralysed muscles. Contraction sluggish.
To galvanism polar change A.C.C. 7. K.C.C.

Sensory System.

Subjective. No pain when at rest. Pain referred to both knees and hip joints on attempting passive movements in either limb, a small degree of flexion in

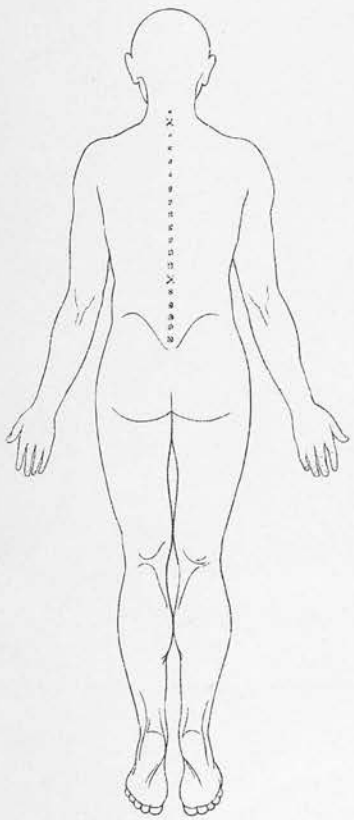
either hip or knee being sufficient to produce the pain.

Tenderness. Over vertebrae at levels of 9th. and 10th. dorsal and 2-3 lumbar spines.

Objective. Anasthesia and analgesia over the area indicated in the charts below the level of distribution from 12. dorsal segment (and including it). Loss to heat and cold below same level.

Sense of Position. absent in lower limbs.

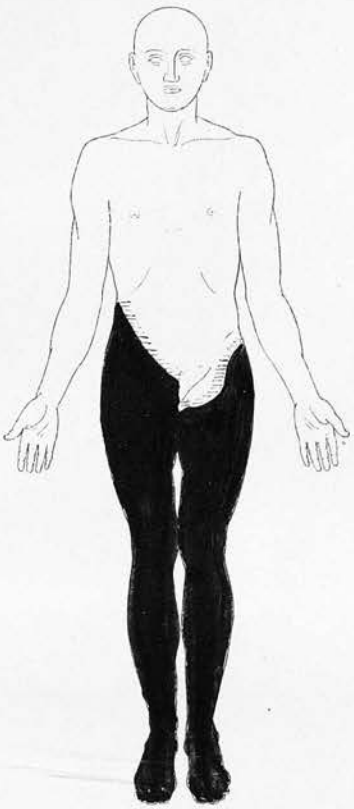
Muscle Sense absent



I.B. 16.

≡ = Slight Tactile loss.

Black area. Complete loss to cutaneous & deep pain tactile & Thermal sensation and to sense of position



spoon. In cutting 12th. posterior root the dura was nicked and some cerebro spinal fluid escaped. After tumour had been removed it was seen that where tumour was attached laterally the periosteum of vertebral canal had been removed. The cord pulsated normally, dura not opened.

16.11.06. Patient had a blood stained pleural effusion, no cells indicating tumour found. She was tapped, 2½ pints removed.

4.12.06. Slight movement at L. ankle but there was no change in reflexes or sensation.

Patient got worse and went home where she died a week later. She had secondary deposits in abdomen, chest and axilla.

either hip or knee being sufficient to produce the pain.

Tenderness. Over vertebrae at levels of 9th. and 10th. dorsal and 2-3 lumbar spines.

Objective. Anasthesia and analgesia over the area indicated in the charts below the level of distribution from 12. dorsal segment (and including it). Loss to heat and cold below same level.

Sense of Position. absent in lower limbs.

Muscle Sense. absent.

Reflexes.

Deep.	Right.	Left.
Arm.	normal	normal
Knee.	absent	absent
Ankle.	"	"
Superficial.		
Epigastric.	present	present
Abdominal.	absent below 10 dorsal.	absent
Plantar.	absent	absent.

Sphincters. Incontinence of urine, constipation.

Spine. No deformity, tenderness on pressure over 9, 10, dorsal and 2, 3. lumbar spines.

Operation. 2.10.06. Mr. Sargent.

Cord exposed in lower dorsal region. There was found lying on the dorsal aspect of the thecum over the 9. 10. 11. 12. dorsal segments of the cord a soft tumour. This was firmly attached to the dura on R, side in neighbourhood of 12 dorsal posterior root which was divided. The tumour was also attached at its upper end and laterally about the middle of its extent. Tumour was removed from the dura, most of it coming away quite easily but some having to be scraped away with a spoon. In cutting 12th. posterior root the dura was nicked and some cerebro spinal fluid escaped. After tumour had been removed it was seen that where tumour was attached laterally the periosteum of vertebral canal had been removed. The cord pulsated normally, dura not opened.

16.11.06. Patient had a blood stained pleural effusion, no cells indicating tumour found. She was tapped, 2½ pints removed.

4.12.06. Slight movement at L. ankle but there was no change in reflexes or sensation.

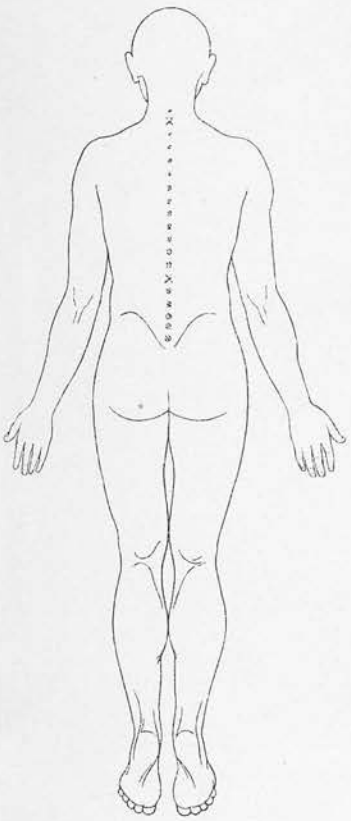
Patient got worse and went home where she died a week later. She had secondary deposits in abdomen, chest and axilla.

Case XXXIX

Extra dural Sarcoma. Lympho Sarcoma. (Died 2 months after operation)

J. C. male. 31. Dr. Ferrier 1893.

Op. Sir Victor Horsley.



J.C. 1893.

= anesthesia

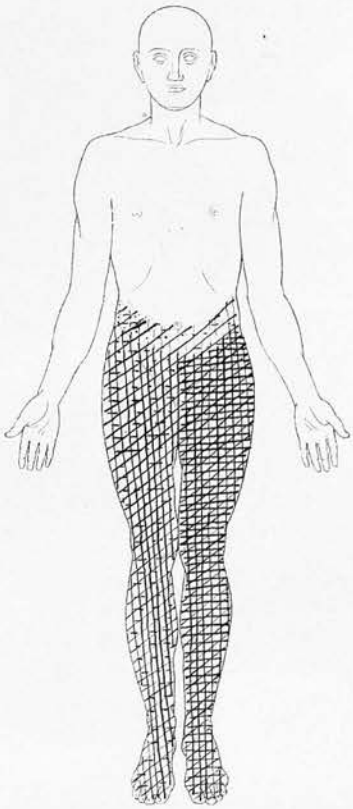
= slight "

= analgesia

= slight "

= loss to heat & Cold.

Sense of Position lost in lower extremities.



Sensory System.

Subjective. Loss of pain below the 10th. dorsal segment and some blunting as high up as the 9th.

Objective. Heat and cold are lost completely up to 9th. dorsal segment. Touch is impaired markedly in L. leg from 10th. dorsal downwards. Slight loss on R. leg from 9th. dorsal downwards and also over 9th. dorsal area on L. side extending up as high as 6th. d dorsal area. There is a broad band of hyperasthesia more marked on R. side than L.
Loss of sense of position in both lower extremities.

Case XXXIX

Extra dural Sarcoma. Lympho Sarcoma. (Died 2 months after operation)

J. C. male. 31. Dr. Ferrier 1893.

Op. Sir Victor Horsley.

Family History. Good.
Previous Health. Good.
Present Illness. 3 months ago when bowling at cricket sprained his back. He had a sharp pain and was obliged to go home. He got better in a week or so.
A month later again played cricket and again hurt his back. The pain continued and was worse on pressure so that he could not lean back against a chair.
A week later still, he began to wet his bed at nights.
7 days later (5 days before admission) he fell out of bed when attempting to get up and noticed weakness and loss of feeling in his legs. He was confined to bed until admission to Hospital.

State on Admission. 13.6.93.
Cranial Nerves. Normal.
Motor System.
Upper Extremities. Normal.
Lower Extremities. Complete flaccid paralysis of both lower extremities.

Sensory System.
Subjective. Loss of pain below the 10th. dorsal segment and some blunting as high up as the 9th.
Objective. Heat and cold are lost completely up to 9th. dorsal segment. Touch is impaired markedly in L. leg from 10th. dorsal downwards. Slight loss on R. leg from 9th. dorsal downwards and also over 9th. dorsal area on L. side extending up as high as 6th. d dorsal area. There is a broad band of hyperasthesia more marked on R. side than L.
Loss of sense of position in both lower extremities.

Reflexes.

Deep.	Right.	Left.
	absent.	absent.
Superficial.		
Epigastric.	Present	present.
Abdominal.	absent	absent.
Cremasteric.	present	present.
Plantars.	"	"

Sphincters. Complete loss of control.
Spine. Fluctuating swelling immediately to R. of spine parallel to the 6th. to 9th. dorsal spine, painful on pressure. There was no spinal curvature.

Operation. 18.6.93. Sir Victor Horsley.

Spines and laminae of 6th. 7th. 8th. and 9th. dorsal removed. The fluctuating swelling was a sarcoma extending from posterior mediastinum which infiltrated the spinal muscles and spinal canal causing a compression myelitis at the level of the 9th. dorsal segment.

Post Mortem. 13.8.93.

The 8th. and 9th. dorsal vertebrae were infiltrated with disease and there was a lympho sarcoma of the posterior wall of the L. auricle of the heart - the head of the panerias and the L. suprarenal. The primary growth was situated in the posterior mediastinum.

Case XL

Extra dural Round celled Sarcoma. (Died within six months)

N.M.B. female. 15. Dr. Ormerod. 1901.

Op. Mr. Ballance.

Complaint. Paralysis of legs. Loss of feeling. Incontinence of urine. Bed sores.

Duration. 10 weeks.

Family History. ?Tubercle. Mother had 3 miscarriages.

Previous Health. Good.

Present Illness. Sudden onset 10 weeks ago.
Pain. Sharp darting from abdomen below xiphoid towards R. breast and shoulder blade. Came on at night in paroxysms.
5 weeks ago - loss of power in R. leg, rapidly increasing.
4. weeks ago - loss of power in L. leg. Flexor spasms in both.
3 weeks ago - unable to walk - incontinence of urine.
2 weeks ago - bedsores.

State on Admission. Healthy looking.
Cranial Nerves. Normal.
Special Senses. Normal.

Motor System.
Upper Extremities. Normal.
Neck. Normal.
Trunk. Weakness of lower abdominal muscles.
Lower Extremities. Complete loss of power of both legs. Complete flaccidity.

Reflexes.

Deep.	Right.	Left.
Arm.	normal	normal
knee	diminished	diminished
	equal	equal.
Ankle	diminshed	diminished
Superficial	equal	equal.
Plantars	extensor	extensor.

Sphincters. Complete incontinence of urine.
Bowels constipated.

Trophic. Bed sore over sacrum and L. trochanter.

Sensory System. Total loss below 6th. Dorsal segment

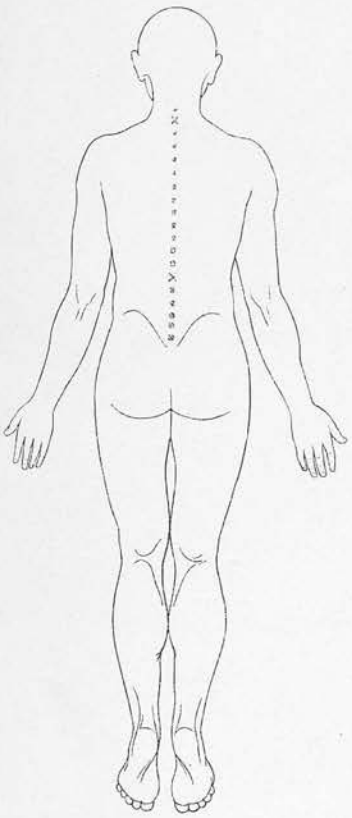
Spine. No deformity - no limitation of movement. Tenderness on percussion over 4th. 5th. 6th. and 7th. dorsal spines.

Operation. 17.12.00. Mr. Ballance.

Soft lobular extra thecal tumour from 4th. to 6th. vertebrae. Cord much pressed on, pulsated above quite well. Tumour eroded pedicle of 5th. and 6th. - grew in from pleura.

Patient got pneuma thorax at operation.

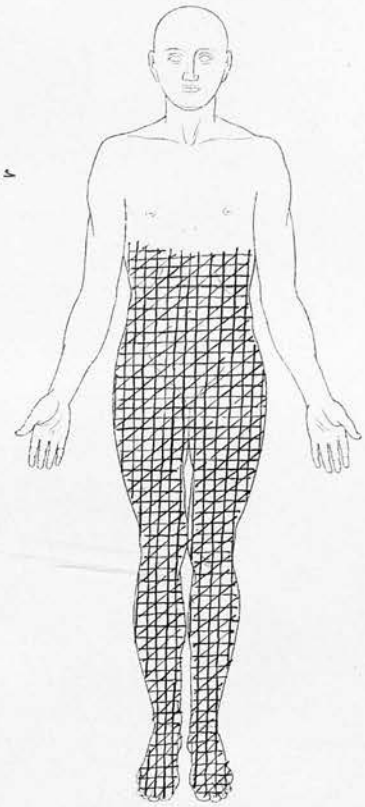
22.12.00. Knee jerks brisk. No return of sensation or power.



N.B.

1901.

▨ = Complete sensory loss cutaneous also deep pain & sense of position } in legs



Sensory System. Total loss below 6th. Dorsal segment

Spine. No deformity - no limitation of movement. Tenderness on percussion over 4th. 5th. 6th. and 7th. dorsal spines.

Operation. 17.12.00. Mr. Ballance.

Soft lobular extra thecal tumour from 4th. to 6th. vertebrae. Cord much pressed on, pulsated above quite well. Tumour eroded pedicle of 5th. and 6th. - grew in from pleura.

Patient got pneuma thorax at operation.

22.12.00. Knee jerks brisk. No return of sensation or power.

Died at home. a few months later.

Case XLI

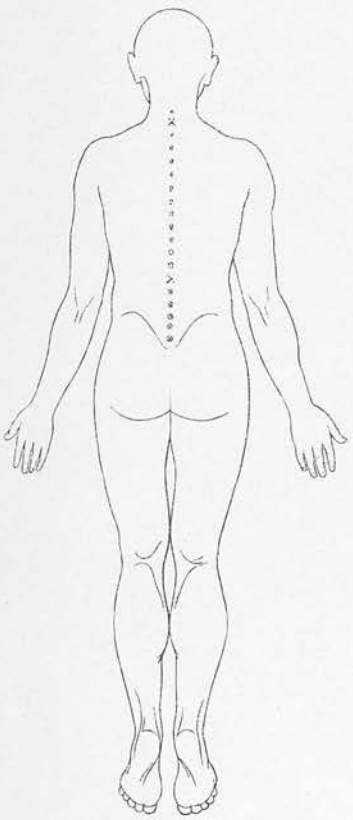
Extra dural Sarcoma. (no improvement)

C. G. Male. 16½. Dr. Ferrier. 1898.

Op. Mr. Ballance.

Family History. Good.

Previous Health. Good.



C. G.

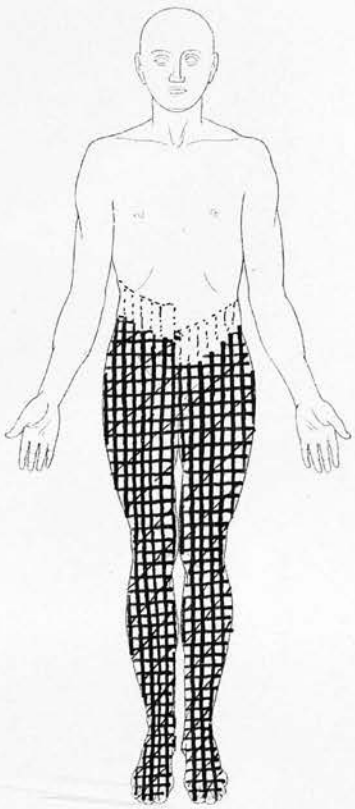
1898

relative loss

total analgesia

" anesthesia

recognition of heat + cold but no localisation.



Sensory System.

Subjective. Pains round waist and abdomen.

Objective. Relative sensory loss to all forms from the 8th. dorsal area on the R. and 9th. dorsal area on the L.. Total loss of pain and tactile from the 10th dorsal on the R. and the 11th. dorsal on the L. and recognition but no localisation of heat and cold.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.

Case XLI

Extra dural Sarcoma. (no improvement)

C. G. Male. 16½. Dr. Ferrier. 1898.

Op. Mr. Ballance.

Family History. Good.

Previous Health. Good.

Present Illness. 3 years ago pain in R. side of chest lasting a week, since then R. side of chest has felt numb.
8 months ago pain and stiffness in L. leg.
5 months ago enlarged glands above L. clavicle.
2½ months ago both legs began to feel weak and he began to drag his feet when he walked. A few days later he suddenly became unable to walk and to pass his water and had much pain round the waist. Has had flexor spasms of the legs for some time. 6 weeks?

State on Admission. 1898.

Cranial Nerves. Normal.

Motor System.

Head.	Normal.
Neck.	Normal.
Upper Extremities.	Normal.
Trunk.	Weakness of lower abdominal muscles.
Lower Extremities.	Absolute spastic paralysis.

Sensory System.

Subjective.	Pains round waist and abdomen.
Objective.	Relative sensory loss to all forms from the 8th. dorsal area on the R. and 9th. dorsal area on the L.. Total loss of pain and tactile from the 10th dorsal on the R. and the 11th. dorsal on the L. and recognition but no localisation of heat and cold.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.

Superficial ~~Deep~~.		Right.	Left.
	Epigastric	Absent.	Absent.
	Abdominal.	"	"
	Cremasteric.	"	"
	Plantar.	Extensor.	Extensor.

Sphincters. Reflex. - Incontinence.
Trophic. Bedsore on sacrum.
General. Mass of enlarged glands above the L.clavicle.

Operation. 13.10.98. Mr. Ballance.

Spines of the 5th. 6th. 7th. 8th. 9th. and 10th. dorsal vertebrae removed. Some tumour tissue was seen protruding slightly between the laminae of the 8th. and 9th. vertebrae. The laminae of the 6th. 7th. 8th. and 9th. dorsal vertebrae were removed. The cord was pulsating at the level of the 6th. below that the theca was surrounded by tumour tissue about ½ inch thick. This was dissected off the theca as far as possible, but could not all be removed. The cord pulsated fully after this was done. No sign of tubercular disease. The wound was closed.

27.10.98. In statu quo.
26.11.98. In statu quo.

Case XLII

Extra dural Sarcoma. (?Spines and Muscles) (Great Improvement.)

F. S. female. aet 60 Dr. Turner. 1909.

Op. Mr. Sargent.

Family History. One sister in asylum, otherwise good.

Previous Health. Good. Married 18 years, two children no miscarriages.

Present Illness. Gradual onset a year ago with pain under both shoulder blades, more on the R. side, the pain passed round to both nipples. The pain was more or less constant, gnawing in character but sometimes sharp and shooting especially on any sudden movement. It was made worse by exertion or cold. Could sleep at night but pain sometimes woke her up. No shingles, no pain elsewhere.
Three months ago she stumbled when walking (her legs gave way), does not know if one or both. A week later gradually began to lose power in both legs and legs became stiff. No unsteadiness, no jumping, no tingling in legs.
One month ago began to have precipitancy of micturition.

State on Admission. 15.3.09.

Mental Condition. Good.
Cranial Nerves. Normal.
Motor System.
Upper Extremities. Normal.
Trunk. Weakness of abdominal muscles and back muscles.
Lower Extremities. Some rigidity of both . General weakness more on R. side than L. Muscles rather flabby, although spastic, no wasting. No ataxia.

Reflexes.

Deep.	Right.	Left.
Arms.	normal	normal.
Knee.	plus	plus
Ankle.	plus clonus.	plus clonus.

	Superficial.	Right.	Left.
	Epigastric.	absent	absent.
	Abdominal.	"	"
	Plantar.	extensor.	extensor.
Sphincters.	Precipitant micturition, constipation.		Some

Sensory System.

Subjective. No hyperaesthesia.

Objective.

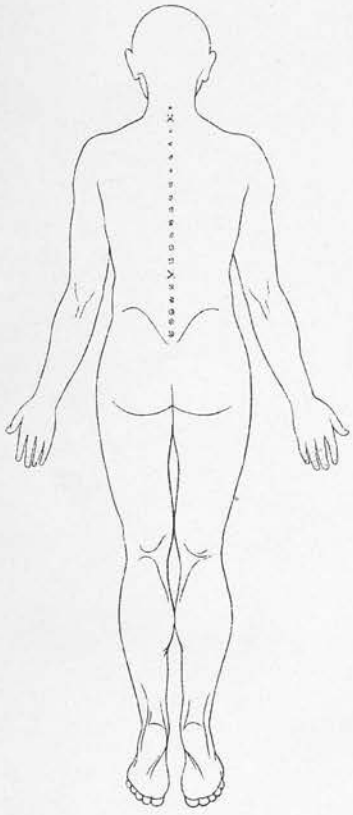
Tactile. (Cotton wool) Slight impairment over lower extremities, especially R. and trunk up to level of 5th. dorsal segment.

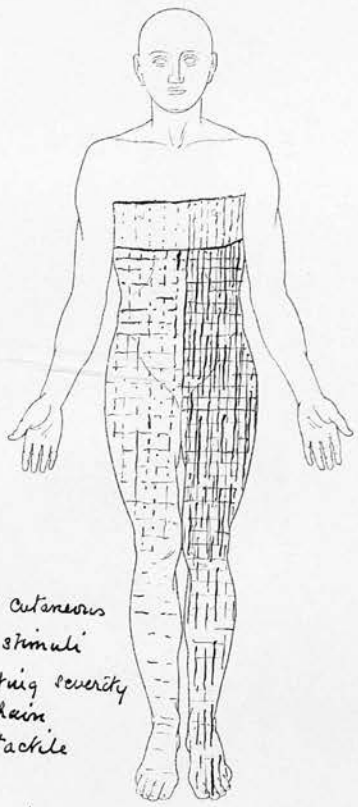
Cutaneous pain and Thermal. Lost up to level of 3rd. dorsal segment on both sides except on the R. leg and foot where a pin prick is felt as such.

Deep Pain. Not lost, present in both lower extremities.

Sense of Position. Fair but not normal on either leg.

F.S.60.





|||| = impairment to cutaneous pain & thermal stimuli shading representing severity no loss to deep pain

≡ = impairment of tactile sensibility

Sense of Position impaired on both sides.

	Superficial.	Right.	Left.
	Epigastric.	absent	absent.
	Abdominal.	"	"
	Plantar.	extensor.	extensor.
Sphincters.	Precipitant micturition, constipation.		Some

Sensory System.

Subjective. No hyperaesthesia.

Objective.

Tactile. (Cotton wool) Slight impairment over lower extremities, especially R. and trunk up to level of 5th. dorsal segment.

Cutaneous pain and Thermal. Lost up to level of 3rd. dorsal segment on both sides except on the R. leg and foot where a pin prick is felt as such.

Deep Pain. Not lost, present in both lower extremities.

Sense of Position. Fair but not normal on either leg.

Operation. 26.3.09. Mr. Sargent.

The laminae and spines from the 2nd. to the 6th. dorsal were exposed. Through an erosion of the 3rd. dorsal spine a soft vascular growth projected. The 3rd. 4th. and 5th. laminae were removed exposing a growth surrounding the R. half of the cord. It was entirely extra dural and did not invade the dura but spread outwards invading the muscles of the back on the R. side. The major portion of the growth was removed. The point of origin could not be ascertained.

April 4.1909. Passes urine naturally. No pain in back or chest. Motor power improved. Feels pin prick in both legs. No return of tactile sensibility.

April 30.1909. Motor power still improving. Cutaneous sensibility to pain normal. Tactile anasthesia from below knees. Wound granulating up.

May.29.1909. No sensory loss. Good power in legs. Still has definite extensor responses.

Case XLIII

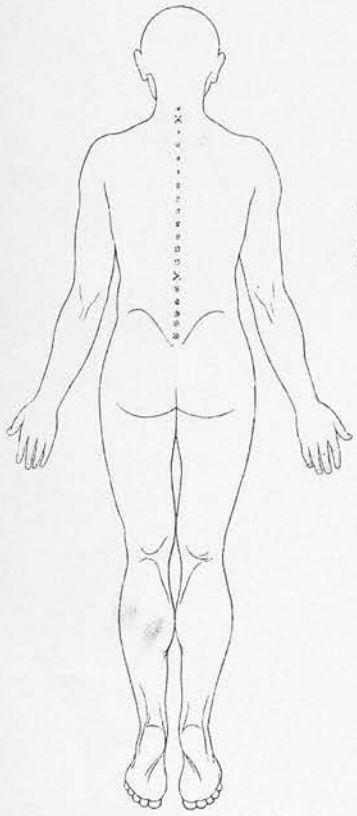
Extra dural. Carcinoma secondary to thyroid. (Died 4 months after operation)

S. T. female. 27. Dr. Beever. 1898.
Op. Sir Victor Horsley.

Family History. Good.

Present Health. Good till 16 months ago when she had thyroid cyst removed, since then has noticed a tumour under the angle of the L. jaw.
13 months ago she had a series of abscesses in the wound in the neck.

Present Illness. 12 months ago – severe pain in back of neck and both shoulders which gradually extended down first R. arm and a week later L.
The arms became weak and numb.
Wasting of the R. arm then of the L.



S.T. 27
1898.

■ = Complete sensory loss.
▒ = incomplete " "



Sensory System.

Loss to all forms of sensibility from 7th. cervical downwards on both sides with some relative sensory loss on radial side. Complete loss along the ulna border of arms.

Case XLIII

Extra dural. Carcinoma secondary to thyroid. (Died 4 months after operation)

S. T. female. 27. Dr. Beever. 1898.
Op. Sir Victor Horsley.

Family History. Good.

Present Health. Good till 16 months ago when she had thyroid cyst removed, since then has noticed a tumour under the angle of the L. jaw.
13 months ago she had a series of abscesses in the wound in the neck.

Present Illness. 12 months ago – severe pain in back of neck and both shoulders which gradually extended down first R. arm and a week later L.
The arms became weak and numb.
Wasting of the R. arm then of the L.
8 months. Rather rapid onset of weakness and numbness in lower extremities with sphincter trouble.
Within 3 days of the onset patient was unable to stand.

State on admission. 2.3.91.

Cranial Nerves. Normal.

Motor System.

Head and neck. All movements performed.

Upper extremities. Total paralysis at fingers and wrist, partial at elbow and shoulder.
Wasting of all forearm and small hand muscles.

Trunk and Lower extremities. No voluntary movement possible.
Complete spastic paralysis.
Respiration diaphragmatic.

Reflexes.	Deep.	Right.	Left.
	Arm.	diminished.	diminished.
	Knee & Ankle	plus with clonus.	plus with clonus.

Sphincters. Total reflex incontinence.

Sensory System.

Loss to all forms of sensibility from 7th. cervical downwards on both sides with some relative sensory loss on radial side. Complete loss along the ulna border of arms.

Spine. 6th. Cervical spine prominent and t
tender on pressure.

Operation. 8.3.98. Sir Victor Horsley.

Spine and laminae of 4th. 5th. 6th. and 7th. Cervical vertebrae removed. The metastatic growth invaded some of the cervical muscles and had passed in between the laminae into the spinal canal, compressing the cord.

29.6.98. Discharged from Hospital without any change.

Died within 4 months.

Case XLIV

Extra dural (? Nature). Gumma Recovery.

K. C. Female. 53. Dr. Risien Russell. 1910.

Op. Sir Victor Horsley.

Family History. Father died of cancer. Mother of a stroke.

Previous Health. Malaria at 21. When 52 painless swelling in L. clavicle which cleared up under mercury and iodide.

Present Illness. 12. months ago both hands became easily tired.
6 months ago burning and tingling pain over R, shoulder and back of neck.
5 months ago pain spread down radial side of R. arm and the arm became weak especially in lifting it.
2. months ago some tingling in L. arm, more on ulna side than the radial, R. arm became weaker.
1. month ago pain still continued and R. forearm became weak, did not notice any difference in her walking and no sphincter trouble.

State on Admission. 21.1.10.

Spine. 6th. and 7th. cervical and 1st. and 2nd. dorsal spines prominent, some kyphosis.

Cranial Nerves. Normal. No paralysis of cervical sympathetic.

Motor System.

Neck. Rotation to R. and L. limited.

Upper extremities. Weakness of shoulder movements on the R. side and of grip, other movements not so weak, wasting of deltoid scapula muscles and extensors and flexors of wrist. Wasting of flexors and interossei of the L. arm.

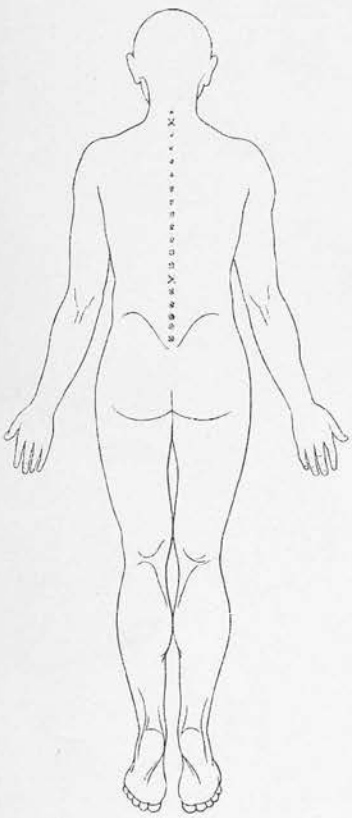
Trunk. Normal.

Lower Extremities. Normal.

Sensory System.

Subjective. Intense burning pain across shoulders, up back of neck, down outer side of R. arm and inner side of L. arm. Pain worse when in a recumbent position, and when pressure is put on the arm.

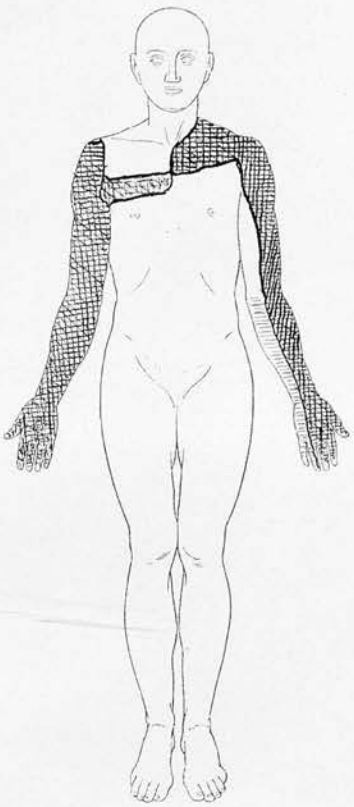
Objective. Relative anaesthesia and analgesia. and thermal loss.
R. side - 5th. 6th. 7th. and 8th. cervical and 1st. 2nd. and 3rd. dorsal.
L. side - 4th. 5th. 6th. and 7th. cervical, with anaesthesia only over 8th. cervical and 1st. dorsal, no sensory loss elsewhere.



K. C. B.C.

▨ = relative loss to. pain touch & temperature

▤ = loss to touch (cw).



cavity swobbed out. L. 3rd. cervical posterior root was divided. Patient was put under mercury.

24.3.10. After operation patient had to have morphia for the pain for 3 weeks - she was actively treated with inunctions of mercury. She improved very much.

Motor System. Can use arms and move them well. Only slight wasting of the small muscles of the L. hand.

Gait A little unsteady.

Sensory System.

Subjective. Intense burning pain across shoulders, up back of neck, down outer side of R. arm and inner side of L. arm. Pain worse when in a recumbent position, and when pressure is put on the arm.

Objective. Relative anaesthesia and analgesia and thermal loss.
R. side - 5th. 6th. 7th. and 8th. cervical and 1st. 2nd. and 3rd. dorsal.
L. side - 4th. 5th. 6th. and 7th. cervical, with anaesthesia only over 8th. cervical and 1st. dorsal, no sensory loss elsewhere.

Reflexes.

Deep.	Right.	Left.
Biceps.	present	brisk.
triceps.	absent.	".
Supinator.	"	"
Knee.	brisk.	"
Ankle.	"	"
Superficial.		
Epigastric.	present	present.
Abdominal.	"	"
Plantar.	flexor	flexor.

Sphincters. Not affected.
7.2.10. Pupils did not dilate to light.

Operation. 22.3.10. Sir Victor Horsley.

Spines and laminae of the 4th. 5th. and 6th. cervical removed. The theca was adherent to the posterior aspect of the body of the 4th. cervical vertebra, and opposite this point there was a nodule of granulomatous tissue projecting on the inner aspect of the theca; the body of the vertebra was softened at this place. The R. half of the theca was removed including the nodule, the softened material was scraped away from the body of the 4th. cervical vertebra and cavity swobbed out. L. 3rd. cervical posterior root was divided. Patient was put under mercury.

24.3.10. After operation patient had to have morphia for the pain for 3 weeks - she was actively treated with inunctions of mercury. She improved very much.

Motor System. Can use arms and move them well. Only slight wasting of the small muscles of the L. hand.

Gait A little unsteady.

Sensory System.

Subjective. Patient only complains of weakness and tingling on ulna side of L. hand.

Objective. Patch of relative analgesia and ~~an~~ anaesthesia in the ulna side of the L. hand. Slight analgesia and anaesthesia and numbness down L. side of trunk and L. leg. No sensory loss in neck.

Reflexes.

Superficial.	Right.	Left.
Epigastric	Normal.	diminished.
Abdominal.	"	"
Plantar.	"	not definitely flexor.

March. 1912. Recovery almost complete.
Motor power good.
No sensory loss.

Case XLV.

Spindle celled Sarcoma. Extra dural.

J. H. male aet 49.

Dr. Ormerod 3.8.09.
Op. Mr. Sargent. 4.6.10.

Family History. Nil.
Previous Health. Nil.
Present Illness. Nov. 1907, sharp radiating pain R. hip, later L. hip.
June 1908, retention of urine, complete paralysis of lower limbs.
August 1908. Loss of sensation R. leg, extending upwards.
State on Admission. 3.8.09.
Complete paralysis of the lower extremities, with loss of sensation up to 11th dorsal area,
Reflexes. Deep
Knee and ankle jerks absent on.R.
Knee jerk absent on L. ankle brisk.
Superficial
Plantars extensor.

The patient was operated on and died shortly afterwards.



Case. XLVII

Op. 1903. recovery - recurrence 1905.

Endothelioma. EXTRA.DURAL. Op. 1906. death.

S. C. male aet 14. Dr. Ferrier 1903.

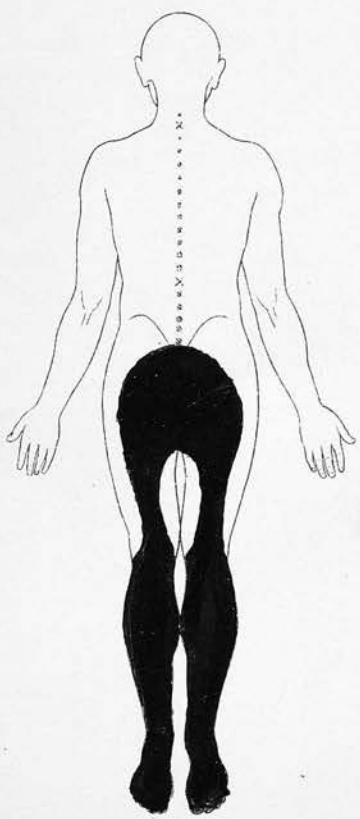
Op. Sir V. Horsley.

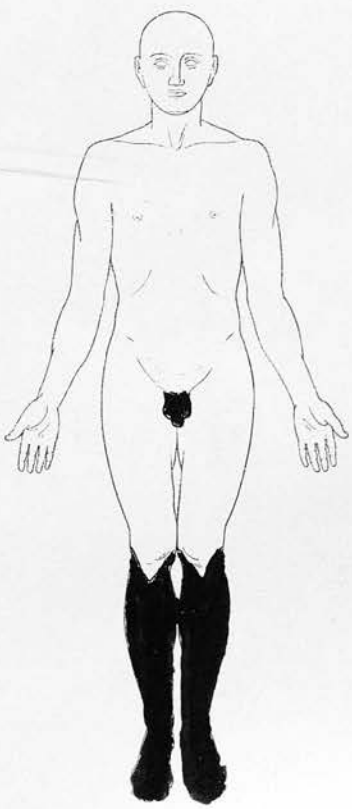
Family History. Good.

Previous Health. For twelve months he has had constant dull pain in the R. thigh, worse on exertion, and causing him to walk badly.
A month ago the gait became much feebler, with difficulty in raising feet from ground, the L. foot being first affected, but latterly the R. being the feebler.
For six months there has been delay in micturition, with occasional incontinence.
For a month there has been a numb sensation in the soles of both feet and some loss of sensation observed by the patient in the buttocks.

On Examination.

There was impairment to all forms of sensation in both lower limbs from the fifth lumbar root downwards, symmetrical on the two sides. The anaesthesia increased in intensity from the upper roots downwards, being





Case. XLVI

Op. 1903. recovery - recurrence 1906.

Endothelioma. EXTRA.DURAL. Op. 1906. death.

S. C. male aet 14. Dr. Ferrier 1903.

Op. Sir V. Horsley.

Family History. Good.

Previous Health. For twelve months he has had constant dull pain in the R. thigh, worse on exertion, and causing him to walk badly.
A month ago the gait became much feebler, with difficulty in raising feet from ground, the L. foot being first affected, but latterly the R. being the feebler.
For six months there has been delay in micturition, with occasional incontinence.
For a month there has been a numb sensation in the soles of both feet and some loss of sensation observed by the patient in the buttocks.

On Examination.

There was impairment to all forms of sensation in both lower limbs from the fifth lumbar root downwards, symmetrical on the two sides. The anaesthesia increased in intensity from the upper roots downwards, being absolute in the lower sacral root areas. There were wasting and weakness, with diminished faradic reactions, in all the muscles of the L. lower limb, and similar weakness, with diminished reaction in the right anterior tibial group. The ankle jerks were absent, so also was the left knee jerk. The right knee jerk was only obtainable on reinforcement. The plantar reflexes were absent. There was delay in micturition, with occasional incontinence. The anal sphincter was normal. There was no spinal deformity.

Operation. 27.10.03. Sir Victor Horsley.

The upper two lumbar and lowest two dorsal spines and laminae were removed. The theca was seen to be distended in the lower part of the wound, and markedly constricted towards the upper part. On incising the dura, a grayish tumour, 5½ X 3 cm. (microscopically a fibro-myxoma) was exposed, enveloping the cord posteriorly and laterally, not infiltrating it, and apparently arising from the fourth lumbar posterior root on the R. side. The tumour was entirely removed, and the cord was seen to be considerably compressed at this level.

The patient rapidly recovered motor power, and left hospital in January, 1904. Subsequently a dorso-lumbar kyphosis developed, for which he has had to wear a spinal support.

Present Condition. He can walk well, without any abnormality of gait. Occasional slight delay in micturition. No incontinence.. Area of anaesthesia limited to lower sacral and coccygeal root-areas,, nowhere absolute. Knee jerks, brisk and equal.
Ankle jerks, left greater than right.
Plantars flexor, cremasters brisk.
Bulbo-cavernosus reflex normal.

Readmitted. February 1906.

Present State. Kyphosis involving lower dorsal and upper lumbar spines convex to left in lumbar region.
Scar of laminectomy from tenth dorsal to fifth lumbar.

Sensory System. Numbness L. leg below knee and over R. shin.

Objective. Tactile, cutaneous analgesia and thermal, not complete but severe, over 3rd, 4th and 5th lumbar and 1st, 2nd, 3rd, 4th, and 5th Sacral. No loss of deep pain. Sense of position lost in left leg but not in right.

Motor System. Weakness of both lower extremities especially L., no wasting, ankle and toe movements most affected.

Reflexes. Deep
Arm normal
Knee and ankle absent.
Superficial
Epigastric & abdominal brisk
Plantar R. extensor L. ?

Sphincters Precipitate micturition and defaecation, no sensation of passage of excreta.

May, 1906. Patient worse, lower abdominal reflexes absent, weakness of legs, increased, sensory loss more severe.

May 15, 1906. 2nd. Operation
Patient died same night.

Post Mortem.
Recurrence of tumour.

Case XLVII

Intra dural Extra medullary. Recovery. Steadily improving 14 months.

T. H. MALE aet 50. Dr. Grainger Stewart.

Operation - Mr. Armour.

Fam. Hist. Good
Prev. Health Good
Present Illness.

11 months ago the patient began to suffer from pain along the ulna border of the R. arm and forearm; this pain was more or less constant and of a burning aching character, but was not affected by movement or posture. Shortly afterwards he noticed some weakness in the fourth and fifth fingers of the R. hand (he had had a Dupetren's contraction for five or six years.

5 months ago the R. leg began to "jump in his sleep" - reflex spasm - no weakness of the R. leg noticed.

3 months ago the pain extended and was felt over the upper chest in front about the level of the nipples and slightly above this margin behind, over the back and round the shoulder blades, on both sides. This pain was severe and constant, and consisted of a sharp pain and an aching feeling. There was at first some hyperaesthesia, the patient saying that these areas "felt tender"to touch. Shortly after this the weakness in the R. leg increased, and the L. leg also became weak and he began to have difficulty in passing his water.

2 months ago the areas in which he had suffered pain began to feel numb and patient thinks the sensation was affected. The weakness steadily progressed, the legs becoming weak and stiff and the arms thinner and weaker. He was only able to walk with assistance, and could not stand alone.

On Examination. 20.10.10.

Cranial Nerves. L. pupil slightly larger than R. both react to light. No other evidence of Cervical Sympathetic involvement.

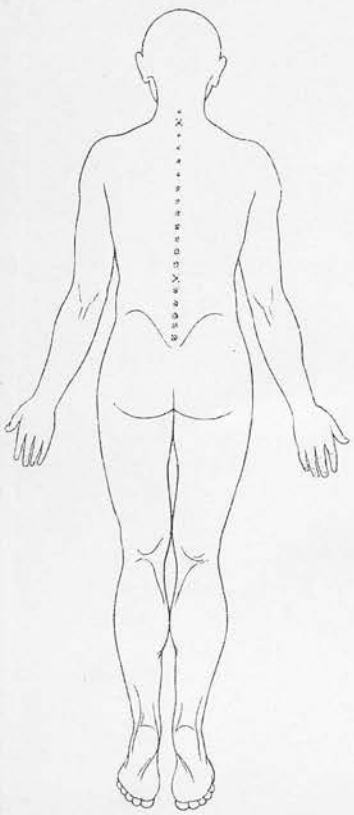
Motor System. Wasting of the small hand muscles of the R. hand, and of the muscles on the ulna side of the forearm. Weakness of these muscles and of the triceps. The L. upper extremity was weak, but there was no definite wasting. Respiration chiefly diaphragmatic - costal movement not absent. Trunk and abdominal muscles weak.

Lower extremities. Spastic paralysis of both legs, R. much weaker than L. very little voluntary movement, L. leg definitely weakened but all movements fairly strongly executed.

Electrical Reactions. Diminution to Faradism in small hand muscles on R. side.

Sensation. Subjective. Numbness and slight pain along the ulna side of right arm, numbness without pain across the chest on both sides in region of Dorsal 3 4 5 6 and along the ulna border of L. arm.

Objective. Almost complete loss to all forms of cutaneous sensibility over the 8th Cervical and 1st to 5th Dorsal on both sides, and over the 6th to 8th Dorsal on R. Relative analgesia and thermal loss on L. side below the level of 5th Dorsal segment. Loss of sense of position in R. leg also of discrimination of compass points. Slight tactile loss over the R. side below the 7th Dorsal segment. Deep pain diminished over the L. lower extremity and also to some extent over the areas in which cutaneous pain is completely lost. Vibration diminished in L. leg but not lost and said to be better felt in R. lower extremity.



T. H.
20.10.10.

Almost complete loss of Cutaneous sensibility over 8. cervical & 1.2.3.4 Dorsal on both sides and over 8 5 6 7 on the Right.

Relative analgesia & thermal loss on left side below D. 4. area.

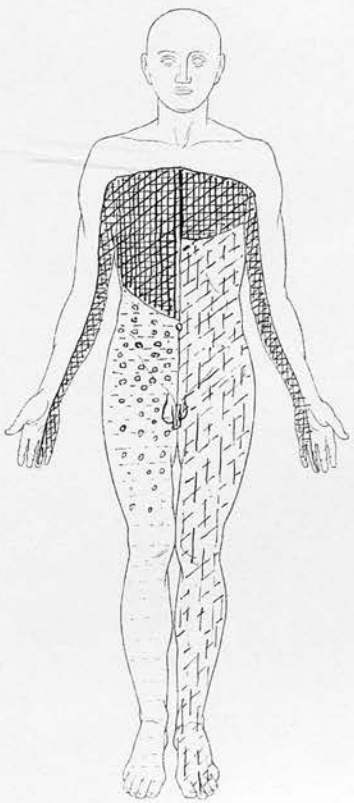
Slight tactile loss on R. side below D. 7

Sense of Position lost in R lower extremity

Discrimination of Compass Points defective over R Side of trunk & R thigh

Deep pain. - diminished in left lower extremity & in areas of greatest sensory loss.

Vibration diminished in left leg. Not felt.



Lower Extremities. Spastic paralysis of both legs, R. much weaker than L. very little voluntary movement, L. leg definitely weakened but all movements fairly strongly executed.

Electrical Reactions. Diminution to Faradism in small hand muscles on R. side.

Sensation. Subjective. Numbness and slight pain along the ulna side of right arm, numbness without pain across the chest on both sides in region of Dorsal 3 4 5 6 and along the ulna border of L. arm.

Objective. Almost complete loss to all forms of cutaneous sensibility over the 8th Cervical and 1st to 5th Dorsal on both sides, and over the 6th to 8th Dorsal on R. Relative analgesia and thermal loss on L. side below the level of 5th Dorsal segment. Loss of sense of position in R. leg also of discrimination of compass points. Slight tactile loss over the R. side below the 7th Dorsal segment. Deep pain diminished over the L. lower extremity and also to some extent over the areas in which cutaneous pain is completely lost. Vibration diminished in L. leg but not lost and said to be better felt in R. lower extremity.

Reflexes.

Deep.	Right	Left
Biceps	normal	normal
Triceps	absent	diminished
Supinator	absent	absent
Knee Jerks	plus	plus
Ankle Jerks	plus	plus
Superficial.		
Epigastric	absent	absent
Abdominal	absent	absent
Cremasteric	present	present
Plantars	extensor	extensor

Sphincters. Incontinence of urine and constipation.

Spine. Normal, no tenderness on pressure or movement

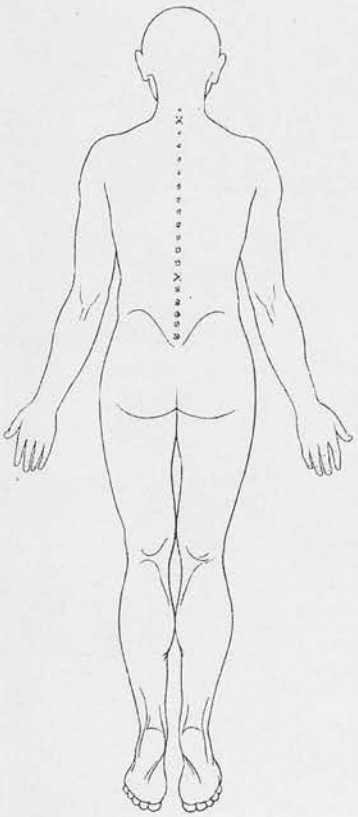
Viscera. Healthy but mitral systolic murmur in heart.

Operation. Mr. Armour. 5.12. 10

Spines and laminae of 5th Cervical to 3rd Dorsal inclusive were removed. The Dura appeared tense on opening it. The tumour was found attached to the posterior root of the 8th Cervical segment on R. side, extending slightly upwards to about the level of the 6th Cervical segment and downwards to about the level of the 3rd Dorsal root. The tumour lay on the postero

aspect of the cord, the
lateral, posterior roots lying for the most part behind the tumour and running over it. The cord was displaced to the L. and slightly backwards. The tumour measured over 2 inches in length, spindle shaped, and about 1/2 to ¼ of an inch in diameter.

The 3rd Dorsal root and 8th Cervical were divided and the tumour was then removed. It was not attached to the 1st and 2nd Dorsal roots. The dura was not sewn



T. H.
25. 1. 1912.

In D2 area. a relative loss to pain only.

In D3 area on the Right side there is complete loss to pain & in a smaller area to Thermal and tactile sensibility

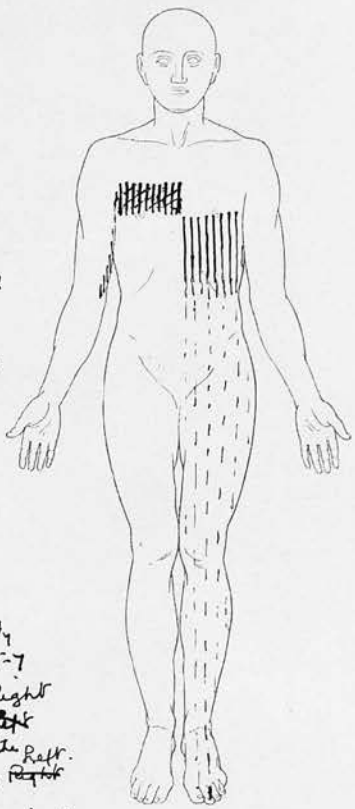
In D3+4 on the Chest relative loss to pain thermal and tactile sensibility.

On the ~~Right~~ Left Side pain is blunted in leg and thumb up to 7 D area above this to the 4 D pain is lost.

Deep pain is diminished on the ~~Right~~ Left lower extremity but not over the areas D5-7 on the Right side

Sense of position is lost in ~~the~~ Right foot and diminished in the Left. whole extremity. Normal on ~~Right~~

Vibration normal. Discrimination of ~~compass points~~ separated on ~~R~~ L thumb.



In the 2nd Dorsal area on the R. side there is a relative loss to pain only. In 3rd Dorsal on the right there is a complete and sharply outlined loss to

Skin - pain and, in a smaller area, to tactile and heat and cold. In the 3rd and 4th Dorsal on the R. side there is a relative loss to all forms of cutaneous sensibility. On the L. side there is a relative loss to pain from the 5th Dorsal area downwards which is considerable over the 5th 6th and 7th Dorsal and almost imperceptible over lower extremity.

Deep pain - blunted on L. side on lower extremity not on the chest.

Vibration - normal

Sense of Position - Lost in R. foot and diminished in the whole of the R. lower extremity.

aspect of the cord, the lateral posterior roots lying for the most part behind the tumour and running over it. The cord was displaced to the L. and slightly backwards. The tumour measured over 2 inches in length, spindle shaped, and about 1/2 to ¼ of an inch in diameter.

The 3rd Dorsal root and 8th Cervical were divided and the tumour was then removed. It was not attached to the 1st and 2nd Dorsal roots. The dura was not sewn up and the wound was closed. The patient was rather collapsed after the operation and in the evening developed signs of congestion of the lungs; he was placed in an upright position and given stimulants.

He made a complete recovery but during the first few days had considerable pain down the inner side of R. arm. The progress he made was very steady

January 25th 1912.

Can walk a mile and a half without feeling any fatigue.

Motor System. Head and neck - normal
Upper Extremities - Power in L. arm and hand good, there is little difference between the R. grasp and the L., the R. being weaker than it should be. The small muscles of the R. are not so wasted as they were, but still show some atrophy. Electrical Reactions - slight diminution to Faradism as compared with L. side.
Trunk - normal
Lower Extremities - Little if any weakness in the R. and the L. is normal. No reflex spasms but the deep reflexes on R. leg are brisker than normal.

Sensory System. No loss of sensibility on 8th Cervical or 1st Dorsal root areas on R. side. In the 2nd Dorsal area on the R. side there is a relative loss to pain only. In 3rd Dorsal on the right there is a complete and sharply outlined loss to skin - pain and, in a smaller area, to tactile and heat and cold. In the 3rd and 4th Dorsal on the R. side there is a relative loss to all forms of cutaneous sensibility. On the L. side there is a relative loss to pain from the 5th Dorsal area downwards which is considerable over the 5th 6th and 7th Dorsal and almost imperceptible over lower extremity.
Deep pain - blunted on L. side on lower extremity not on the chest.
Vibration - normal
Sense of Position - Lost in R. foot and diminished in the whole of the R. lower extremity.

Discrimination of Compass Points - definitely defective on the R. side of the Abdomen and back.

			Right	Left
Reflexes.	Deep.			
		Arm Jerk	normal	normal
		Knee Jerk	plus	normal
		Ankle Jerk	plus no clonus	normal
	Superficial			
		Epigastric	normal (easily exhausted(	normal
		Abdominal	normal (easily exhausted)	normal
		Plantar	flexor	flexor
Sphincters			normal	

Case XLVIII

Recovery from Operation.

Extra medullary Intra dural. Fibro Sarcoma.

A. L. Male. 35. Dr. Batten. 1912.

Op. Mr. Sargent.

Complaint. Difficulty in walking - loss of sensation in legs.

Duration. 10 months.

Family History. Good.

Previous Health. No venereal disease.

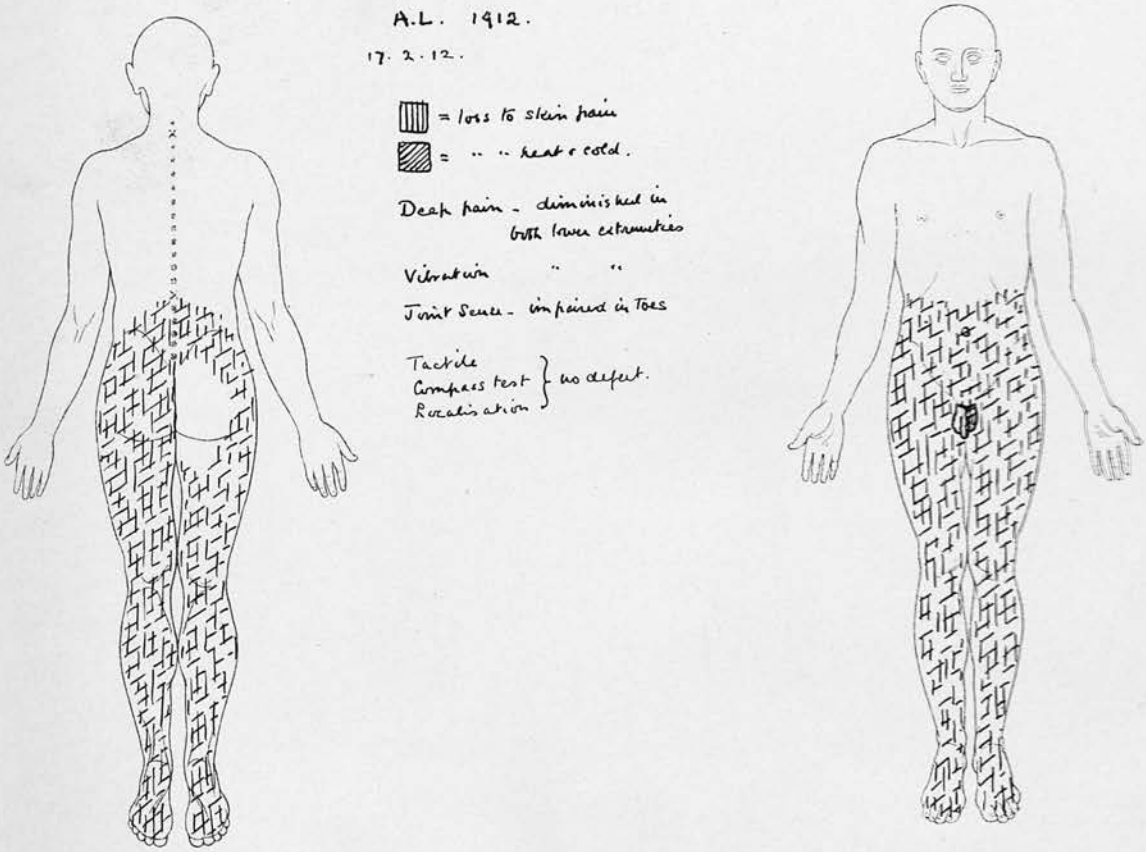
Present Illness. 10 months ago numbness in legs - legs especially the L. felt tired and heavy.
6 months ago had loss of sensibility to heat and cold in the L. side below the 7th. dorsal level without any motor or sensory loss on either side.
Since then the numbness has spread over the legs and they have become weaker and stiff after use.
5 weeks ago dull aching pain in the back after walking, from 12th dorsal spine upwards.
1 week ago had an acute pain round the chest, more on the R. side, and under both shoulder blades.

State on Admission. 14.2.12.

Cranial Nerves. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. "
Trunk. Normal.
Lower Extremities. Power and range of movement good and equal. R. leg a little spastic.
Gait. Slightly spastic, tendency for feet to stick to ground, R. more than L.

Sensory System.
Objective.

Almost complete loss to superficial pain, heat and cold below the 8th. dorsal area, but the 3rd. 4th. and 5th. sacral areas are spared on the R. side. Deep pain diminished in both lower extremities, also vibration. Joint sense diminished in toes. No defect in compass test



Sensory System.

Objective. Almost complete loss to superficial pain, heat and cold below the 8th. dorsal area, but the 3rd. 4th. and 5th. sacral areas are spared on the R. side. Deep pain diminished in both lower extremities, also vibration. Joint sense diminished in toes. No defect in compass test or localisation.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Brisk.	Brisk.
Knee.	Plus plus.	Plus.
Ankle.	" "	Plus clonus.
	no clonus.	
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	No response?

Sphincters. Bladder is normal. Rectum - some constipation.

26.2.12. Plantars. Extensor on both sides.
Ankle clonus on R. side.
Lumbar puncture - fluid normal.
Wasserman. Blood - negative.
Cerebro spinal fluid. negative.

Operation. 5.3.12. Mr. Sargent.

An oval shaped tumour, fibro sarcoma, was removed. It was lying under the arachnoid on the R. posterior aspect of the cord, and attached loosely to the 6th. dorsal posterior root.

Case XLIX

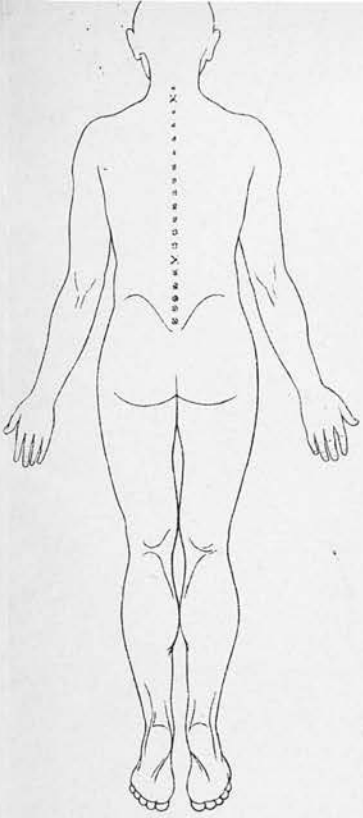
Intra dural Extra medullary Fibro Sarcoma. Recovery well 1912.

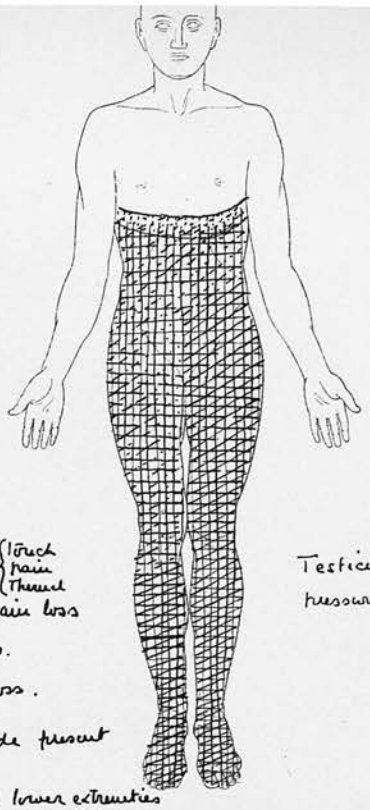
T. H. aet 32. Male. Dr. Buzzard 1909.

Op. Mr. Armour.

Complaint. Spinal Tumour.
Fam. History. 1 Brother consumptive.
Previous Health. Measles as a child, no stitis, apparently no subsequent trouble.
aet 18 slight attack of gonorrhoea, no syphilis.
aet 21 enteric fever.
Led an athletic life.
Present Illness. 4½ months ago struck by a cricket ball on the back between the inferior angle of the L. scapula and the spine. A fortnight later had some stiffness in the R. leg and a feeling of a tight band round the leg above and below the knee.
A month ago came home to England, could play games but the R. leg felt weak. Ten days later during a long ride suddenly seized with acute pain between the shoulder blades when trotting; this pain continued, and was worse on moving the spine, easier when sitting still.
Three weeks ago weakness in both legs increased, R. foot dragged, girdle sensation below the nipples with diminished sensibility to pain on the L. side of the chest from the level of the 6th to the 8th Dorsal.
Slight difficulty in starting micturition. After complete rest for a fortnight was worse, spastic weakness of both legs increased, some impairment of sensation, particularly loss of sense of position in the R. leg, was troubled with Priapism, there was oedema over the mid-dorsal region. During the last three weeks it got rapidly worse.

On Admission. April 1909.
Mental condition and intelligence - Good.
Cranial Nerves. Normal
Upper Extremities. Normal
Motor System. Spastic paralysis of R. abdominal muscles and of R. lower extremity with practically no movement at the knee, ankle or toes. There is some movement of the abdominal muscles





:::: = relative loss cutaneous { Touch / Pain / Thermal
|||| = complete cutaneous pain loss
≡ = complete tactile loss.
//// = complete thermal loss.

Deep pain lost on Left side present Right thigh & leg.
Sense of position. lost both lower extremities
Vibration. lost below 4 Lumbar Spine

Testicular sensa
pressure not aff

Tactile (cotton wool) absolute loss below the 5th Dorsal root area, except for occasional perception on the R. side of the abdomen.
Cutaneous Pain and Thermal - similar to Tactile.
Deep Pain - Loss in both legs.
Vibration - lost below level of the 4th Lumbar spine.
Sense of Position - Absolute loss in both lower extremities.
Deep Pressure - Lost on the L. side. Present R. thigh and leg.
Testicular sensation is entirely lost R. and L.

Trophic. Small sacral bed sore.

Spine. Some Kyphosis in the mid-dorsal region tenderness on pressure over the 6th Dorsal spine.

Operation. 21.4.09. Mr. Armour.

Spines and laminae of the 3rd to 6th Dorsal vertebrae were removed, dura prominent and discoloured about the level of the 4th Dorsal segment. The dura was opened and a small tough reddish tumour was found lying on the cord neath the arachnoid, lying to the R. of the middle line of the posterior aspect of the cord which was indented by it. There was no pulsation below the level of the tumour. The tumour was completely removed.

of the L. side. The L. lower extremity is weak and spastic but all movements are present. There is no muscular wasting. Reflex spasms occur in both legs.

Reflexes. Deep.

	Right	Left
Arm Jerks	normal	normal
Knee "	plus	plus
Ankle "	plus clonus	plus clonus

Superficial

Epigastric	absent	absent
Abdominal	absent	absent
Cremasteric	absent	absent
Plantar	extensor	extensor

Sphincters. Extreme precipitancy of micturition and defaecation with loss of sensation of passage of water and diminished sensibility in the Rectum.

Sensation. Objective.

Tactile (cotton wool) absolute loss below the 5th Dorsal root area, except for occasional perception on the R. side of the abdomen.

Cutaneous Pain and Thermal - similar to Tactile.

Deep Pain - Loss in both legs.

Vibration - lost below level of the 4th Lumbar spine.

Sense of Position - Absolute loss in both lower extremities.

Deep Pressure - Lost on the L. side. Present R. thigh and leg.

Testicular sensation is entirely lost R. and L.

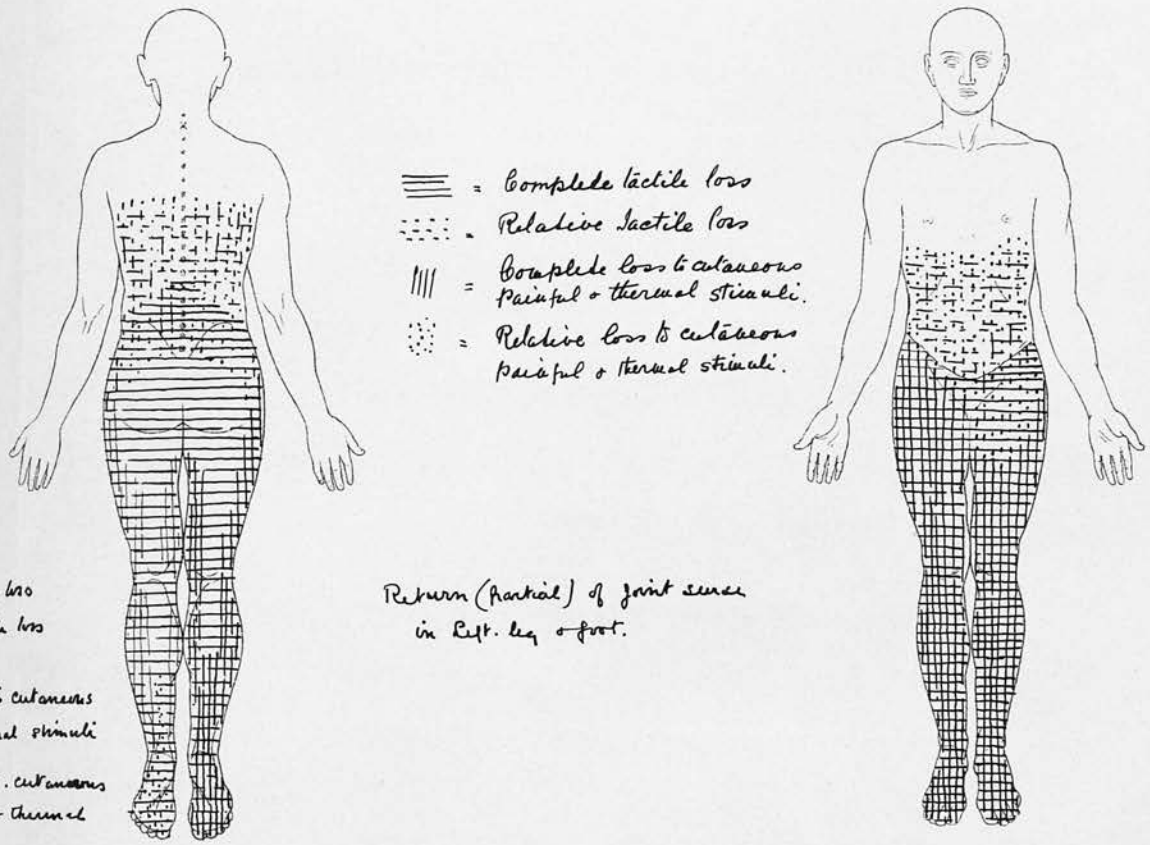
Trophic. Small sacral bed sore.

Spine. Some Kyphosis in the mid-dorsal region tenderness on pressure over the 6th Dorsal spine.

Operation. 21.4.09. Mr. Armour.

Spines and laminae of the 3rd to 6th Dorsal vertebrae were removed, dura prominent and discoloured about the level of the 4th Dorsal segment. The dura was opened and a small tough reddish tumour was found lying on the cord neath the arachnoid, lying to the R. of the middle line of the posterior aspect of the cord which was indented by it. There was no pulsation below the level of the tumour. The tumour was completely removed.

A steady improvement took place with the return of all forms of sensibility, except the joint sense deficient in both lower extremities.



for three weeks and at the same time had pain in back, lumbago; this lasted only a few days, was worse on straightening her back up. Had pain on and off for 2 years.

Xmas 1904 feeling of pins and needles from toes of L. foot to hip. The leg felt numb 5 or 6 weeks later, felt as if it would "burst".

Jan. 1905 first noticed weakness of R. leg, dragging of toes, had difficulty in putting R. knee over L.

March 1905 weakness more marked and had a burning feeling over lower part of abdomen and sides, stooping caused a sharp pain in L. hip.

April 1905. Difficulty in micturition.

June 1905 could still crawl about from one chair to another, with numb feeling in R. thigh, began to get reflex spasm in R. leg.

Three weeks before admission L. leg began to get weak.

A steady improvement took place with the return of all forms of sensibility, except the joint sense deficient in both lower extremities.

25.6.09.
The patient can walk by himself, there is no sphincter trouble. The abdominal and epigastric reflexes have returned, knee and ankle jerks increased with clonus, plantar reflexes extensor.

Case L

Intra dural - extra medullary. Neuro Fibroma (?)

E. M. D. aet 52. Female. Dr. Ferrier 1905.

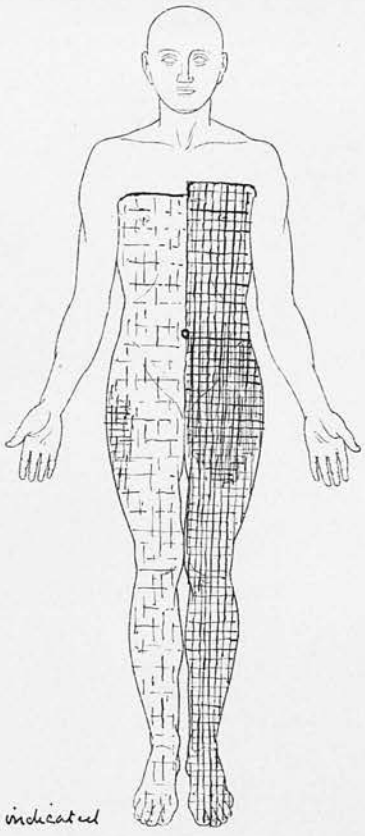
Op. Mr. Ballance.

Fam. History. nil.

Prev. Health. Tubercular glands in neck between 7 and 8 years old. Never strong often had influenza. Anal fistula 12 years ago, displacement of the womb and fibroids.

Pres. Illness. Nov. 1902 Sciatic pain in L. leg, back of buttock, thigh and calf, sharp and stabbing made worse by movement, more or less constant in duration for three weeks and at the same time had pain in back, lumbago; this lasted only a few days, was worse on straightening her back up. Had pain on and off for 2 years.
Xmas 1904 feeling of pins and needles from toes of L. foot to hip. The leg felt numb 5 or 6 weeks later, felt as if it would "burst".
Jan. 1905 first noticed weakness of R. leg, dragging of toes, had difficulty in putting R. knee over L.
March 1905 weakness more marked and had a burning feeling over lower part of abdomen and sides, stooping caused a sharp pain in L. hip.
April 1905. Difficulty in micturition.
June 1905 could still crawl about from one chair to another, with numb feeling in R. thigh, began to get reflex spasm in R. leg.
Three weeks before admission L. leg began to get weak.

E.T ... et. 52.

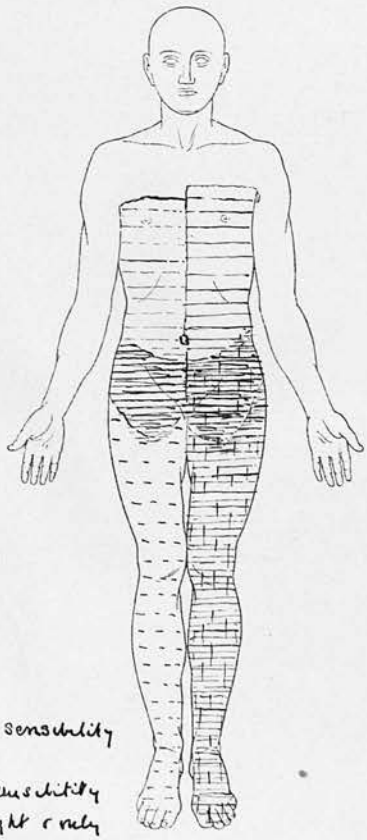


||| = analgesia

= anaesthesia

...nsity of loss indicated by ...ing.

E.T ...2.



≡ = impairment of sensibility to cold.

||| = impairment of sensibility to heat very slight or only on left side on leg & lower abdomen.

4 days before coming in had a feeling of a cord round her, about the level of the umbilicus. Never any pain in spine except in lowest part of the back.

On Admission.

General Condition	Excellent		
Mental Condition	Good		
Cranial Nerves	Good		
Upper Extremities	Good		
Trunk	Weakness of recti abdominis on both sides		
Lower Extremities	The R. leg is practically useless and very spastic. L. leg all movements can be performed but feeble, spasticity.		
Sensation	Subjective. Burning feelings in legs especially L., tight feeling across lower abdomen and hips, feeling of a cord at the level of the umbilicus.		
	Objective. Anaesthesia to the level of the 2nd Dorsal segment, most marked on the L. side and especially over lower abdomen and upper part of thigh on the L. Pain the same. Thermal much the same - more loss to cold than to heat and the most affected part was both sides of the lower abdomen and upper thighs L. more than R. Most loss over L. leg and trunk up to the level of the 2nd Dorsal, and least change on R. leg and R. lower thigh.		
Reflexes	Deep.	Right	Left
	Arm Jerks	normal	normal
	Knee "	minus	brisk
	Ankle "	brisk with clonus	brisk with clonus
	Superficial.		
	Epigastric	absent	absent
	Abdominal	absent	absent
	Plantar	extensor	extensor
Sphincters	Difficulty in micturition.		
Spine	No prominence.		

Operation Mr. Ballance.

A long tumour was found lying within the dura but outside the cord and attached to either the 8th R. Cervical or 1st Dorsal. It was removed.

Diagnosed Extra Medullary.

Case 11.

Dural Growth? Fibro Sarcoma. Recovery, almost well. 1912 (2 years)

A. A. P. Male. 33. Dr. Batten. 1910.

Op. Mr. Sargent.

Family History. Good.

Previous Health. Malaria in South Africa 9 years ago. Denies syphilis, however Wasserman positive.

Present Illness. 6 months ago numbness in both upper limbs with shooting pains from the shoulders to the fingers and some loss of power. Weakness of legs came on gradually.
3 months ago could only walk with assistance.
2 months ago became unable to walk at all but could stand with help. Difficulty in passing water and flexor spasms of legs for 3 months.
1 week before admission feeling went out of hands.

State on Admission. 14.2.10.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Diaphragm. Normal.

Upper Extremities. Weakness of both arms, some wasting of small hand muscles.

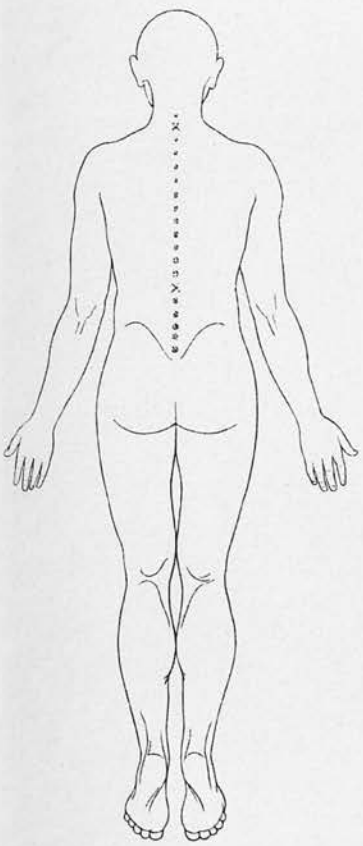
Trunk. Intercostals weak, abdominal and back muscles weak.

Lower Extremities. Spastic weakness of both lower limbs, R, weaker than L. The legs are not so weak as the arms.

Sensory System.

Objective. Total loss of cutaneous pain up to and including 5th. cervical area on L. side and part of the 5th. cervical on the R. Loss to heat and cold in same distribution. Tactile-total anaesthesia on the trunk and lower extremities. The upper level of

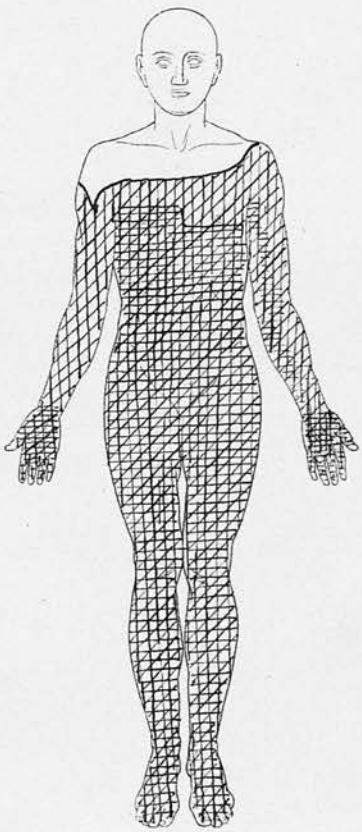
this loss was 2 or 3 inches below the level of the loss to pain and temperature. There is tactile loss in the hands and in irregular areas in the arms, especially L.
Joint sense diminished in hands and feet, normal in large joints.
Both hands swollen, juicy and glossy.



A.P. 33
1910.

loss to pain
" " heat cold
" - tactile

Loss of sense of Position in hands & feet.



2.3.10. Patient complains of great pain at night - passing large quantities of urine spontaneously.

23.4.10. Much better, complete sphincter control. Can wheel himself about in a chair and has walked with assistance - sensation improving.

this loss was 2 or 3 inches below the level of the loss to pain and temperature. There is tactile loss in the hands and in irregular areas in the arms, especially L. Joint sense diminished in hands and feet, normal in large joints. Both hands swollen, juicy and glossy. Loss of deep pain in upper limbs.

Spine. Normal.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Plus.	Plus, less degree.
Knee, & Ankle.	Plus with clonus.	Plus less degree.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Difficulty in passing water, some retention, constipation. No sexual power.

Operation. 28.2.10. Mr. Sargent.

The spines and laminae of 3rd. 4th. 5th. and 6th. cervical vertebrae were removed. The dura was much thickened and adherent to the posterior aspect of the cord and dividing the dorsal portion of the subarachnoid space into an upper and lower portion. The thickened membranes were stripped off the dorsal aspect of the cord and from each side as far as the posterior roots. A portion was removed for examination.

2.3.10. Patient complains of great pain at night - passing large quantities of urine spontaneously.

23.4.10. Much better, complete sphincter control. Can wheel himself about in a chair and has walked with assistance - sensation improving.

Case LII

Intra dural. Fibro Sarcoma. Recovery well 2 years later

M. M. Female. 46. Dr. Risien Russell. 1904.

Op. Sir Victor Horsley.

Complaint. Inability to walk, sphincter trouble, pain in the back and round the waist.

Previous Health. Good.

Present Illness. 5 to 6 years ago occasional "spasmodic" pain in the lumbar regions, at first occurring about once a week and lasting from 15 to 20 minutes. It gradually became more frequent and more severe, and then passed round to the front of the abdomen.
4 years ago difficulty in micturition, constipation, occasional passage of stool unknown.
3 years ago weakness of L, foot and leg, dragged the foot - needed support to walk.
2 years ago severe pain on lying down - slept in a chair because it was the only position in which his legs were free from pain - flexor spasms. Difficulty in micturition.
1 year ago R. leg became weak and gradually got worse.
10 days ago completely unable to walk.

State on Admission.

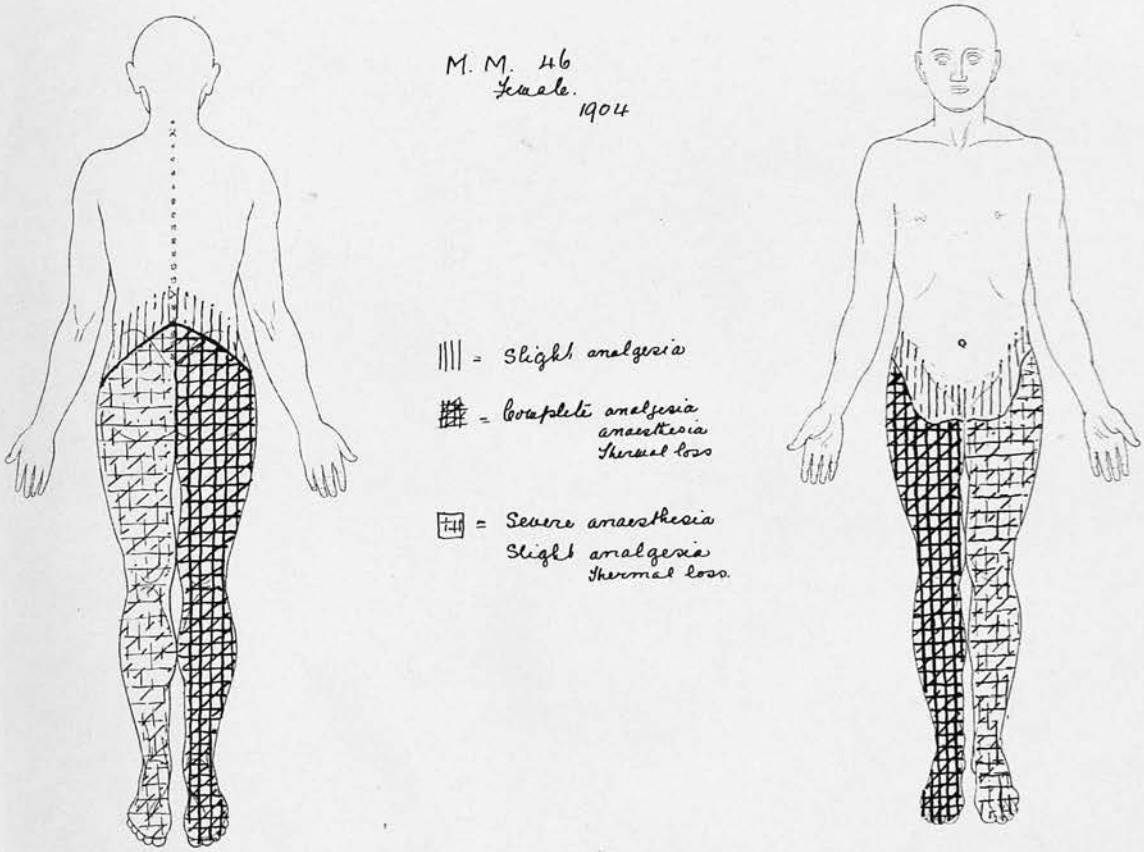
Viscera. Healthy.
Cranial Nerves. Normal.
Special Senses. Normal.
Motor System.
Upper Extremities. Normal.
Trunk. Weakness of lower abdominal muscles. Umbilicus rises
Lower Extremities. Thin and flabby, no local wasting. Considerable spasticity, reflex spasms.
All movements in R. are present but very feeble, ankle and toe movements present but very weak. L. very slight flexion and extension of thigh

on trunk, very feeble flexion of knee. Extension of knee, foot, ankle and toe movements gone.

Sensory System.

Subjective. Pain in 10th. dorsal vertebra and down to spines of 1st. 2nd. and 3rd. lumbar, also round to hypogastrium. Numbness over area of objective loss.

Objective. R. Marked analgesia and complete anaesthesia to 1st. lumbar root area; relative analgesia up to 11th. dorsal root area on both sides.
L. Relative analgesia and almost complete anaesthesia to 1st. lumbar



lamina. Intra dural.

2 years later "quite well"

on trunk, very feeble flexion of knee. Extension of knee, foot, ankle and toe movements gone.

Sensory System.

Subjective. Pain in 10th. dorsal vertebra and down to spines of 1st. 2nd. and 3rd. lumbar, also round to hypogastrium. Numbness over area of objective loss.

Objective. R. Marked analgesia and complete anaesthesia to 1st. lumbar root area; relative analgesia up to 11th. dorsal root area on both sides.
L. Relative analgesia and almost complete anaesthesia to 1st. lumbar root - then vide supra.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus plus.
Ankle.	Plus plus.	" " clonus both sides.
Superficial.		
Epigastric, Abdominal.	Feeble & slow.	Feeble & slow.
Plantars.	Extensor.	Extensor.

Sphincters. Rectal incontinence, retention of urine.

Spine. No deformity. Tenderness on pressure over the 10th. dorsal vertebra and down to Sacrum.

Trophic. No bedsores.

Operation. Sir Victor Horsley.

A firm hard mass lay in front of cord and somewhat to the L. of it. It was attached to the 1st. lumbar root and was more or less cylindrical, ½ inch in diameter and 1½ inches long, the upper ½ inch being of very small calibre. The cord was flattened and compressed. Tumour lay from 11th. dorsal lamina to 2nd. lumbar lamina. Intra dural.

2 years later "quite well"

Case LIII

Intradural Tumour. *Fibro Sarcoma.* *Died - no operation*

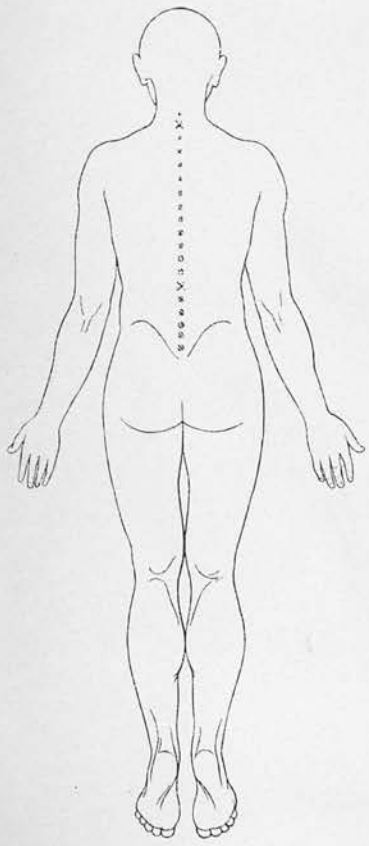
L. Q Female. 44 Dr Ormerod. 1911.

Family History. Good.

Previous Health. Good.

Present Illness. 1 year ago severe pain between shoulders for 1 week
6 months ago return of pain lasted 12 days and aching pain in bR arm amd slightly in L, ulna side.
5 months ago L. leg began to get weak, shortly after the R. became weak and 4 days later incontinence of urine.

State on Admission.
Cranial Nerves, Normal.
Motor System.
Upper Extremities. Small muscles and ulnar side of R. arm some fibrillation.
Electircal Reaction. Bad.
Respiratiom. Mostly diaphragmatic,
Lower Extremities. Spastic paralysis, no voluntary power in trunk or lower extremities.
Sensory System. Slight loss to all forms of cutaneous sensibility on inner side of R. arm and R. axilla.
Much loss below 3rd dorsal absolute

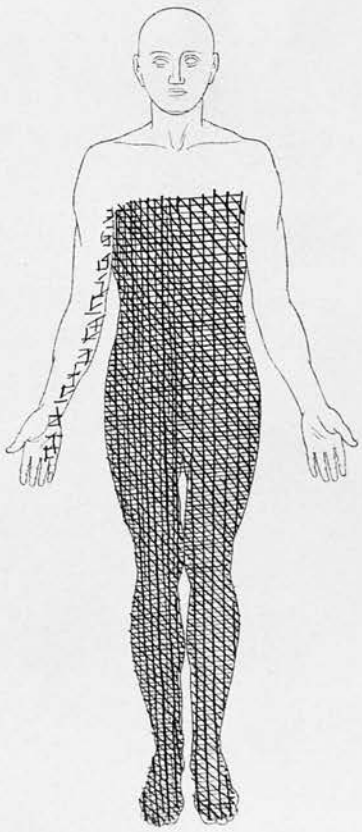


L Q.
1911.

\|\|\|\| = slight defect in all forms of cutaneous sensibility.

\|\|\|\| loss to cut. pain
≡ .. .. tactile
.. .. heat & cold.

in R. leg. loss to deep pain
Loss of sense of Position in both legs.



Case LIII

Intradural Tumour. *Fibro Sarcoma.* *Died - no operation*

L. Q Female. 44 Dr Ormerod. 1911.

Family History. Good.

Previous Health. Good.

Present Illness. 1 year ago severe pain between shoulders for 1 week
6 months ago return of pain lasted 12 days and aching pain in R. arm amd slightly in L, ulna side.
5 months ago L. leg began to get weak, shortly after the R. became weak and 4 days later incontinence of urine.

State on Admission.
Cranial Nerves, Normal.
Motor System.
Upper Extremities. Small muscles and ulnar side of R. arm some fibrillation.
Electircal Reaction. Bad.
Respiratiom. Mostly diaphragmatic,
Lower Extremities. Spastic paralysis, no voluntary power in trunk or lower extremities.
Sensory System. Slight loss to all forms of cutaneous sensibility on inner side of R. arm and R. axilla.
Much loss below 3rd. dorsal, absolute in R. leg, superficial a nd deep - superficial only in L.
Joint sense lost in legs.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Present.	Present.
Knee.	Plus.	Plus.
Ankle.	Clonus.	Clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	Absent.	Absnet.
Plantar.	Extensor.	Extensor.

Sphincters. Incontinence of urine and faeces.
Spine. Normal.

Post Mortem. Laminectomy only.

Bedsores on sacrum.

A reddish tumour was found lying on dorsal aspect of dura mater, mor to the R. than the L. 3 inches long extending into vertebral foramina on R. side.
Tumour extends from 7th. cervical lamina to 2nd. dorsal.
It did not penetrate the dura.
Fibro Sarcoma. Spindle celled.
Cord. not much compressed, no degeneration of anterior horn cells. Anteri-r and posterior roots involved.

Case LIV

Intra dural Fibro Sarcoma. Great recovery. in legs. considerable in arms.

W. C. Male. 43. Dr. Ferrier. 1904.

Op. Mr. Ballance.

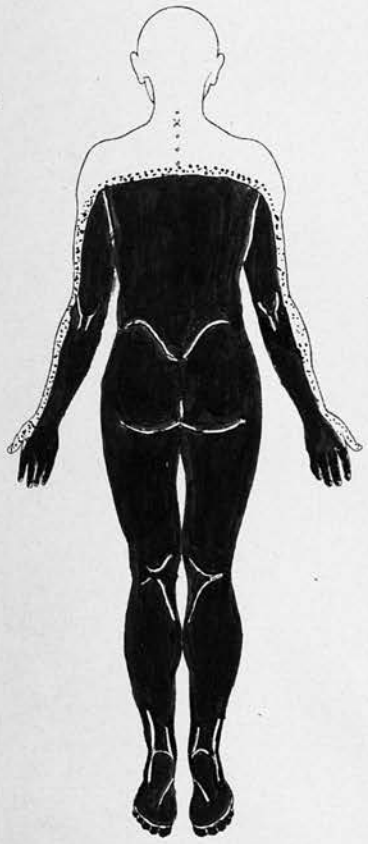
Complaint. Loss of power in legs and arms 3½ years.

Family History. Nil.

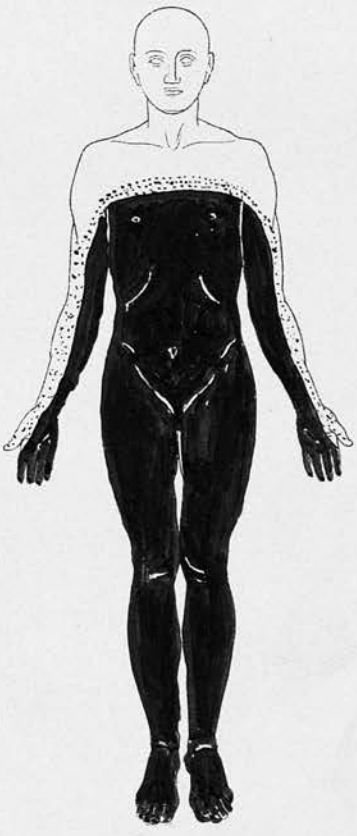
Previous Health. Gonorrhoea at 18. Denies syphilis.

Present Illness. 3½ years ago R, foot dragged when he

W. C. male 43. 1904



= Slight sensory loss
= Complete sensory loss.



Sensory System.

Subjective Tight band round chest.

Objective. Anaesthesia, analgesia and thermal loss below the level of the 7th. cervical segment with loss of sense of position, deep pain and deep pressure. A small band of hyperaesthesia is present above the area of sensory loss.

Case LIV

Intra dural Fibro Sarcoma. Great recovery. in legs. considerable in arms.

W. C. Male. 43. Dr. Ferrier. 1904.

Op. Mr. Ballance.

Complaint. Loss of power in legs and arms 3½ years.

Family History. Nil.

Previous Health. Gonorrhoea at 18. Denies syphilis.

Present Illness. 3½ years ago R, foot dragged when he walked, R. hand weak, numbness of L. arm - gradual onset.
2½ years ago R. leg, arm and hand useless - no sexual power or desire since.
1½ years ago numbness in L. hand and leg followed by weakness.
1 year ago unable to stand - legs drew up at night. Difficulty in starting micturition - occasional loss of control over bowels - generally constipated. Never any pain.

State on Admission.

Cranial Nerves. Normal.
Special Senses. Normal.
Motor System.
Neck. All muscles and movements good.
Upper Extremities. Both rather rigid, small muscles of hand rather wasted - all react to Faradism.
Trunk. Respiration mostly diaphragmatic. Abdominal muscles weak all over.
Lower Extremities. Rigid adducted - can only move toes very slightly - no other movement.
Sensory System.
Subjective Tight band round chest.
Objective. Anaesthesia, analgesia and thermal loss below the level of the 7th. cervical segment with loss of sense of position, deep pain and deep pressure. A small band of hyperaesthesia is present above the area of sensory loss.

Reflexes.

Deep.	Right.	Left.
Triceps.	Brisk.	Brisk.
Biceps.	"	"
Supinator.	Clonus.	Plus.
Knee.	Plus plus.	Plus plus.
Ankle.	" "	" "
Superficial.		
Plantars.	Extensor.	Extensor.

Sphincters. Difficulty in starting micturition - constipation.

Operation. 6.7.04. Mr. Ballance.

The spines of the 5th. 6th. 7th. ~~and 8th.~~ (Cervical and 1st Dorsal) ~~cervical~~ were removed. An intra dural tumour 1 inch long, ½ inch wide was found pressing spinal cord forwards. The tumour was posterior and nearer to R. than L.

2.4.05. Patient left Hospital.

R. arm greatly improved, legs can be well moved - spasticity not nearly so marked. Sensory loss is still present in same areas as before operation but is only relative, whereas before it was practically complete. Reflexes - knee and ankle increased with clonus. Plantars extensor.

8.3.05. L. upper extremities practically normal. R. upper extremity, wasting of small hand muscles. Lower Extremities. R. leg weaker than L. but patient can walk with a stick. Abdominal and epigastric reflexes present in R. and L. Knee and Ankle, R. still increased, normal on L. Plantars still extensor. Complete sphincter control.

Case LV

Intra dural Tumour. Fibro Sarcoma. Died at operation.

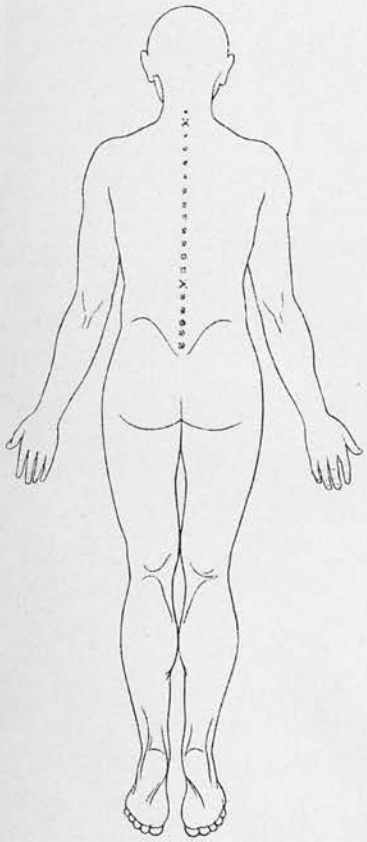
T. G. Male. 65. Dr. Ferrier. 1907.

Op. Mr. Ballance.

Family History. Nil.

Previous Health. Syphilis at 18, treated 2 months.

Present Illness. 5 months ago progressive weakness of L. leg
3 months ago weakness was noticeable, obvious limp. His L. leg was stiff



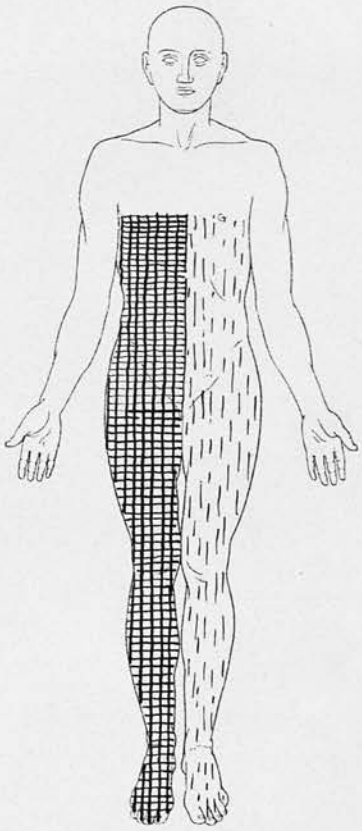
T. G. 65.
1907.

||| = anaesthesia & loss to heat & cold.

||| = partial analgesia

≡ = anaesthesia

Deep pain diminished in R. leg.
Sense of position - normal.



Sensory System.
Objective. There is slight loss to pain down the L. side below the 4th. dorsal segment. On the R. side there is a severe loss to pain and some anaesthesia. Deep pain is diminished in R. lower limb. Joint sense is normal.

Case LV

Intra dural Tumour. Fibro Sarcoma. Died at operation.

T. G. Male. 65. Dr. Ferrier. 1907.

Op. Mr. Ballance.

Family History. Nil.

Previous Health. Syphilis at 18, treated 2 months.

Present Illness. 5 months ago progressive weakness of L. leg
3 months ago weakness was noticeable, obvious limp. His L. leg was stiff and sometimes he felt a tingling and numbness in it.
2½ months ago noticed cramps and spasms in both legs and some weakness of the R. leg - also began to have some difficulty and delay in micturition and became very constipated.
1 month ago he gave up work.
2 weeks ago he noticed a tightness above the umbilicus. Since then the L. leg has got worse, but beyond some shooting pain in the R. leg and some "deadness" he has not noticed any further change in it.

State on Admission. 23.9.07.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Some weakness of the Recti Abdominis.

Lower Extremities. L. leg weak and spastic, is dragged when he walks and he can only walk with a stick. R. leg slightly weak and spastic.

Sensory System.

Objective. There is slight loss to pain down the L. side below the 4th. dorsal segment. On the R. side there is a severe loss to pain and some anaesthesia. Deep pain is diminished in R. lower limb. Joint sense is normal.

Reflexes.

Deep.	Right.	Left.
Jaw.	Normal.	Normal.
Arm.	"	"
Knee.	"	Plus.
Ankle.	"	Plus clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Difficulty in starting micturition.
Spine. Nothing abnormal.
6.11.07. Distinctly worse, legs weaker and more spastic. Cannot stand alone.

Operation. 25.11.07. Mr. Ballance.

The spines and laminae of the 2nd. 3rd. 4th. 5th. and 6th. dorsal vertebrae were removed. Nothing abnormal was found outside theca, but a small, hard resistent mass felt through the theca at level of 4th. and 5th. dorsal segments. The theca was opened, and a tumour w which was attached to the arachnoid on the L. side of the cord was removed. The cord was not much compressed. The theca was sewn up and the wound closed.
The patient collapsed suddenly at the end of the operation and died on the table.

Post Mortem. The 3rd. 4th. and 5th. dorsal spines and laminae were removed. The dura had been incised and closed with 9 sutures. This incision extended over the length of the 3rd. 4th. 5th. and 6th. dorsal segments. There was roughening of the anterior aspect of the arachnoid and inner surface of the posterior dura. The cord was narrowed and compressed and softened between the 4th. and 5th. dorsal segments. There was found a small, firm nodular tumour growing from the arachnoid on the posterior median fissure at the level of the 4th. lumbar segment.

At the operation a small friable purplish tumour was removed from the L. side of the cord at the level of the 4th. and 5th. dorsal segments. A soft partial gumma and thorax was produced at the operation - blood was found in the L. pleura. p.m. and the lower part of the L. lung was collapsed.

Tumour fibro sarcoma. No tumour found elsewhere.

Case LVI

Intra dural. Fibro Sarcoma. Temporary improvement. relapse from pressure of scar tissue. 2nd operation no improvement.

D. C. Male. aet. 30. Dr. Turner. 1907.

Op. Mr. Armour.

Family History. Nil.

Previous Health. No syphilis.

Present Illness. 2 years ago began to complain of pain in R. side of abdomen under R. costal margin - the pain was sharp and aggravated by movement such as stooping. During next 3 weeks pain spread gradually upwards and down ulnar border of R. arm to the tips of the 2nd. ulnar fingers. Pains paroxysmal varying in time and degree, sometimes associated with pain in the mid-dorsal region. He was in Middlesex Hospital and later in the Convalescent Home about 3½ months. At the end of this time the pain disappeared.

5 months later began to have a feeling of numbness and tightness in the lower abdomen, more R. side than L.

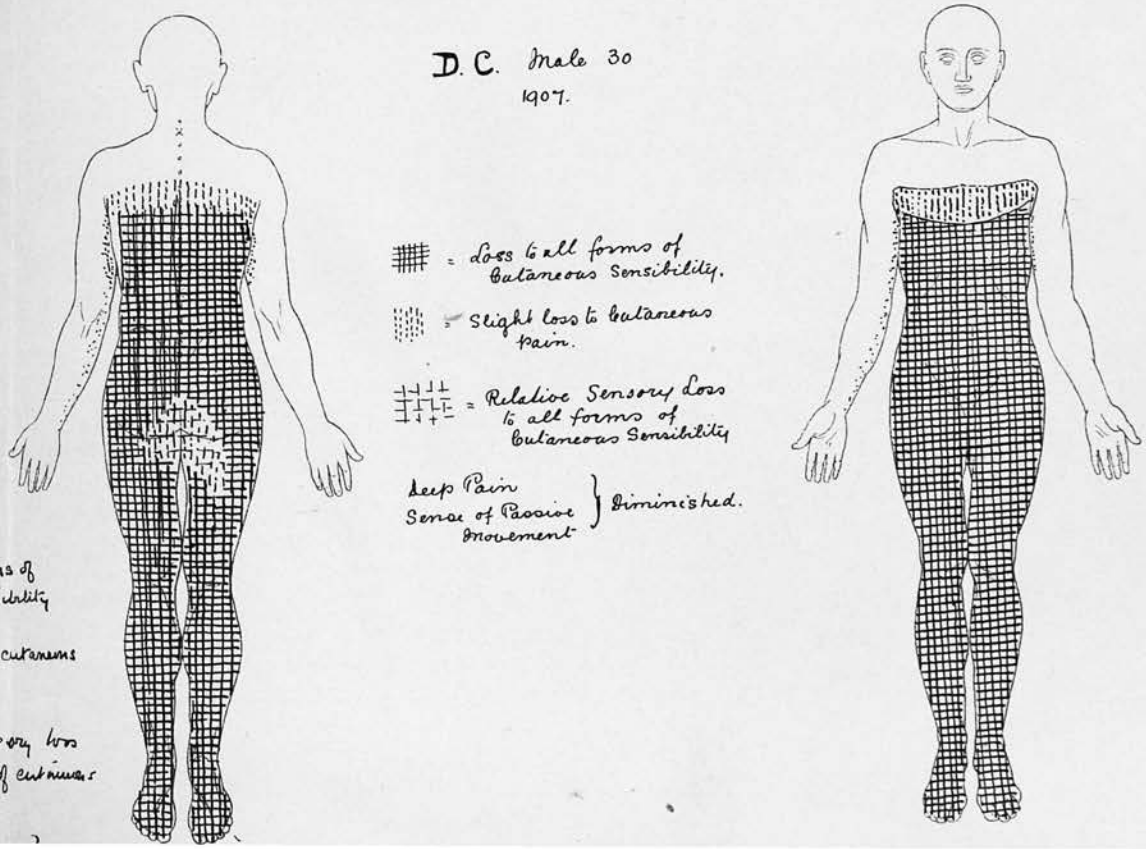
2 or 3 weeks later noticed both legs getting stiff.

4 weeks later he had some difficulty in micturition. About the end of 1905. he had influenza. He was in King's College Hospital for 7 months where he got steadily worse. His legs began to waste and get stiffer and weaker, and in May 1906 he was unable to stand or to sit up without help and could only move his legs very slowly and very slightly. Felt both his legs numb and had no sensation of the passage of water or faeces, although there was no actual loss of sphincter control. He had occasional aching pain in the back in various places and troublesome reflex spasms

in the legs. He was transferred to Middlesex Hospital where he got worse and from there he was transferred to Queen's Square.

State on Admission. 13.8.06.

Special Senses	Normal.
Cranial Nerves.	"
Motor System.	
Upper Extremities.	No weakness.
Thorax.	Lower ribs do not move well on respiration.
Diaphragm.	Normal.
Abdominal & Trunk.	Weak.
Lower Extremities.	Thin, occasional reflex spasms, but no voluntary movement of any kind.
Sensory System.	
Objective.	Loss to all forms of cutaneous sensibility from nipples downwards. Relative loss to cutaneous pain to a higher level, 3rd. dorsal and also over the 1st. dorsal area on R. side. Cutaneous sensibility over 4th. and 5th. sacral areas on both sides, and 3rd. sacral on R. side was not so



in the legs. He was transferred to Middlesex Hospital where he got worse and from there he was transferred to Queen's Square.

State on Admission. 13.8.06.

Special Senses — Normal.
Cranial Nerves. — "
Motor System.
Upper Extremities. — No weakness.
Thorax. — Lower ribs do not move well on respiration.
Diaphragm. — Normal.
Abdominal & Trunk. — Weak.
Lower Extremities. — Thin, occasional reflex spasms, but no voluntary movement of any kind.
Sensory System.
Objective. — Loss to all forms of cutaneous sensibility from nipples downwards. Relative loss to cutaneous pain to a higher level, 3rd. dorsal and also over the 1st. dorsal area on R. side. Cutaneous sensibility over 4th. and 5th. sacral areas on both sides, and 3rd. sacral on R. side was not so impaired as elsewhere below the nipples. Deep pain and sense of passive movement diminished slightly.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. — Difficulty with both - sensation of passage of faeces diminished but not lost - has fair control.
Trophic. — Has small bedsore over coccyx.
Spine. — Normal.
Sept. 4th. — Retention of urine.

Operation. 10.9.06. Mr. Armour.

The spines and laminae were removed from 6th. cervical to 3rd. dorsal vertebrae. The theca was exposed, there was no pulsation. The theca was opened in middle line, no escape of cerebro spinal fluid but a purplish mass was found lying on the posterior and R. lateral aspect of the cord which was pushed over to the L.

The tumour lay for the most part anterior to the posterior roots on the R. side of the cord, the roots crossing over the tumour which extended from above the level of the 1st. dorsal root to below the 3rd. dorsal, being cylindrical in shape, about 1/3 inch thick and 1½ inches long. A portion of the growth extended round the anterior surface of the cord which was flattened and crescentic in shape; the 2nd R. dorsal posterior root was divided and tumour removed - it came away quite easily; the cord did not pulsate.

The wound took some time to heal.

1.10.06. More flexor spasms in legs. Relative sensory loss down R. arm as far as the wrist. Elsewhere sensation as before.

4.11.06. Moved both legs slightly; L, better than R. Sensation much improved. Anaesthesia remains much the same, but analgesia and thermal sensibility is much less complete and pin pricks are recognised quite well in R. leg and only slightly dulled in L. leg.

Dec. 06. Motor power improving.

Jan. 07. Patient can now walk two or three times round table, and can control his water.

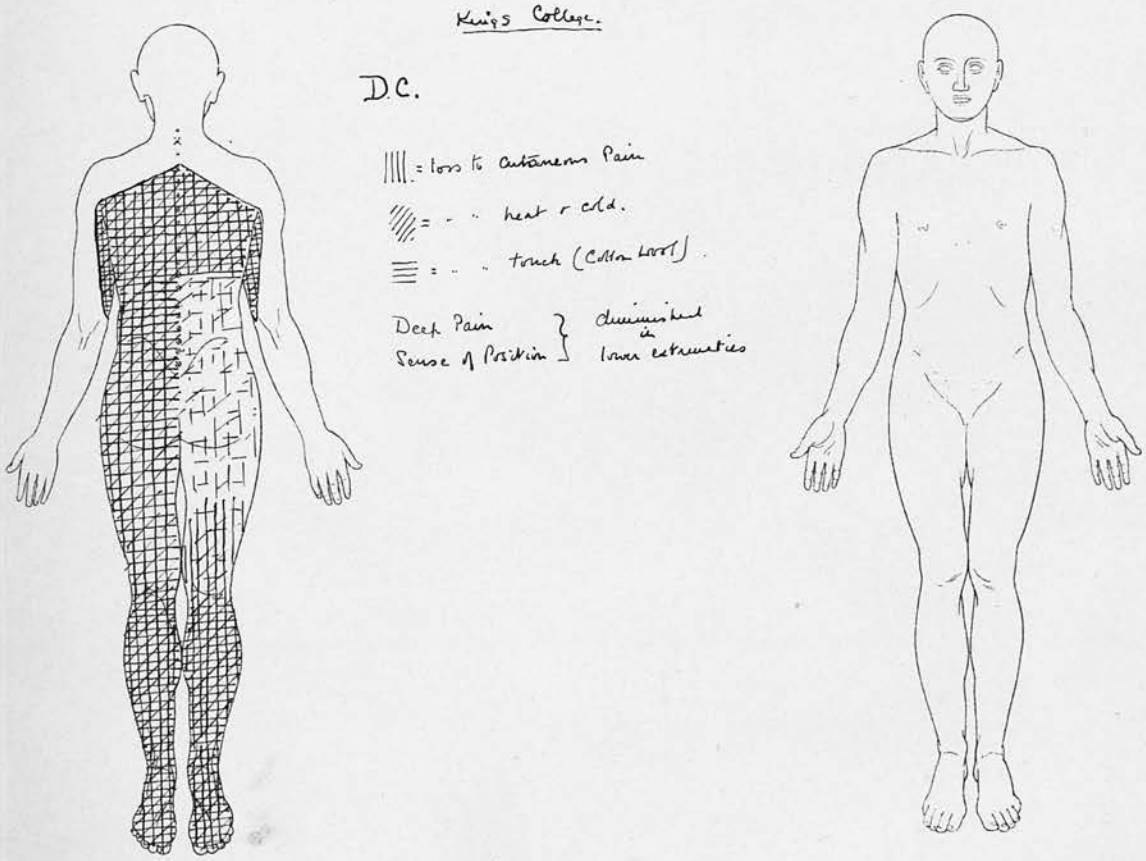
4.2.07. Can walk in the go-cart but tires easily. Sensation normal.

March 07. He could walk a little way without sticks. Still deep reflexes increased with extensor responses.

June 1907. Patient was readmitted into King's College Hospital. He was unable to walk and had incontinence of urine and faeces and severe sensory loss - a local

loss on both sides, and a remote loss to pain, thermal and tactile sensibility on the R. side, with slight impairment on the L.

A second operation was performed. The cord was found compressed by the scar tissue, which was removed, as far as possible. The patient's condition was not improved to any appreciable extent. He afterwards went to an Infirmary.



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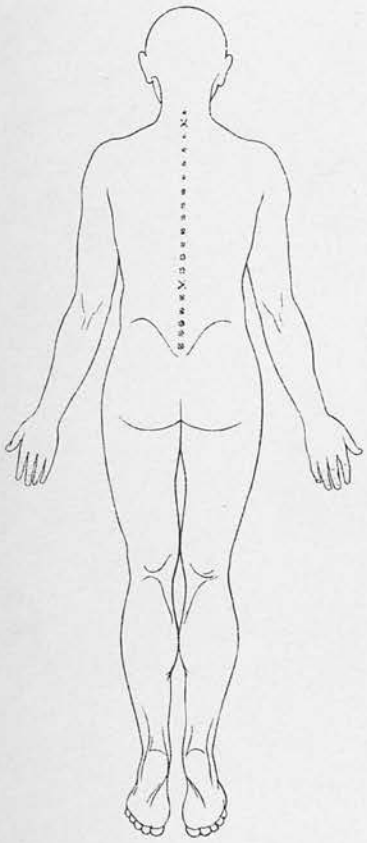
Case LVII

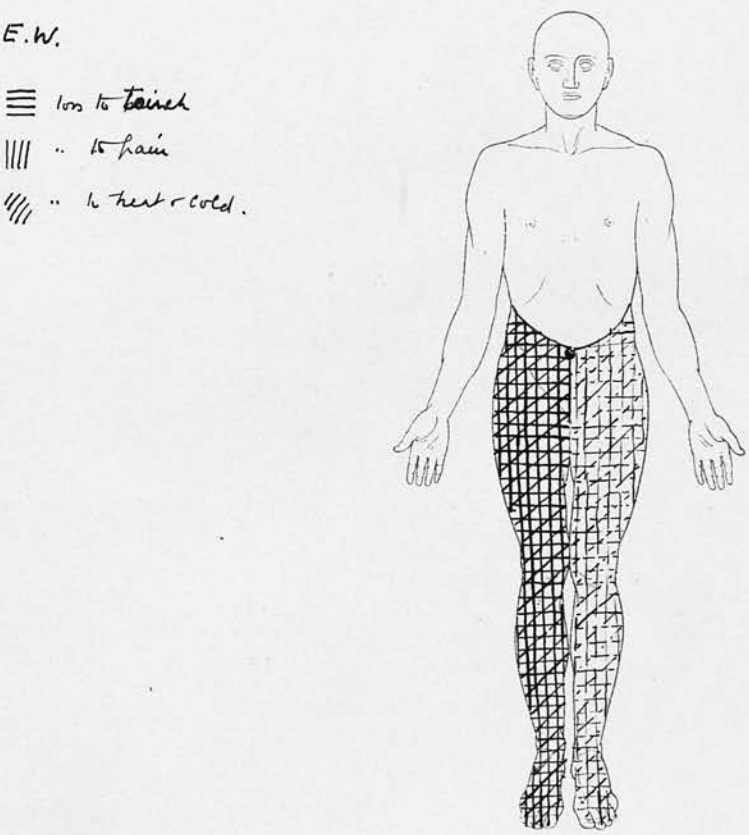
Intra dural Fibro Sarcoma. - Temporary Improvement.

E. W. Female. 46. Sir William Gowers. 1906.

Op. Sir Victor Horsley.

Complaint. Inability to walk, pains in back - sphincter trouble.





Sensory System.

Subjective. Girdle sensation at level of umbilicus, aching pain in back on movement.

Objective. Slight tactile loss on R. side, and complete tactile loss on L. side up to level of umbilicus.
Pain and Temperature almost completely gone on L. side up to level of umbilicus and severely but not completely affected on R. side up to same level, and slightly diminished up to 2 inches above level of umbilicus.

Case LVII

Intra dural Fibro Sarcoma. Temporary Improvement.

E. W. Female. 46. Sir William Gowers. 1906.

Op. Sir Victor Horsley.

Complaint. Inability to walk, pains in back - sphincter trouble.

Previous Health. Rheumatic fever at 20, since then the R. hip stiff and R. leg smaller than L. No history of syphilis.

Present Illness. 18 months ago fell on her buttocks, since then a dull aching pain in back.
7 months ago gradually began to feel numb in L. leg and to drag it.
5 months ago numbness and weakness of R. leg, also sphincter trouble.
2 to 3 months ago girdle sensation round abdomen, much reflex spasms of legs and inability to walk.

State on Admission. 23.12.04.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Slight weakness of lower abdominal muscles.

Lower Extremities. R. leg wasted (old hip disease), spasticity on both sides with generalised weakness, inability to stand or walk.

Sensory System.

Subjective. Girdle sensation at level of umbilicus, aching pain in back on movement.

Objective. Slight tactile loss on R. side, and complete tactile loss on L. side up to level of umbilicus.
Pain and Temperature almost completely gone on L. side up to level of umbilicus and severely but not completely affected on R. side up to same level, and slightly diminished up to 2 inches above level of umbilicus.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee. } Ankle. }	Plus with clonus. ~~both sides~~.	Plus with clonus. ~~both sides~~.
Superficial.			
	Epigastric.	Present above 7th. dorsal.	
	Abdominal.	Absent below 7th. dorsal.	
	Plantars.	Extensor.	Extensor.

Sphincters. Slowness in starting micturition. Rectum constipation with insufficient control when purged.

Spine. No deformity or evidence of disease, tenderness on pressure from 5th. dorsal spine downwards and on abrupt movement of spine. The R. hip is more or less fixed and has a grating sound on m movement.

Operation. 27.1.05. Sir Victor Horsley.

The spines and laminae of the 6th. 7th. 8th. and 9th. dorsal vertebrae were removed. The dura was opened from 8th. dorsal to 10th. dorsal. At lower level the cord was displaced backward and discoloured - it was thought that there was a tumour within the cord; it was then incised in the middle line in the posterior column, but nothing definite was found. On moving the cord to the R. a tumour, pyramidal shaped and attached to the dura was found lying opposite the 6th. dorsal segment on the L. side of the cord. It was scraped away and the wound was swabbed with 1 in 500 perchloride. The dura was partly stitched up and the wound closed.

27.1.05. Patient was collapsed after operation.
28.1.05. Better. R. lower extremity flaccid, L, still some rigidity, no movement. The R. knee and ankle jerks absent, L, increased. Retention of urine.

During the next month the spasticity returned. There was some improvement in condition of R. leg, but no movement possible in L. leg which was very spastic. Perfect sphincter control. Patient grew worse.

Case LVIII

Dural and Intra dural Fibro Sarcoma. Slight Improvement.

L. B. Female. 34. Dr. Risien Russell 1911.

Op. Mr. Armour.

Family History. Mother and one sister died of phthisis.

Previous Health. Tuberculous glands in the neck. She is married and has 6 children four alive and well, one died from heart disease and one had fits and died. No miscarriages.

Present Illness. Feb. 05. A fortnight after birth of 3rd. child began to have pain between shoulders which has persisted since. The pain was aggravated by movement of head and deep breathing.

Oct. 07. A week before confinement of 4th. child had a severe pain in bottom of spine lasting about 3 days, and caused an ineffectual desire to defaecate. The confinement was normal, but the night following the pain came back, but disappeared again next day.

10 days later when she got up she found that her L. leg dragged. She then had a pain in the R. sciatic notch passing down the inside of R. leg to the toe.
The R. leg became weak, and in a month she completely lost the use of both legs and sphincter control, and had diminished sensation as high up as the lower part of the trunk. There was no very material change, patient being confined to a chair and developing a bedsore over the sacrum.

Jan. 10. She was delivered of twins, had severe pains in bottom of back and R. leg. The power in L. leg improved somewhat for a time. Patient experiences great pain when sitting on a hard bottomed chair.

State on Admission. 29.10.11.

Healthy looking woman.

Mental Condition. Normal.

Cranial Nerves. Normal.

Motor System.

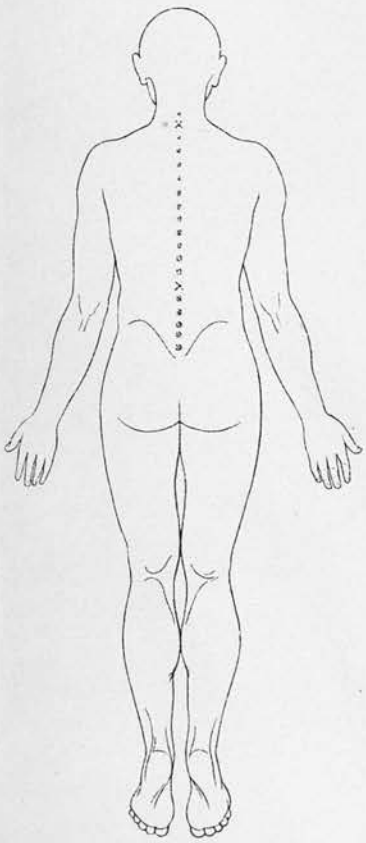
Upper Extremities. Normal.

Trunk. Patient unable to sit up, abdominal muscles flaccid.

Lower Extremities. No wasting, spastic paralysis in both legs, no voluntary movement except in toes of L. foot. Reflex spasms in legs.

Sensory System.

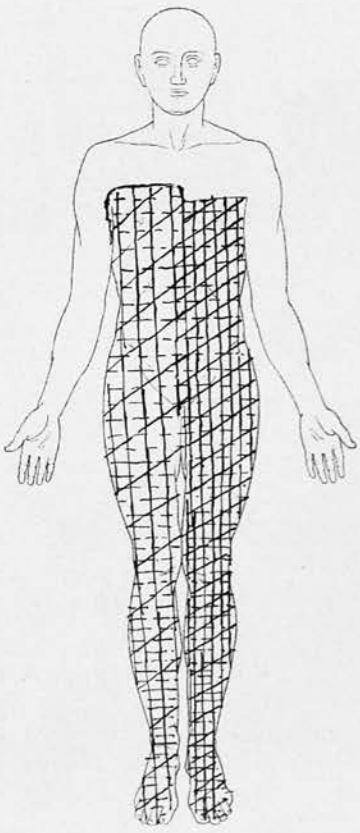
Objective. Tactile sensation blunted on both sides, L. more than R.
Pain. Blunted on both sides L, more than R.
Thermal. Blunted on both sides, L. more than R.
Deep Pain. Defective on L. side, increased on R.
Sense of Position lost in toes but retained at other joints.



L.B.
1911.

= Slight Anaelgesia
= Severe "
= Slight loss of Heat & Cold
= Severe " " " "
= Slight blunting of Touch.

Deep pain diminished Left side
Sense of Position lost in toes of both sides.



State on Admission. 29.10.11.

Healthy looking woman.

Mental Condition. Normal.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Patient unable to sit up, abdominal muscles flaccid.

Lower Extremities. No wasting, spastic paralysis in both legs, no voluntary movement except in toes of L. foot. Reflex spasms in legs.

Sensory System.

Objective. Tactile sensation blunted on both sides, L. more than R.
Pain. Blunted on both sides L, more than R.
Thermal. Blunted on both sides, L. more than R.
Deep Pain. Defective on L. side, increased on R.
Sense of Position lost in toes but retained at other joints.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Brisk.	Brisk.
Knee.	Plus with clonus.	Plus with clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Incontinence of urine.

Spine. Some prominence of lower dorsal spines, but no definite deformity, no pain on movement of spine. Patient has a pain in R. sciatic notch, when she is lying down and turns over. Painful on deep pressure.

On examination. No evidence of T.B. or malignant disease was found.

Operation. 6.4.11. Mr. Armour.

The spines and laminae of the 1st. 2nd. 3rd. 4th. and 5th. dorsal vertebrae were removed. Opposite the 2nd. and 3rd. dorsal vertebrae the dura was distended

and of a mottled purplish colour - above and below everything appeared normal. The dura was incised above and below this area and was found to be adherent opposite the 2nd. and 3rd. dorsal vertebrae to a tumour which was lying on its inner surface. The dura was then incised over the tumour, and by blunt dissection it was separated from above downwards on L, side from the subjacent tumour. When this was done the surface of the tumour appeared smooth and lobulated, as was also the inner aspect of the dura. The tumour was then lifted away from the cord which was lying in front of it and much flattened. It was turned over to the R. side, the tumour being firmly adherent to the dura. The tumour was removed by cutting away the dura where it was attached to it, and this necessitated dividing the 2nd. and 3rd. dorsal posterior roots.

The cut edges of the dura appeared normal and there was no evidence of growth being left behind. The opening in the dura was too wide to be closed, so the wound was closed with two layers of deep, and one of superficial sutures.

After the operation patient had complete incontinence and flaccid paralysis of voluntary movement. R. less spastic than L.

Total sensory loss up to and including 4th. dorsal on R. and 5th. dorsal on L.

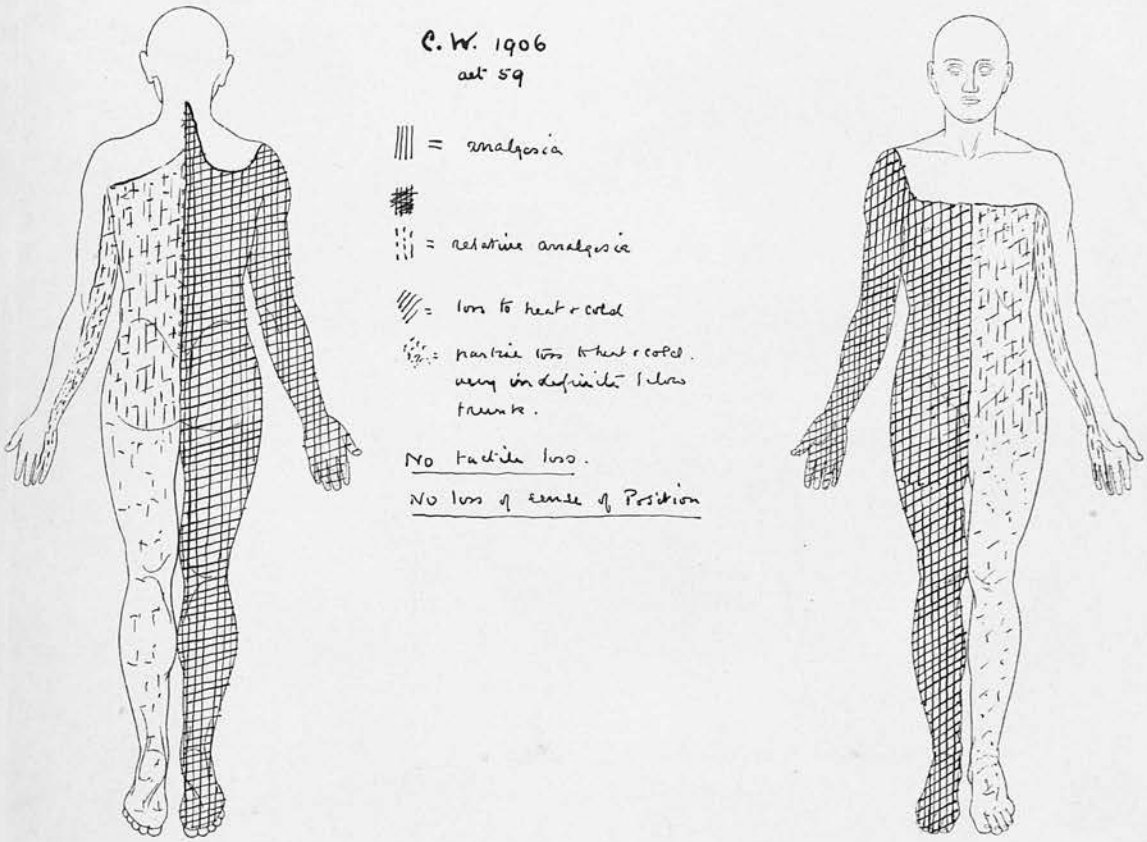
Reflexes were as before.

Sphincters still not under control - improved.

Case LIX

Intra dural Fibro Sarcoma. Died. no operation

C. W. Male. 59. Dr. Ferrier. 1906.



no definite weakness in R. side.

Sensory System.

Objective. Loss to pain and thermal sensibility on R. side from below level of 4th. cervical area. Slight blunting to pain and thermal sensibility on upper side of thorax and L. arm. No tactile loss, no loss of sense of position.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Brisk.	Brisk.
Knee.	"	"
Ankle.	"	"
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Some difficulty in passing water.

Case LIX

Intra dural Fibro Sarcoma. Died - no operation

C. W. Male. 59. Dr. Ferrier. 1906.

Family History. Nil.

Previous Health. Denies venereal disease - had intermittent fever at 45.

Present Illness. 18 months ago when walking "something gave way" in L, leg and foot, he fell down two or three times and had to be assisted home.
12 months ago suffered from reflex spasms in L, leg at night. Later he noticed weakness of the L. arm. This gradually increased so that he had a fairly complete spastic paralysis of L. arm and leg, with spastic weakness of R. leg and sphincter trouble.

State on Admission.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Spastic weakness of L.

Trunk. Spastic weakness of L, side of trunk and abdomen.

Lower Extremities. Spastic weakness of L, leg, no definite weakness in R. side.

Sensory System.

Objective. Loss to pain and thermal sensibility on R. side from below level of 4th. cervical area. Slight blunting to pain and thermal sensibility on upper side of thorax and L. arm. No tactile loss, no loss of sense of position.

Reflexes.

	Deep.	Right.	Left.
	Arm.	Brisk.	Brisk.
	Knee.	"	"
	Ankle.	"	"
	Superficial.		
	Epigastric.	Absent.	Absent.
	Abdominal.	"	"
	Plantars.	Extensor.	Extensor.

Sphincters. Some difficulty in passing water.

July 15.06. Patiant had become much worse - drowsy, breathing very difficult. Diaphragm inactive - costal movements feeble. Complete paralysis of L. arm and leg - severe paralysis of R. leg and also of R. arm.
All deep reflexes increased, Epigastric and abdominal absent, Plantars extensor. Incontinence of urine and faeces. Sensation could not be properly tested, owing to patient's condition.
20.7.06. Patient died.

Post Mortem.

Spinal Cord only. Intra dural tumour fibro = sarcoma was found lying attached to the 4th. posterior cervical root, tumour measured 1¾ cm. by 1½ by 1½ cm. It was slightly adherent to the dura but firmly adherent to 4th. cervical root. It pressed upon the L. half of the posterior aspect of the cord which was indented.

The tumour was incapsulated fibro sarcoma with spindle shaped whorls ∴ descending degeneration of pyramidal tracts. Segments higher than 4th. cervical were not permitted to be taken.

Case LX

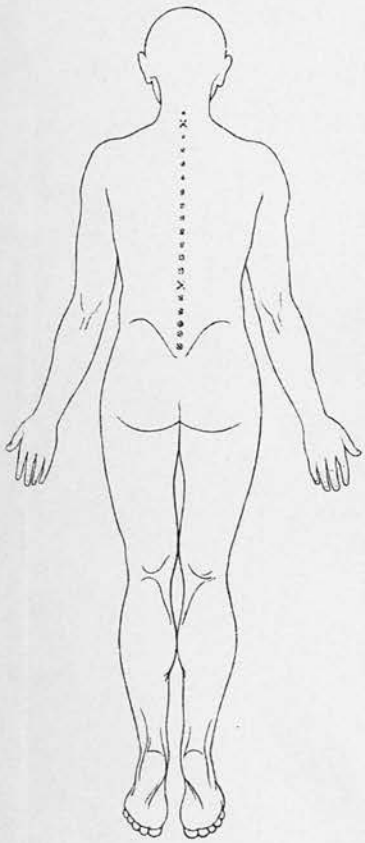
Intra dural Fibro Sarcoma. Improved after operation. died 6 months later from chronic Septic meningitis

Dr. Beevor 1904.

Op. Mr. Ballance.

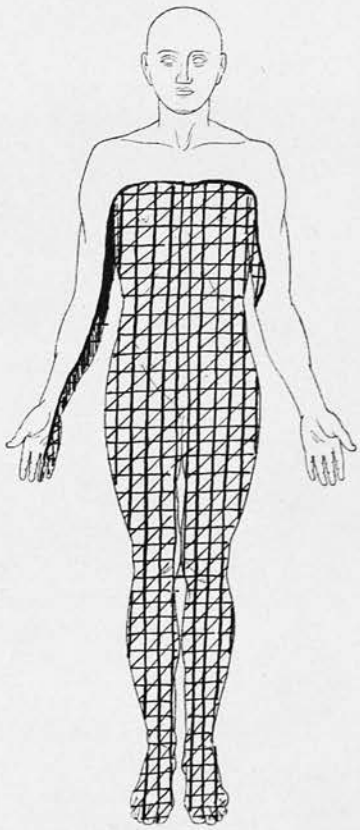
T. S. aet 41.
Male.

Complaint.	Loss of power in legs and feet.
Duration.	1 year.
Fam. History.	Good.
Prev. Health.	Gonorrhoea at 21 and 39.
Pres. Illness.	Started with stinging pain in the ulna side of hand. extending up inner side



T.S. male 41.
1904.

■ complete cutaneous sensory loss.
▦ almost complete " "
▨ relative loss to. Touch. Pain. Thermal.



Sensation.	Subjective. Now no pains in arms but occasionally numbness and cramps in legs.		
	Objective. Sensory loss from the 8th Cervical on the R. side and from the 2nd Dorsal on L.		
Reflexes.	Deep.	Right	Left
	Arm Jerks	normal	normal
	Knee "	plus clonus	plus clonus
	Ankle "	" "	" "
	Superficial.		
	Epigastric	absent	absent
	Abdominal	absent	absent
	Cremasteric	absent	absent

Case LX

Intra dural Fibro Sarcoma. Improved after operation - died 6 months later from chronic Septic meningitis

Dr. Beevor 1904.

Op. Mr. Ballance.

T. S. aet 41.
Male.

Complaint. Loss of power in legs and feet.
Duration. 1 year.
Fam. History. Good.
Prev. Health. Gonorrhoea at 21 and 39.
Pres. Illness. Started with stinging pain in the ulna side of hand, extending up inner side of forearm to the back. Pain became so severe that patient was unable to lift his arm to a right angle from the body, but could write quite well.
10 months ago - Reflex spasms in legs
6 months ago - Weakness of L. leg and a fortnight later of R., both became spastic and he commenced to have difficulty in starting micturition. The little finger in R. hand went numb.
3 months ago - numbness in legs.

On Admission. 10.6.03.

Cranial Nerves. Nystagmus on lateral deviation to L.
Motor System. Mental condition and Neck movements - normal.
Upper Extremities - Wasting of R. arm especially small hand muscles and ulna side of forearm and to a less extent in L. arm.
Thorax - Intercostal movements impaired Diaphragm normal.
Trunk - Weakness of abdominal and trunk muscles.
Lower Extremities - No voluntary movement in either. Spastic contractures commencing on both sides. Reflex spasms frequent.

Sensation. Subjective. Now no pains in arms but occasionally numbness and cramps in legs.
Objective. Sensory loss from the 8th Cervical on the R. side and from the 2nd Dorsal on L.

Reflexes.		Right	Left
Deep.	Arm Jerks	normal	normal
	Knee "	plus clonus	plus clonus
	Ankle "	" "	" "
Superficial.			
	Epigastric	absent	absent
	Abdominal	absent	absent
	Cremasteric	absent	absent

		R.	L.
	Plantars	extensor	extensor
Sphincters.	Difficulty in starting micturition Constipation.		
Spine.	Normal.		

Operation. 29.10.03. Mr. Ballance.

Spines and laminae of the 7th Cervical and 2nd Dorsal inclusive removed, nothing outside the dura. The dura appeared thickened, on opening it a tumour was found attached to the 2nd Dorsal R. posterior root. It extended over the Dorsal surface of the cord but did not reach the L. posterior root. It was a little over an inch long and extended upwards to 8th Cervical segment. The cord was slightly compressed, both sides equally. The tumour was removed.
The wound went septic and although the patient improved somewhat he eventually died 3.4.04.

Post Mortem.

Suppurative Meningitis, strepto coccus pyogenes Gram positive bacillus, large diplococcus.
Scar tissue not adherent to dura. Dura adherent to cord from the 6th Cervical to 4th Dorsal. Not much pressure on cord but it was altered in shape being circular instead of oval. Below and above the pachy meningitis there was a non suppurative lepto meningitis of chronic appearance. The ventricles of the Brain were dilated.

No tumour growth found.

Case 106.

Sarcoma of Spine.

L. R. male aet 16.

Dr. Taylor 1911.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Good. At 10 fell over a bridge and hurt R. thigh, got quite well.

Present Illness. 6 weeks later was knocked down at football, had severe pain in R. leg down back of thigh. In bed for 6 weeks then admitted to Middlesex Hospital, where he remained for 6 months. He was sent to the Margate Sea Bathing Hospital, and while t there developed deformity in the lumbar region.
At 11 treated in Paddington Green- put in a double Thomas' splint. Back became straight.
At 12 had measles. Legs became contracted and lost sensation and control over bladder, unable to walk.
6 weeks ago he fell out of a bath chair, did not feel any pain in his back, but Mother noticed increase in the deformity since then.

State on Admission. 16.9.10.

Large swelling in lumbar sacral region, middle line.

Cranial Nerves. Normal.

Motor System.

Head & Neck Normal

Arms & Trunk Normal

Lower Extremities. No voluntary power.

Sensory System No sensory loss.

Reflexes. Deep. Arm normal
Knee absent
Ankle absent

Superficial.
Epigastric & abdominal normal
Plantar absent.

Sphincters. Reflex incontinence of urine.

Spine. Large swelling in lumbar sacral region - middle line. Tender on pressure.

20.10.10. Since admission has developed definite but incomplete sensory loss over all sacral areas and over 4th and 5th Lumbar L. leg add 4th lumbar R. leg.

27. 11.10. Operation. Mr. Armour.

Tumour was a sarcoma eroding the lower lumbar vertebrae and sacrum. As much as possible was removed. He was discharged 5.1.11. Improved no material change.

Case LXI

Intra dural Extra medullary. Myxo-fibroma. Some improvement.

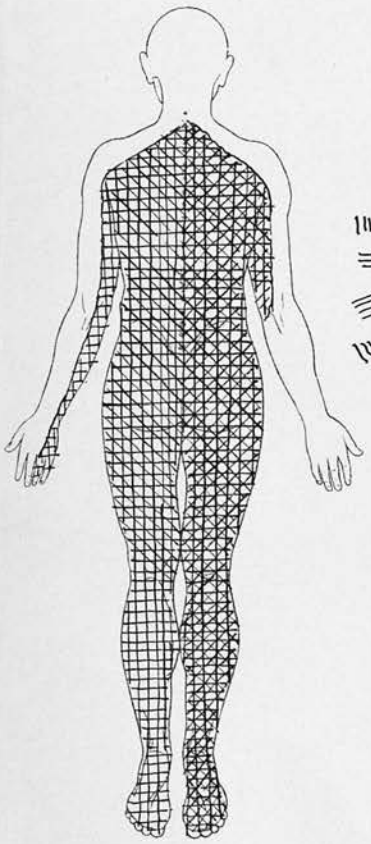
M. A. H. aet 57. Female. Sir William Gowers 1908

Op. Sir Victor Horsley.

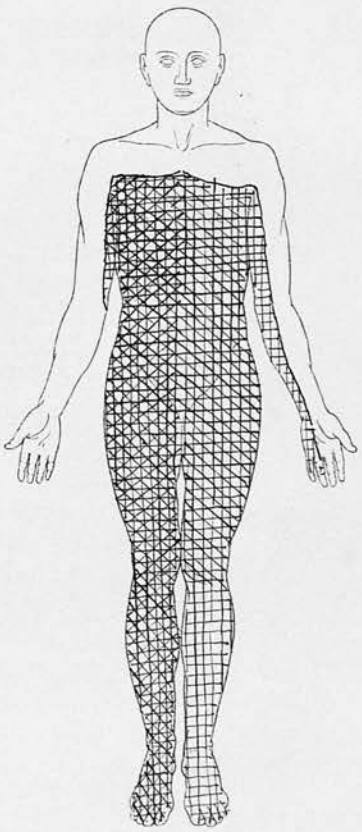
Fam. History — Father died of cerebral tumour. Mother and 1 brother died of consumption.

Prev. Health. — 1890 Tumour removed from abdomen ? situation and nature.
1898 2nd Tumour removed from abdomen.

Pres. Illness — 4 years ago pain between shoulders



III = Analgesia
≡ = Anaesthesia
≡ = loss to heat
III = loss to cold



touch below the 1st Dorsal segment on R. side and below the 7th Cervical on L. side.
Loss to heat and cold on R. side.
Loss to cold on L. side to the knee.

Reflexes.

Deep	Right	Left
Arm Jerks	Normal	Normal
Knee "	not obtained	(contracture)
Ankle "	"	"
Superficial		
Epigastric	absent	absent
Abdominal	absent	absent

Case LXI

Intra dural Extra medullary. Myxo-fibroma. Some improvement.

M. A. H. aet 57. Female. Sir William Gowers 1908

Op. Sir Victor Horsley.

Fam. History — Father died of cerebral tumour. Mother and 1 brother died of consumption.

Prev. Health. — 1890 Tumour removed from abdomen ? situation and nature.
1898 2nd Tumour removed from abdomen.

Prs. Illness — 4 years ago pain between shoulders and down arm L. to hand, soon after gait became affected, she dragged her legs.
2 years ago operation at St. Bartholomew's Hospital by Mr. Bowlby nothing found.
18 months ago tumour removed from the Cervical region by Sir Victor Horsley. Before the operation there was complete paralysis and loss of sensation in the trunk and legs and loss of sensation on the ulna side of both upper extremities, also sphincter incontinence.
After the operation she improved, sphincters became normal, sensibility improved, improvement in the legs which were very contracted.

On Admission into Queen Square 2,9,07.

The patient had Tenotomy of the ham strings.

Cranial Nerves — Normal except deafness in the L. ear.

Motor System. — Head Neck and Arms - normal
Lower Extremities - Spastic contracture, slight movement at knee.

Sensation. — Subjective - nil.
Objective - loss to pin-prick and light touch below the 1st Dorsal segment on R. side and below the 7th Cervical on L. side.
Loss to heat and cold on R. side.
Loss to cold on L. side to the knee.

Reflexes.

Deep	Right	Left
Arm Jerks	Normal	Normal
Knee "	not obtained	(contracture)
Ankle "	"	"
Superficial		
Epigastric	absent	absent
Abdominal	absent	absent

Case LXII

Intra dural Extra medullary. Fibro myxo Sarcoma. Some improvement.

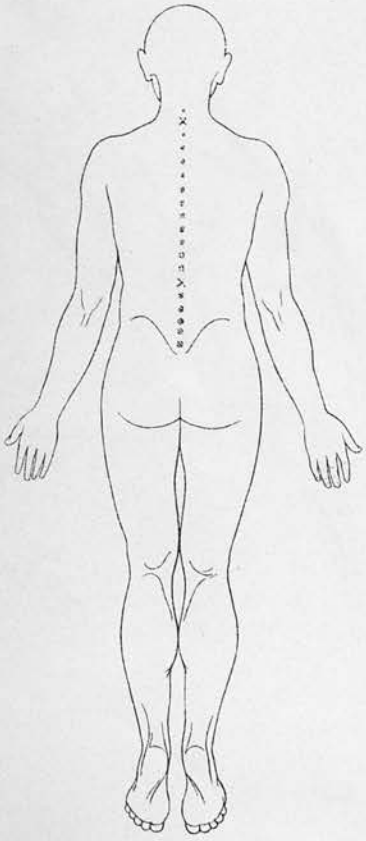
M. E. 28 Female. Dr. Beevor 1904

Op. Sir Victor Horsley.

Fam. History	Good
Prev. Health	Spinal Caries 10 - 15, rest and extension.
Pres. Illness	18 months pain in R. Foot
	12 months weakness of R. leg
	6 months spasm of R. leg
	2 months spasm of L. leg
	1 month weakness of L. leg
	14 days Sphincter trouble.

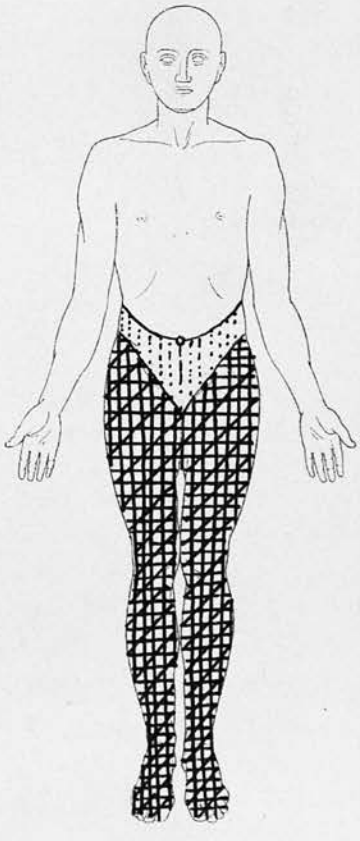
On Admission 28.4.04.

Cranial Nerves	Normal
Motor System	Head and Neck and Upper Extremities - normal
	Trunk - weakness of lower abdominal muscles
	Lower Extremities - Spastic weakness of both legs, R. more than the L. Can walk with assistance.
Sensation.	Relative Sensory loss to level of 9th Dorsal. Complete loss to pain, tactile and thermal stimuli below 12th Dorsal



M.E.
1904.

≡ = loss to touch (Cas)
≡ = " " pain (Pin)
≡ = " " heat & Cold.
≡ = slight selective loss.



Case LXII

Intra dural Extra medullary. Fibro Myxo Sarcoma. Some improvement.

M. E. 28 Female. Dr. Beevor 1904

Op. Sir Victor Horsley.

Fam. History	Good
Prev. Health	Spinal Caries 10 - 15, rest and extension.
Pres. Illness	18 months pain in R. Foot 12 months weakness of R. leg 6 months spasm of R. leg 2 months spasm of L. leg 1 month weakness of L. leg 14 days Sphincter trouble.

On Admission 28.4.04.

Cranial Nerves	Normal
Motor System	Head and Neck and Upper Extremities - normal Trunk - weakness of lower abdominal muscles Lower Extremities - Spastic weakness of both legs, R. more than the L. Can walk with assistance.
Sensation.	Relative Sensory loss to level of 9th Dorsal. Complete loss to pain, tactile and thermal stimuli below 12th Dorsal area.

Reflexes. Deep.	Right	Left
Arm Jerks	normal	normal
Knee Jerks	plus	plus
Ankle Jerks	plus clonus	plus clonus
Superficial		
Epigastric	absent	absent
Abdominal	absent	absent
Plantar	extensor	extensor

Sphincters	Retention and overflow, constipation.
Spine.	Old Kyphosis, no tenderness on pressure.

Operation. 24.7.04. Sir Victor Horsley.
Spines and laminae of the 7th to 10th Dorsal vertebrae removed. A tumour was found lying inside the dura in the posterior aspect of the cord, extending downwards from the 7th Dorsal segment. The tumour was solid and portions of it were of a gelatinous nature, it was about 4 inches long and more or less spindle shaped; it was attached to the arachnoid. The wound was closed.

24.9.04. Sensory loss if anything a little less severe but no improvement in the condition of the legs or sphincters.

Case LXIII

Extra dural Sarcoma. Died 3 months after operation.

F. H. Male. 49. Dr. Ferrier. 1905.

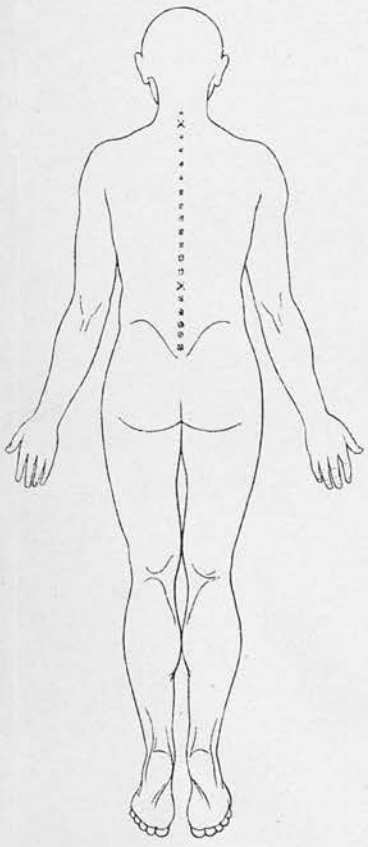
Op. Mr. Ballance.

Complaint. Loss of power in legs.

Previous Health. Good.

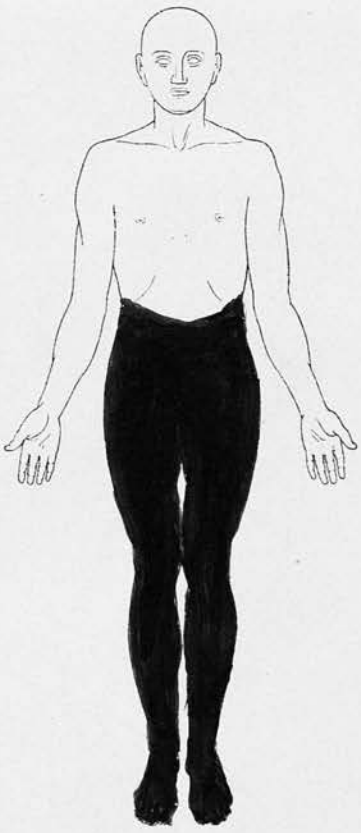
Family History. Good.

Present Illness. 9 months ago began to suffer from pain in the back - mid-dorsal region - not very severe and not constant.



F.H. 49
7.4.05

Sensory Loss Complete in black area.



Electrical Reaction. Muscles react well to Faradism.

Sensory System.

Subjective. Girdle pain below the umbilicus.

Objective. Complete loss of all forms of sensibility up to the level of the umbilicus.

Case LXIII

Extra dural Sarcoma. Died 3 months after operation.

F. H. Male. 49. Dr. Ferrier. 1905.

Op. Mr. Ballance.

Complaint. Loss of power in legs.

Previous Health. Good.

Family History. Good.

Present Illness. 9 months ago began to suffer from pain in the back - mid-dorsal region - not very severe and not constant.
5 months ago began to suffer from severe radiating pain which came round the R. side of the chest into the R. Hypogastrium. This caused him to give up work. (He was treated for appendicitis). The pain gradually disappeared with rest.
3 months ago the radiating pain returned. He was operated on (Abdominal section) but nothing found. He then noticed progressive weakness of both legs, a feeling of numbness from the feet to the waist and retention of urine.
1 month ago ~~retention~~ incontinence of urine and pain in both legs

State on Admission. General condition good.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. The lower half of each Rectus Abdominis fails to contract.

Lower Extremities. Both are completely paralysed. Muscles becoming flaccid - weak reflex spasms still occur.

Electrical Reaction. Muscles react well to Faradism.

Sensory System.

Subjective. Girdle pain below the umbilicus.

Objective. Complete loss of all forms of sensibility up to the level of the umbilicus.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Absent.	Absent.
Ankle.	"	"
Superficial.		
Epigastric.	Present.	Present.
Abdominal.	Absent.	Absent.
Cremasteric.	Absent.	Absent.
Plantars.	"	"

Sphincters. Incontinence of urine and faeces - no sensation.

Spine. No deformity, no tenderness on pressure.

Viscera. Healthy.

Operation. 16.4.05. Mr. Ballance.

The spines and laminae of 6th. 7th. 8th. and 9th. dorsal vertebrae were removed. Nothing found abnormal outside the dura. On opening the dura the cord was found to be surrounded by a firm (sarcomatous) growth adherent to the lepto meninges and dura in places, but easily stripped off. Some, but not all of the growth was removed.

3 months later. Patient died. Had a bedsore over the sacrum. Cystitis and double pyo nephrosis.

Post Mortem. 18.7.05.

At the site of the operation there was a large mass of dense scar tissue. The dorsal aspect of the dura was covered by a mass of pinkish grey growth which extended across and was adherent to the lateral aspects of the vertebral canal and extended into the intravertebral foramina. The dura was also adherent to the posterior surface of the bodies of the vertebrae, but the growth did not infiltrate the bones. The cord and membranes were found normal above the level of the 9th. dorsal segment. Below this level there was thickening of the arachnoid and dura and from the 10th. dorsal to the 1st. lumbar segment they could not be separated from the cord. On cross section the arachnoid and dura were found to be infiltrated with growth and completely surrounding the cord but not infiltrating it. There was a larger mass situated on the R. side of the cord at the level of the

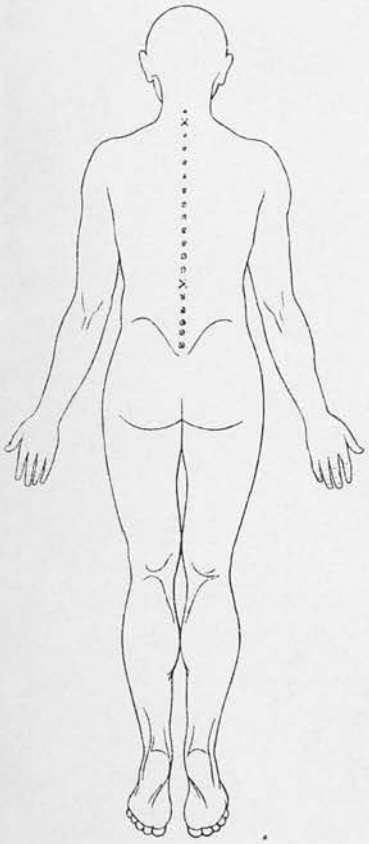
12th. dorsal and 1st. lumbar segments, this did not surround the cord, but there was softening of the cord at this level. The lower lumbar and sacral cord and meninges were normal. On microscopical examination the growth was found to be invading the cord along the vessels, but not extensively.

There was a small carcinomatous tumour in the Gall bladder. No growth in the abdomen. Adhesions were present at the seat of the old separating wound, but nothing otherwise abnormal.

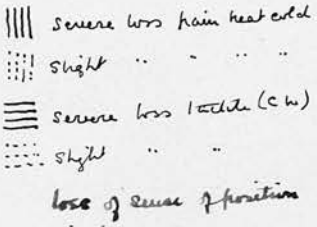
Case LXIV

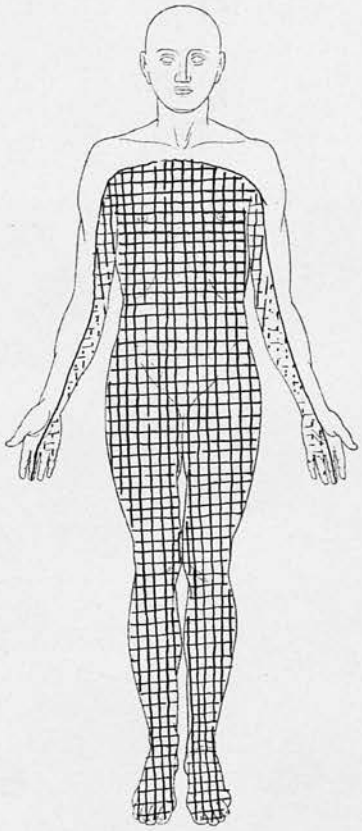
Intra dural Extra Medullary. Myxo Sarcoma. Died 8 weeks after operation Extension of growth to medulla.

E. E. Female. 29. Sir William Gowers. 1910.



E.E. 1910.





flexor spasms.

Sensory System. Loss of cutaneous sensibility below 1st. dorsal - impaired over 8th. cervical and 1st. dorsal.
Loss of sense of position in legs.

Reflexes.

	Right.	Left.
Deep.		
Jaw.	Plus.	Plus.
Triceps.	Absent.	Absent.
Supinator.	Plus.	Plus.
Knee.	" plus.	" plus.
Ankle.	" "	" "
	clonus.	clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Incontinence , occasional retention.

Case LXIV

Intra dural Extra Medullary. Myxo Sarcoma. Died 8 weeks after operation. Extension of growth to medulla.

E. E. Female. 29. Sir William Gowers. 1910.

Op. Sir Victor Horsley.

Family History. Nil.

Previous Health. Good.

Present Illness. 5½ years ago pain in the back of neck. Heaviness and numbness of legs.
5 years ago weakness of L. arm
4½ years ago weakness of L. leg, later of R. leg with sphincter trouble and some sensory loss.
2 years ago weakness of R. arm.
1 year ago unable to walk.

State on Admission. 1.11.09.

Motor System.
Shoulder. Movements normal.
Upper Extremities. Weakness of forearm and hand muscles, no wasting.
Trunk. Weakness of Recti Abdominis and Erector Spinae.
Lower Extremities. Cannot stand or move either limb. Marked spasticity, especially of L. leg - no wasting. Occasional flexor spasms.
Sensory System. Loss of cutaneous sensibility below 1st. dorsal - impaired over 8th. cervical and 1st. dorsal.
Loss of sense of position in legs.

Reflexes.

	Right.	Left.
Deep.		
Jaw.	Plus.	Plus.
Triceps.	Absent.	Absent.
Supinator.	Plus.	Plus.
Knee.	" plus.	" plus.
Ankle.	" "	" "
	clonus.	clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Incontinence , occasional retention.

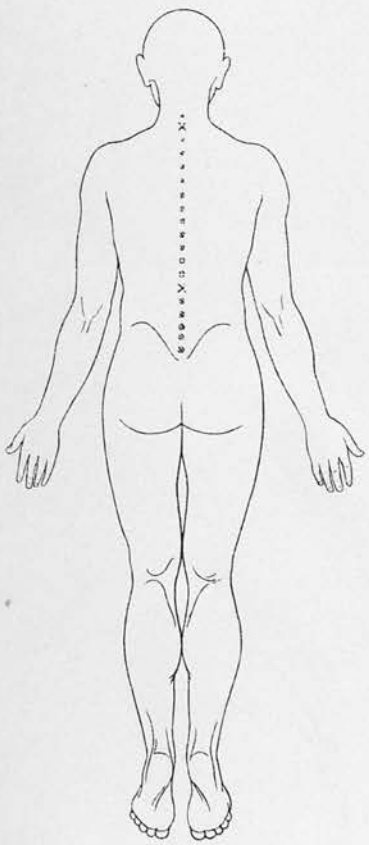
Spine. No tenderness on pressure. X ray regative.

Operation. 1.2.10. Sir Victor Horsley.

The spines and laminae of the 7th. cervical, and 1st. 2nd. and 3rd. dorsal vertebrae were removed. Nothing was found outside dura. Dura very tense. On opening dura a soft tumour appeared in the opening, it was lying posterior and to the L, of the cord which was flattened. The tumour was attached to the lepto meninges and was 4 inches long and 2 inches in its widest part. In order to remove it the 2nd. and 3rd. L, dorsal posterior roots had to be cut. The tumour was a myxo sarcoma.

3.2.10. Patient recovered well from the operation, but had total incontinence.

27.2.10. Patient began to suffer from peculiar attacks. Eyes became fixed and staring, pulse slow (40). Respiration sighing and irregular. Colour becomes pale, duration 5 to 20 minutes. Then a deep



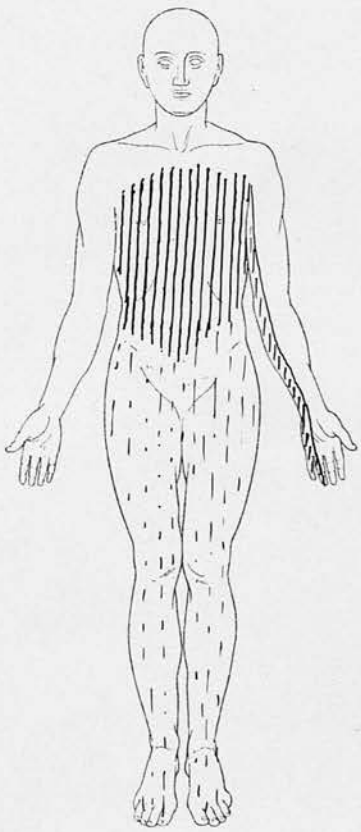
E.E.

3.3.10

Analgesia

III = absolute

III = relative.



Spine. No tenderness on pressure. X ray negative.

Operation. 1.2.10. Sir Victor Horsley.

The spines and laminae of the 7th. cervical, and 1st. 2nd. and 3rd. dorsal vertebrae were removed. Nothing was found outside dura. Dura very tense. On opening dura a soft tumour appeared in the opening, it was lying posterior and to the L, of the cord which was flattened. The tumour was attached to the lepto meninges and was 4 inches long and 2 inches in its widest part. In order to remove it the 2nd. and 3rd. L, dorsal posterior roots had to be cut. The tumour was a myxo sarcoma.

3.2.10. Patient recovered well from the operation, but had total incontinence.
27.2.10. Patient began to suffer from peculiar attacks. Eyes became fixed and staring, pulse slow (40). Respiration sighing and irregular. Colour becomes paler, duration 5 to 20 minutes. Then a deep sigh and patient recovered. Corneal reflex only occasionally lost, no dilatation of the pupils.

Post Mortem.

Operation wound in lower cervical and upper dorsal region. Within the dura but external to the spinal cord, chiefly on the dorsal aspect and slightly on the ventral, was found to be a myxo sarcoma which extended from 6th. cervical to 3rd. dorsal segments, but on microscopical examination was found to extend up in the lepto meninges as high as the medulla, and as low down as the lower dorsal segments. The growth did not extend along the posterior roots. There was no tumour found anywhere in the viscera.

On examination of the cord ascending degeneration from the lower cervical posterior roots as far as the Rectiform body. Anterior roots and lower cervical segment also degenerated. Secondary degeneration in the pyramidal tracts both sides.

Case LXV

Intra dural Extra medullary Sarcoma. Died 3 months after operation no improvement.

K. T. Female. 27. Sir William Gowers. 1909.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Ulcerated stomach when 18.
3 years ago had two falls on spine, no immediate bad effect.
2 years ago began to limp, weakness in R. leg.

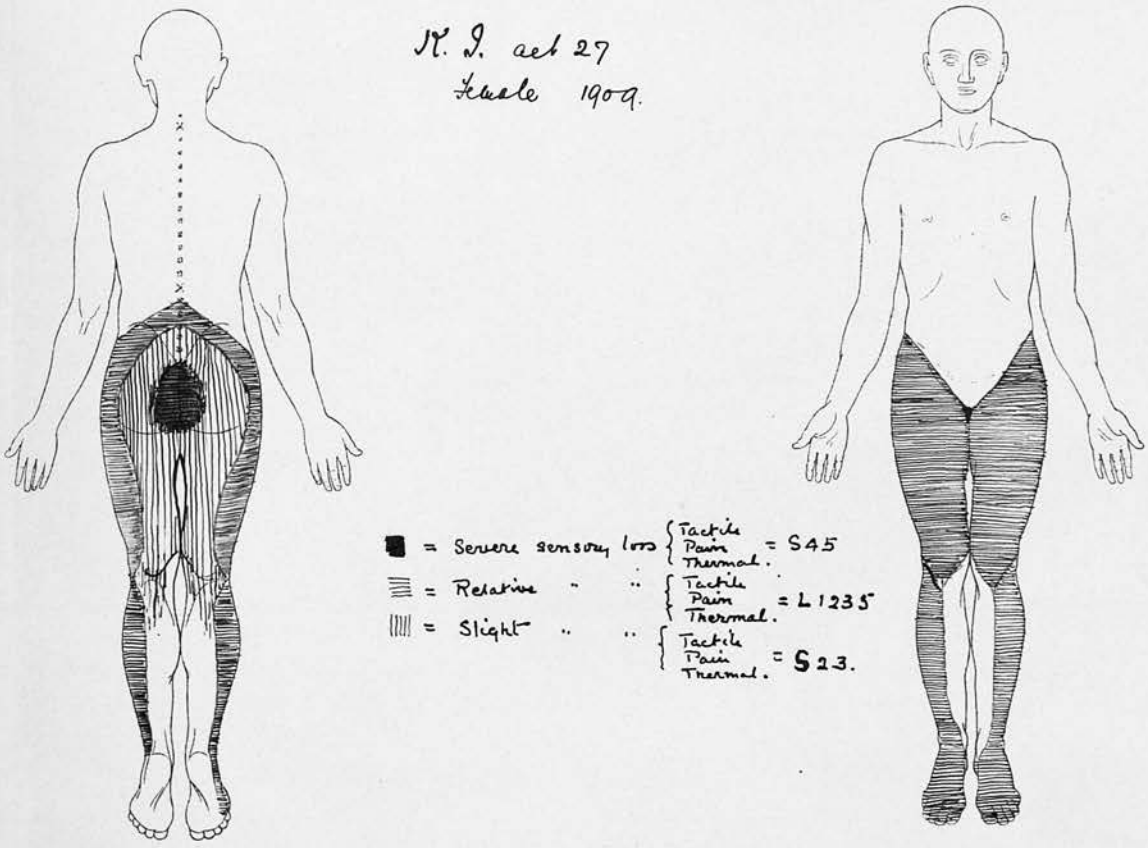
Present Illness. Pain in R. hip and to some degree also in back. Loss of power in R. leg was progressive.
5 months ago L. leg became affected, very rapid loss of power with much pain in lower part of back, shooting round L. side of abdomen. Much sphincter precipitance - some incontinence of faeces.

State on Admission.

Mental State. Normal.
Cranial Nerves. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. "
Trunk. Weakness of lower part of Recti Abdominis.
Lower Extrdmities. R. Complete paralysis, general wasting of the whole leg and special wasting of the muscles of the upper 3rd. of thigh - muscles flaccid.
L. Complete paralysis at hip and knee joint - some movements possible at ankle. Patient cannot stand or walk.
Sensory System.
Subjective. Burning pain round the front of the abdomen below the umbilicus, constant, but made worse by movement.

Sensory System (cont.)

Objective. Sensory loss to cutaneous sensibility over the thighs, buttocks, and outer aspects of legs. No loss to deep



roots. The highest root affected was the 2nd. lumbar.

1.7.09. Patient died.

Post Mortem. A tumour extended from the dorsal aspect of the cord at the level of the 11th. dorsal segment to the lower end of the lumbar enlargement. The tumour was sub-dural and extra medullary.

In the upper part of this area there was a gelatinous soft tumour 2½ inches long. It was attached to the cord from the centre to the lower end and had infiltrated it. The cauda equina was also infiltrated. The nature of the tumour was a round celled sarcoma. No examination of body was made.

Sensory System (cont.)

Objective. Sensory loss to cutaneous sensibility over the thighs, buttocks, and outer aspects of legs. No loss to deep pain, very little loss of sense of position.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Absent.	Absent.
Ankle.	"	"
Superficial.		
Epigastric.	Diminished.	Diminished.
Abdominal.	"	"
Plantar.	Absent.	Extensor.

Sphincters. Precipitancy of urine, incontinence of faeces.

Spine. Some rigidity of lumbar spines, no irregularity noticed.

Operation. 2.4.09. Mr. Armour.

The spines and laminae were removed from 9th. to 12th. dorsal inclusive. Nothing found outside the dura, but there was some bulging backwards of the dura from opposite the 10th. dorsal spine downwards. On opening the dura a tumour was found pressing the cord and posterior roots backwards. The tumour lay on the anterior surface of the cord and spread along the anterior and posterior roots. The highest root affected was the 2nd. lumbar.

1.7.09. Patient died.

Post Mortem. A tumour extended from the dorsal aspect of the cord at the level of the 11th. dorsal segment to the lower end of the lumbar enlargement. The tumour was sub-dural and extra medullary.

In the upper part of this area there was a gelatinous soft tumour 2½ inches long. It was attached to the cord from the centre to the lower end and had infiltrated it. The cauda equina was also infiltrated. The nature of the tumour was a round celled sarcoma. No examination of body was made.

Case LXVI

Intra dural Sarcoma. Died 4 months after operation. Septic meningitis

E. B. Female. 19. Sir William Gowers. 22.4.04.

Op. Sir Victor Horsley.

Complaint. Loss of power in legs - sphincter trouble.

Duration. 2½ years.

Family History. Good.

Previous Health. Good.

Present Illness. 2½ years ago for 3 weeks had pain in lumbar region of the back.

2 years ago pain recurred, more severe and constant, could not keep still with it. Sharp pain "caught me when I bent my head - I could not stoop down".

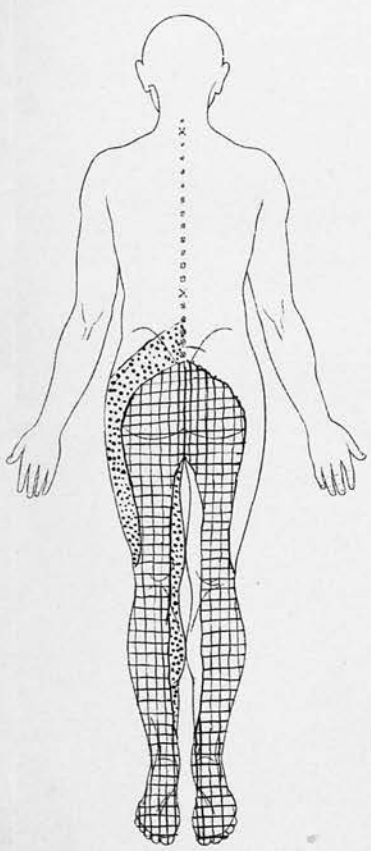
3 - 4 months later pain began to radiate down the back of her L. thigh as far as the knee - sharp and severe - worse on movement, could not fully straighten her leg.

5 months later (In bed with spinal jacket) Pain in small of back and down both legs L, more than R., dull and aching, often sharp, worse on movement. At first it only radiated down L. thigh to knee, later down the shin bone.

5 months later (Weir Mitchell for 6 weeks) muscles began to get flabby - wasted since.

13 months ago Coccyx and clitoris were removed.

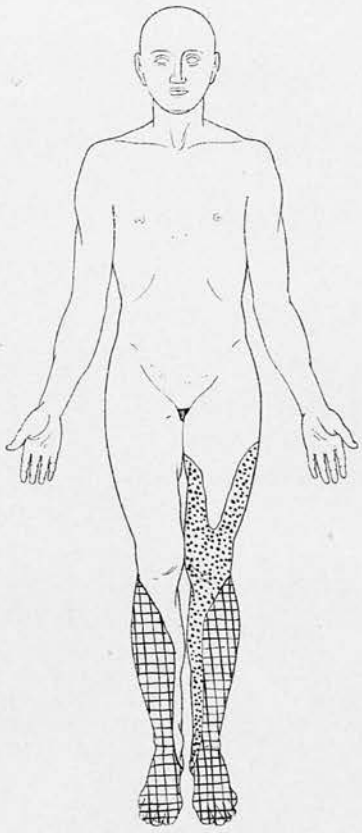
1 year ago allowed up - no better. Numbness in R. foot, later in L. followed inability to feel properly in certain parts of her lower extremities. If she drew up her R. leg she was unable to straighten it properly again, and soon after could not move R. foot at all. L. leg then began to get weak.



E.B. aet 19

▦ = severe loss of Pain
Touch
Thermal.

⁘ = slight loss



Sensory System.

Subjective. Numbness in feet and legs, chiefly behind. Dull aching pain in lower limbs, sacral and lumbar region. Occasionally sharp pain down legs.

Objective. Almost complete anaesthesia and analgesia over all sacral roots and 5th. lumbar area - indefinite and slight over 4th. lumbar on L.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Absent.	Absent.
Ankle.	"	"
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantars.	Absent.	?Extensor.

Spine. Slight prominence of 1st. lumbar - ? if more than normal. No rigidity, no tenderness on pressure.

6 months ago difficulty in passing water and motions - inability to control water and does not know when it passes. Full ventral power No menstruation for 6 months.

State on Admission. Healthy looking - viscera healthy.
Cranial Nerves & Special Senses. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. "
Trunk. Normal.
Lower Extremities. Marked wasting of muscles of both legs below knees, R. greater than L. and calf muscles more than anterior tibial. Muscles of thighs also wasted and small, R. more than L. - the adductors and anterior muscles least affected. The buttock small and flat.
Direct mechanical irritability lost below R. knee - sluggish in L. - absent in hamstrings - good in adductors and anterior thigh muscles. No fibrillation has been noticed.

Sensory System.
Subjective. Numbness in feet and legs, chiefly behind. Dull aching pain in lower limbs, sacral and lumbar region. Occasionally sharp pain down legs.
Objective. Almost complete anaesthesia and analgesia over all sacral roots and 5th. lumbar area - indefinite and slight over 4th. lumbar on L.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Absent.	Absent.
Ankle.	"	"
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantars.	Absent.	?Extensor.

Spine. Slight prominence of 1st. lumbar - ? if more than normal. No rigidity, no tenderness on pressure.

Operation. 13.5.04. Sir Victor Horsley.

The spines of 10th. dorsal to 2nd. lumbar were removed, also the laminae of 12th. dorsal to 1st. lumbar. Theca was found distended and pushed back - no pulsation. 11th. laminae removed - theca opened. The bodies of the 11th. and 12th. dorsal and the 1st. lumbar were eroded by a large dark purple soft tumour attached to either the 4th. or 5th. lumbar posterior roots on R. side. The 4th. and 5th. posterior roots on R. were divided. The tumour was 2 inches long of an irregular shape. The 2nd. lumbar lamina was removed in order to get to end of tumour. The tumour lay in front of cord.

20.5.04. Complete retention of urine - does not feel catheter.

24.5.04. Cerebro spinal fluid draining.

3.6.04. Cerebro spinal fluid stopped by stitches. Slight return of power, more in R. than L. leg. Analgesia less complete except in front of L. thigh .

6.6.04. Headache very severe - temperature 102 - wound bulging. 15ʒ of cerebro spinal fluid escaped - clear.

12.6.04. Patient better.

5.9.04. Patient died - wound septic.

Post Mortem. Aseptic meningitis as far down as 1st. lumbar segment. Below 1st. lumbar segment there was semi purulent thick fluid. The cauda equina could be seen embedded in a hard mass of either fibrous tissue or tumour.

Case LXVII

Died. no operation. Septic poisoning from bedsores

Intra dural Extra medullary. Sarcoma Sub Arachnoid

R. W. aet 19. Male — Dr. Grainger Stewart.

Fam. Hist.	1 brother consumptive.
Prev. Health.	Good.
Pres. Illness.	17 months ago began to suffer from a constant dragging pain round the chest just below the level of the nipples.
	14 months ago went to London Hospital as an out-patient, and at that time had a numbness in the L. leg and a tight feeling in the knee.
	11 months ago noticed dragging of the L. leg. Was an in-patient at the London Hospital for 4 months and became worse, sensation became impaired and he had incontinence of urine.

On Admission, London Hospital.

The sensation of his legs was practically gone as the "doctors stuck pins in him". Two months afterwards he was able to walk but only with difficulty. Four months after he left the hospital he was unable to move either leg. He went to the London Infirmary where he remained 7 months. He discharged himself and was taken home. His condition since leaving the London Hospital has been one of complete paraplegia with loss of sensation below the 7th Dorsal segment, and vesical and rectal incontinence.

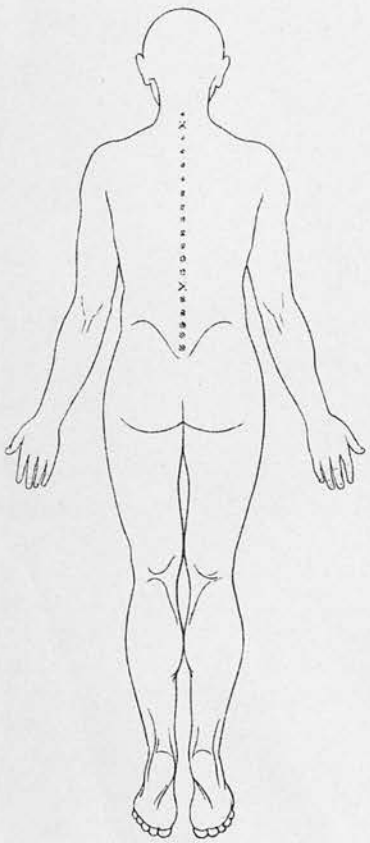
On Admission, Queen Square.

Examination.	Patient is a poorly nourished, very anaemic young man who looks decidedly ill.
Skin.	Has very severe bed sores, one over the R. hip joint, exposing the trochanter of the fumer, and another over the sacrum with a neurotic base revealing the sacrum. There are 4 or 5 small red spots rather like port wine marks, paling under pressure, on the outer aspect of R. leg - they appear to be of recent origin.
Chest.	L. side more flattened than R. which apparently expands better of the two.
Lungs.	Breath sounds feeble on both sides with sibilant rules at base on both sides upon deep inspiration. Resonance diminished on R. side posteriorly.
Heart	Sounds feeble no murmurs.

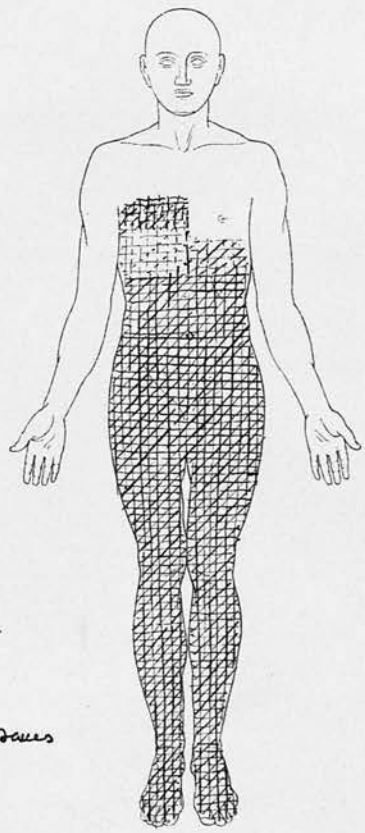
Motor System. Head and Upper Extremities - normal. Trunk. Cannot raise himself in bed Lower Extremities. Completely paraplegic, no movement possible.

Sensory System. Head and Upper Extremities - normal. Trunk and Lower Extremities - Loss of all forms of sensation up to the 7th Dorsal segment above which can be noticed a narrow band of hypoalgesia and anaesthesia. The level on L. side seems somewhat higher than on R. possibly an inch. Higher up on the R. side there is an area, 3rd Dorsal and under arm-pit, where sensory loss is

R.W. 19.







larger one had undergone cystic degeneration. The tumour was composed of whorls and strands of cells with spindle shaped nuclei, with a fair amount of fibrous tissue. The cord was practically destroyed at the level of the lower tumour by compression.

Diagnosed -Fibro. Sarcoma.

Motor System. Head and Upper Extremities - normal. Trunk. Cannot raise himself in bed Lower Extremities. Completely paraplegic, no movement possible.

Sensory System. Head and Upper Extremities - normal. Trunk and Lower Extremities - Loss of all forms of sensation up to the 7th Dorsal segment above which can be noticed a narrow band of hypoalgesia and anaesthesia. The level on L. side seems somewhat higher than on R. possibly an inch. Higher up on the R. side there is an area, 3rd Dorsal and under arm-pit, where sensory loss is more complete.

Reflexes.		Right	Left
Deep			
	Arm Jerks	normal	normal
	Knee "	absent	absent
	Ankle "	diminished	diminished
Superficial			
	Epigastric	absent	absent
	Abdominal	present	present
	Plantar	indefinite (flexor)	extensor.

Sphincters. Bladder - Incontinence of urine.
Rectum - Incontinence.

Spine. Nothing abnormal, X ray negative.

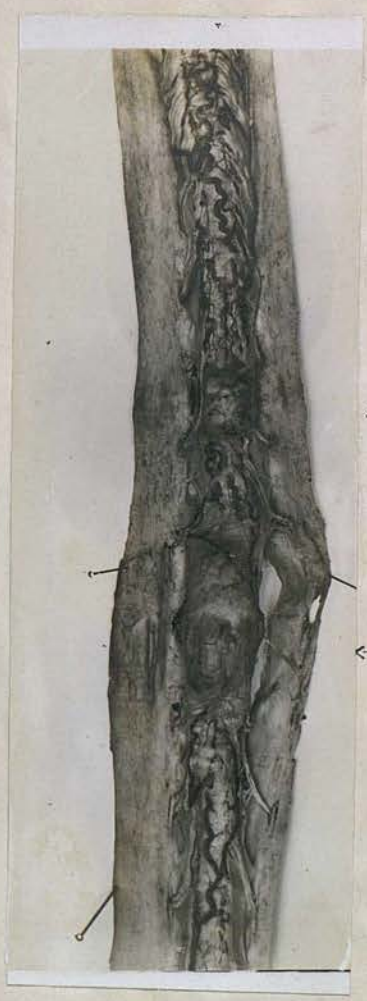
Trophic. Bed sores on Sacrum, general septicaemia too bad state for operation.

The patient died,

Post Mortem.

Two subdural tumours - the upper the size of a hazel nut at the level of the 4th dorsal segment, lying on the Dorsal aspect of the cord covered by pia mater, with the 3rd Dorsal posterior root on R. side stretched over it - compressed the cord. The lower tumour lay on the posterior aspect of the cord from the 6th Dorsal to the 8th Dorsal segment, it had a connective tissue capsule firmly attached to the L. posterior 6th Dorsal root. The cord was compressed. The tumours were of a pearly white appearance on the cut surface, the larger one had undergone cystic degeneration. The tumour was composed of whorls and strands of cells with spindle shaped nuclei, with a fair amount of fibrous tissue. The cord was practically destroyed at the level of the lower tumour by compression.

Diagnosed -Fibro. Sarcoma.



1.



2.

Sarcoma. Subs. arachnoid

A. small.

B larger.

Tumours lifted aside after incising the arachnoid shewing them to be quite separate from the cord.

Case LXVIII

Died. No operation.

Endothelioma

Intra ~~Medullary~~ dural. Extra Medullary. Fibro Sarcoma.

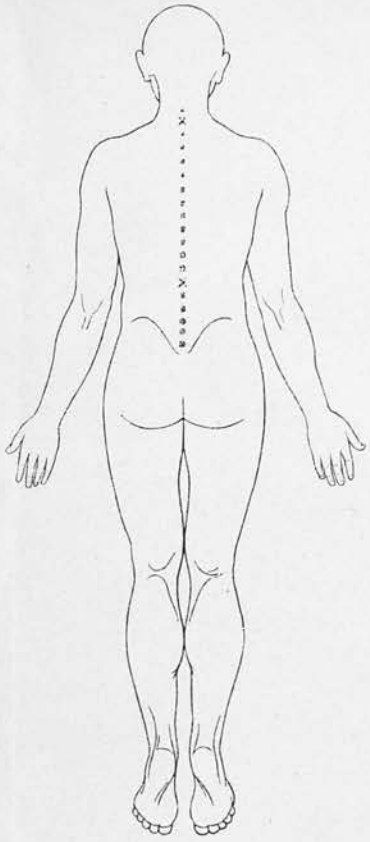
H. S. Male. 24. Dr. Grainger Stewart. 1911.

Family History. Patient was the eldest of a family of five. His father died from a tumour growing on the auditory nerve (extracerebellar tumour). A brother and a sister died from bilateral auditory tumours. The father in addition to the cerebral lesion suffered from myopathy of the shoulder girdle and pelvic girdle type.

Previous Health. The patient was healthy as a child, but at the age of 20 he had a severe attack of nephritis. When first seen after that attack it was noticed that he had myopathic pains, but there was no evidence of intra cranial growth. The patient was kept under observation, and during the next 18 months he suffered from pain in the R. 6th. area, and his hearing in the R. ear became somewhat impaired.

6 months later he presented obvious signs of myopathy the lower part of the pectorals began to atrophy and there was great weakness of all the girdle shoulder muscles. His gait became affected and he walked with a typical myopathic gait, marked lorchosis and alderman's gait. When sitting the spine was straight, but on rising up lorchosis was present. He gradually became weaker, and was only able to walk a short distance and had to assist himself or be assisted in rising from a chair and in dressing himself. The deep reflexes were diminished, the superficial were normal.

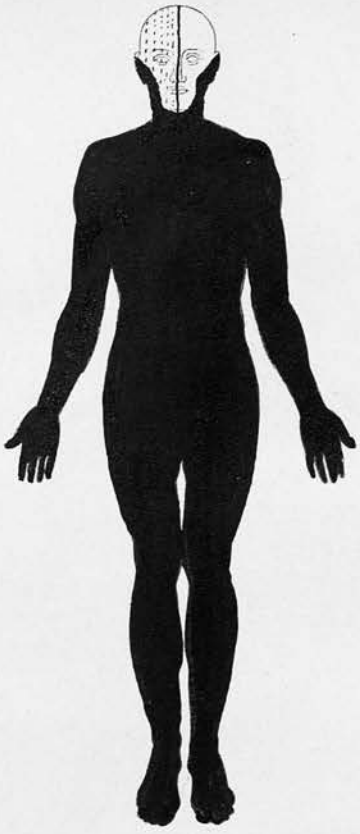
3 months before he died he began to complain of jumping of both legs, of pain in the back of the head. Later this spasm in the legs increased and he became weak in the legs and



H.S. 1911.

|||| = Slight. analgesia

■ Complete sensory loss



intercostal movement was weak.

Sensory System.

Subjective. Headache. General. (1) Pains in the area of the R. 5th. nerve. (2) Pains in the back of the head and neck, worse on movement.

Objective. There was definite and severe sensory loss over the whole of the trunk, limbs and head, except over the 5th. nerve area. On the R. side there was slight blunting of sensibility, but on the L. side the sensation was normal.

Sense of position lost in both arms and legs.

Tactile (cotton wool) lost.

Touch and pressure sometimes felt, but pain, heat and cold only felt as touches except on 5th. nerve areas.

Vibration diminished in marked degree; if not lost, also deep pain

hands and began to have trouble with passing his water. He also complained of headache. He became rather rapidly worse, and three weeks before his death I went down to the country to see him, and on examining him found that he had optic neuritis, but no increase in the local cranial nerve symptoms.

Motor System.

Upper Extremities. There was spastic paralysis of both arms.

Trunk & Lower Extremities. The weakness being equal on the two sides, and whereas previously he had only weakness of the shoulder and pelvic girdle muscles there was now paralysis of all the muscles. Respiration was carried on with great difficulty, the accessory muscles coming into play. The diaphragm only acted feebly and intercostal movement was weak.

Sensory System.

Subjective. Headache. General. (1) Pains in the area of the R. 5th. nerve. (2) Pains in the back of the head and neck, worse on movement.

Objective. There was definite and severe sensory loss over the whole of the trunk, limbs and head, except over the 5th. nerve area. On the R. side there was slight blunting of sensibility, but on the L. side the sensation was normal.

Sense of position lost in both arms and legs.

Tactile (cotton wool) lost.

Touch and pressure sometimes felt, but pain, heat and cold only felt as touches except on 5th. nerve areas.

Vibration diminished in marked degree, if not lost , also deep pain

Reflexes.

	Deep.	Right.	Left.
	Jaw.	Normal.	Normal.
	Biceps.	Plus.	Plus.
	Triceps.	"	"
	Supinators.	"	"
	Knee.	"	"
	Ankle.	" clonus.	" clonus.
	Superficial.		
	Epigastric.	Absent.	Absent.
	Abdominal.	"	"
	Plantars.	Extensor.	Extensor.

Sphincters. Retention of urine and incontinence, overflow. Constipation - loss of control with purgatives.

Trophic. Bedsore on sacrum.

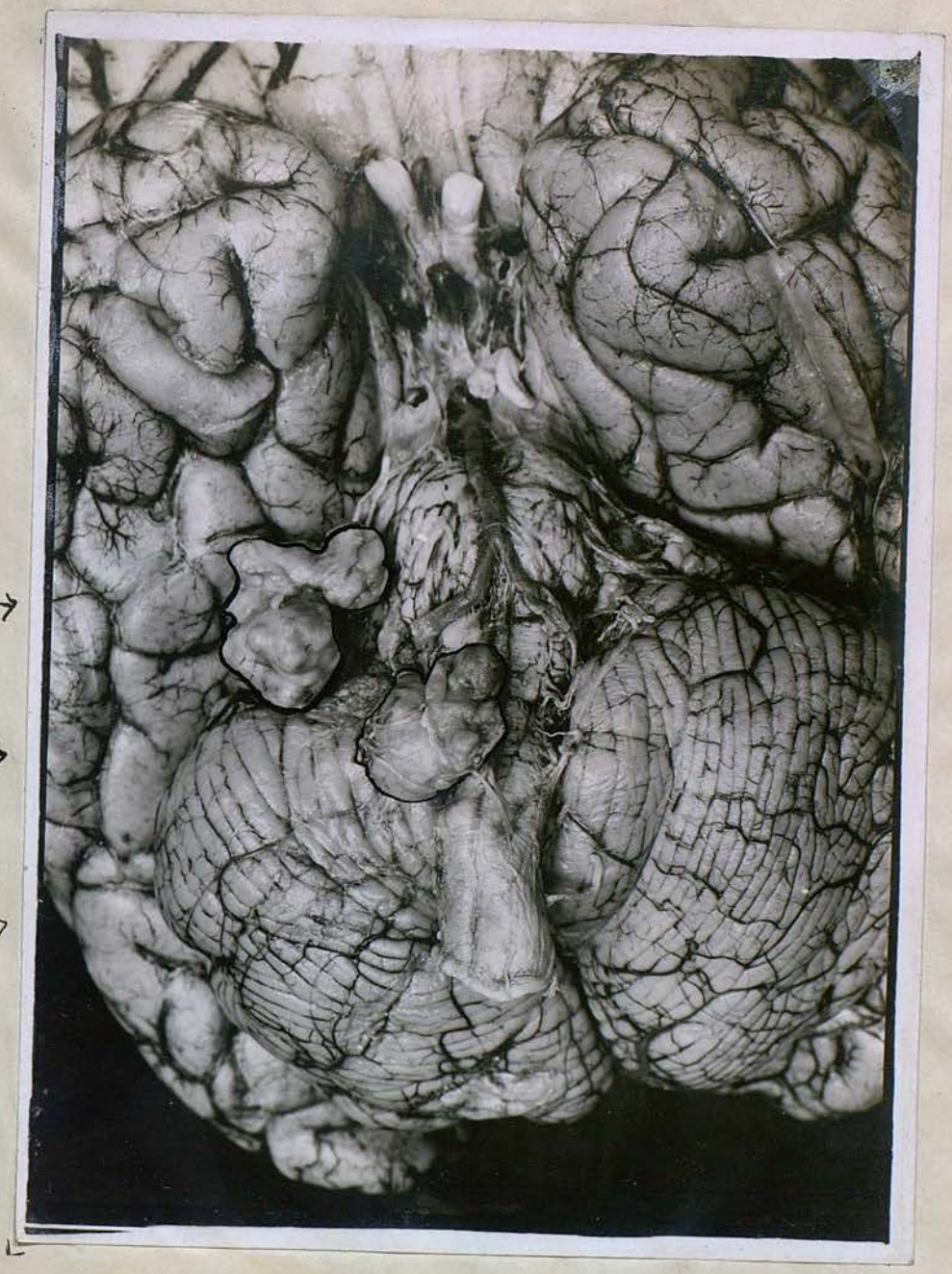
Spine. Nothing abnormal; no evidence of abscess or swelling in neck or pharyngeal region.
On moving the head the patient had a "sort of attack"-reflex spasms in both arms and legs and stoppage of respiration. His mother then told me that she had noticed several similar attacks when she had moved his head in order to feed him.

I came to the conclusion that he had a sarcoma of the dura in the posterior fossa which had extended up into the Foramen Magnum and was compressing the cord at that level. The patient's relations refused an operation, and it was not urged.

The patient died suddenly two weeks later and I obtained permission to examine the brain and spinal cord.

Autopsy. There was a small fibro sarcoma adherent to the R. 5th. nerve and pressing upon the R. 7th. and 8th. nerves, but not definitely attached to them. There was no other signs of tumour within the cranium, but on the anterior aspect of the cord growing from the upper cervical roots was a firm rounded tumour which

H.S.



A. Tumour on V. Cranial Nerve.

B. Tumour which compressed the cervical Cord. Note its attachment to the cervical root. The tumour has been lifted up to show its attachment to the root and also to show the depression in the cord at the point where the tumour compressed it (C.)

lay inside the dura and extended to just above the anterior border of the Perineum magnum which was eroded by the pressure of the tumour. The cord was compressed. There was a great deal of intracranial pressure and internal hydrocephalus. Nothing abnormal was found on any other spinal roots. It was clear that the muscular wasting was ~~myopathic. secondary~~ myopathic

Case LXIX

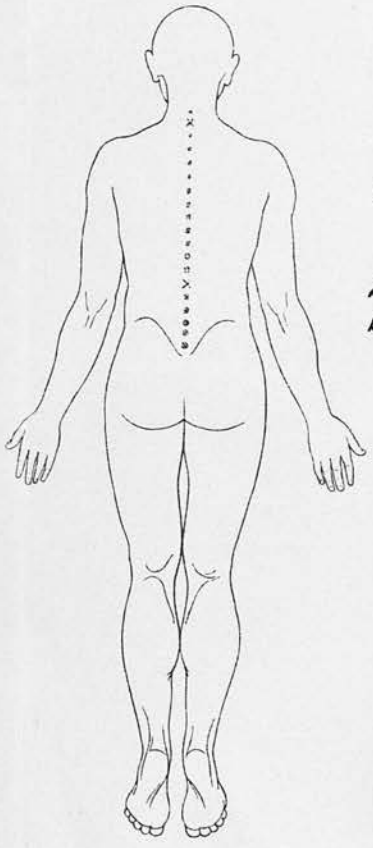
Recovery in 6 months.

Intra dural Extra medullary, Endothelioma

E, H, aet 43, Male Dr, Ferrier.

Op. Sir Victor Horsley.

Fam. History	nil
Prev. Health.	Gonorrhoea at 18.
Pres. Illness.	6 months ago some tingling and numbness of feet.

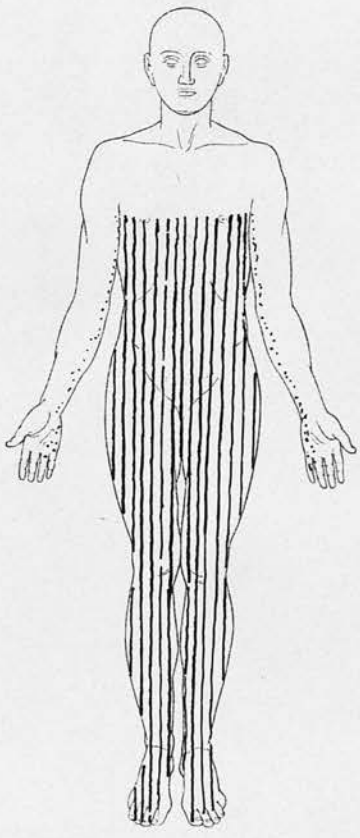


E.H. 43.
1907.

||| = analgesia + anaesthesia of thermal loss.

Loss of sense of position & deep pain in lower extremities

::: = paraesthetic area with ? anaesthesia



	ition.		
Reflexes.	Deep.	Right	Left.
	Arm Jerks	normal	normal
	Knee "	plus	plus
	Ankle "	plus with clonus	plus with clonus.
	Jaw	normal.	
	Superficial.		
	Epigastric	absent	absent
	Abdominal	absent	absent
	Plantar	extensor	extensor.
Sphincters.	Complete loss of control.		
Trophic.	Small bed-sore over the Sacrum.		

Case LXIX

Recovery in 6 months.

Intra dural Extra medullary, Endothelioma

E, H, aet 43, male Dr, Ferrier.

Op. Sir Victor Horsley.

Fam. History nil
Prev. Health. Gonorrhoea at 18.
Pres. Illness. 6 months ago some tingling and numbness of feet.
3 months ago unable to stand without support, difficulty in passing water and increasing numbness in legs
2 months ago Operation at St. George's Hospital, nothing found. Since then legs much weaker, much R. spasm, complete loss of sphincter control, and tight feeling at level of the nipples.

On Admission. 1.5.07.

Old laminactomy scar with absence of spines and laminae of 4th Cervical to 2nd Dorsal.

Spine. Great tenderness on pressure over 3rd and 4th Dorsal spines.
X ray. Negative.
Cranial Nerves. Normal
Motor System. Head and Neck - movements fair, limited by reason of pain which they cause.
Upper Extremities - normal.
Trunk - weakness of recti.
Lower Extremities - both legs oedematous, very spastic, no voluntary power.
Sensory System. Anaesthesia, Analgesia and Thermal loss below level of nipples, with loss of deep pain and sense of position.

Reflexes.		Right	Left.
Deep.			
	Arm Jerks	normal	normal
	Knee "	plus	plus
	Ankle "	plus with clonus	plus with clonus.
	Jaw	normal.	
Superficial.			
	Epigastric	absent	absent
	Abdominal	absent	absent
	Plantar	extensor	extensor.

Sphincters. Complete loss of control.
Trophic. Small bed-sore over the Sacrum.

20.5.07. Some parasthesia along inner side of both arms with slight indefinite anaesthesia. Otherwise condition as before.

21.5.07. Operation. Sir Victor Horsley.
Spines and laminae of the3rd, 4th, and 5th Dorsal vertebrae removed. Theca was seen to be distended about the 4th Dorsal segment, above this the cord pulsated, no pulsation was visible below. The theca was incised and a tumour was found lying on the posterior aspect of the cord under the pia arachnoid, it measured $1\frac{1}{8}$ inches long and $\frac{5}{8}$ of an inch broad, it was cylindrical in shape and was attached to the 3rd and 4th Dorsal posterior roots on the R. side. The tumour was removed, the 3rd and 4th Dorsal posterior roots being divided. The cord was markedly compressed. The Dura was sewn up and the wound closed.

12.6.07. Legs less spastic.
No more definite sensory loss in arms.
Reflexes and sensation unchanged.
Sphincters still uncontrolled.

10.9.07. Much Improved. Bed-sore healed.

11.11.07. Quite better.

Case LXX

Endothelioma Died 2 months after operation. Operation too late.

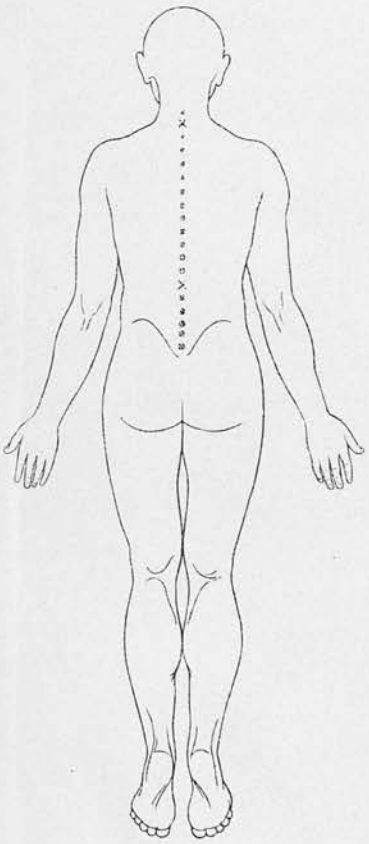
Intra dural Extra medullary. ~~Fibro Myxoma~~.

K. T. aet 42. Dr. Ormerod 1906.

Fam. History,	Father died of heart disease. Mother died of dropsy.
Prev. Health.	Chicken Pox and Whooping cough when a child, influenza several times.
Present Illness.	2 years ago pain in back of head and down spine, got better, went to Italy and got malaria in Rome. 16 months ago pain worse and has continued. 3 months ago weakness in hands and arms. 4 weeks ago difficulty in walking and unsteady gait.

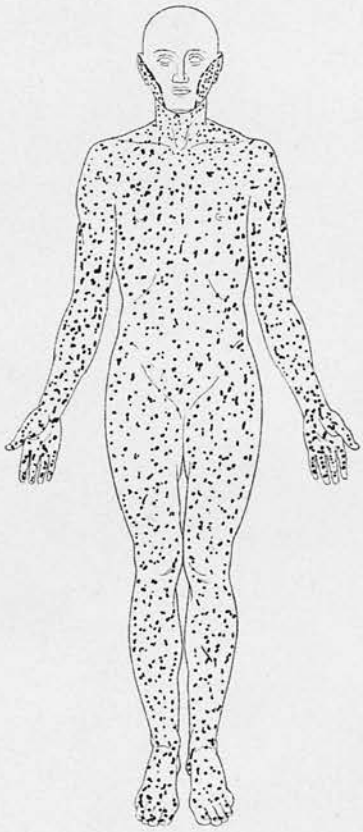
On Admission. 3.6.06.

Viscera	Normal
Cranial Nerves	Normal
Motor System	Head and Neck - normal Upper Extremities - spastic weakness of both upper extremities. Trunk - respiration thoracic, paralysis of diaphragm. Lower Extremities - some spastic weakness of both legs.
Sensory system	Sensory loss up to level of 5th Cranial nerve, analgesia more marked on R. side than L., also anaesthesia, and the loss is more severe in arm and upper part of trunk than below.



KT. 42.
1906.

⁘ = Total sensory loss.



segment almost up to the lowest part of the pons. It was attached to the dura, separated from the cord and medulla by the pia mater. There was pressure on the L. side of the medulla and the L. half of the cord of 1st Cervical segment, which was flattened laterally.

Diagnosed - An Endothelioma.

On Admission. 3.6.06.

Viscera	Normal		
Cranial Nerves	Normal		
Motor System	Head and Neck - normal		
	Upper Extremities - spastic weakness of both upper extremities.		
	Trunk - respiration thoracic, paralysis of diaphragm.		
	Lower Extremities - some spastic weakness of both legs.		
Sensory system	Sensory loss up to level of 5th Cranial nerve, analgesia more marked on R. side than L., also anaesthesia, and the loss is more severe in arm and upper part of trunk than below.		
Reflexes.	Deep.	Right	Left.
	All Deep Reflexes are plus.		
	Superficial		
	Epigastric	Absent	absent
	Abdominal	Absent	absent
	Plantar	Extensor	extensor.
Sphincters.	Normal		
Spine.	Normal, but patient complained of pain on bending head backwards or forwards.		

Operation 29.6.06. Mr. Sargent.

Spines and laminae of the 4th, 5th, and 6th Cervical vertebrae removed, nothing abnormal found.

12.8.06. Patient much worse, complete paralysis of arms and legs and of diaphragm. Sensory loss to all forms of cutaneous sensibility. Loss of sense of position in the Upper and Lower Extremities. Reflexes the same as before, but the deep reflexes were diminishing.

29. 8.06. The patient died.

Post Mortem.

A large firm tumour was found inside the dura lying on the anterior aspect of L. side of the cord extending from the lower part of the 2nd Cervical segment almost up to the lowest part of the pons. It was attached to the dura, separated from the cord and medulla by the pia mater. There was pressure on the L. side of the medulla and the L. half of the cord of 1st Cervical segment, which was flattened laterally.

Diagnosed - An Endothelioma.



A. Tumour in position. Attached to the inner side of the dura.



B Tumour turned aside to shew local compression of the cortex.



Low Power view – Endothelioma



High Power-view. (Section not very typical)

Case LXXI

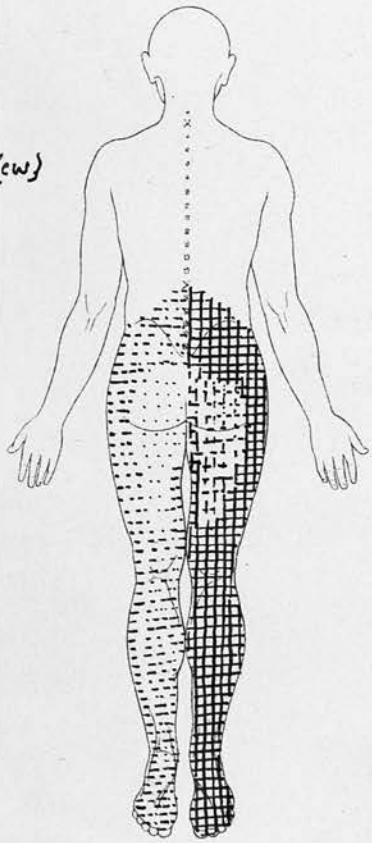
No improvement. 22 months.

Intra dural Extra Medullary. Psammoma.

G. F. Female. 35. Sir William Gowers. 1910 -12.

Op. Sir Victor Horsley.

Previous Health. Pyo-salpiux and Fibroid removed.

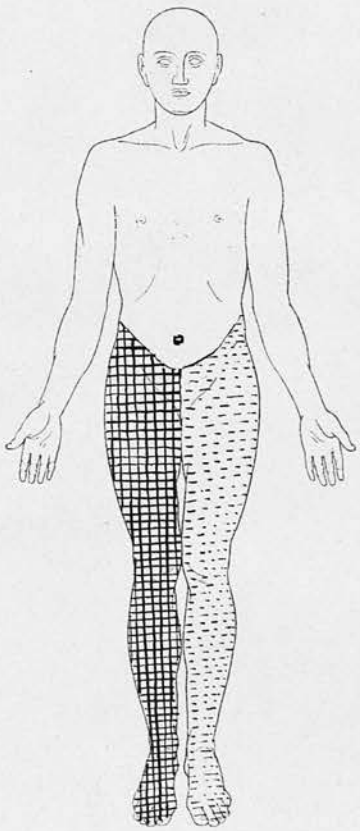


G. F. 35 female
1910-12

= Total anaesthesia (CW)
= Severe "
= V. slight "
= Total analgesia & thermal loss
= Severe "

Deep pain much diminished on R. lower limb

Joint sense lost in R lower limb.



Sensory System.

Objective. Normal above 11th. dorsal area.
L. side. Impairment to tactile (cotton wool) No loss to superficial or deep pain. Sacral area least affected.
R. side. Total loss to tactile (cotton wool), almost complete loss of cutaneous pain and thermal loss. Sacral areas least affected. Great diminution of deep pain. Joint sense absent.

Case LXXI

No improvement. 22 months.

Intra dural Extra Medullary. Psammoma.

G. F. Female. 35. Sir William Gowers. 1910 -12.

Op. Sir Victor Horsley.

Previous Health. Pyo-salpiux and Fibroid removed.

Present Illness. 4 years ago tingling in sole of R. foot, followed later by stiffness and weakness of the R. leg.
2 months later tingling in L. sole and stiffness and weakness of L. leg.
3½ years ago unable to walk, precipitant micturition, marked loss of sensation especially in L. leg and no voluntary power in the legs.
3 years ago patient was able to walk with assistance, some improvement having taken place for about 6 months.
2½ years ago since then patient has steadily got worse, legs more spastic, now unable to stand.

State on Admission. 19.3.10.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. "

Trunk. Good voluntary power.

Lower Extremities. Both very spastic and contracted. Practically no voluntary movement.

Sensory System.

Objective. Normal above 11th. dorsal area.
L. side. Impairment to tactile (cotton wool) No loss to superficial or deep pain. Sacral area least affected.
R. side. Total loss to tactile (cotton wool), almost complete loss of cutaneous pain and thermal loss. Sacral areas least affected. Great diminution of deep pain. Joint sense absent.

Reflexes.

Deep.		Right.	Left.
	Arm.	Normal.	Normal.
	Knee.	Plus plus.	Plus.
	Ankle.	" " clonus.	Plus clonus.
Superficial.			
	Epigastric.	Present.	Present.
	Abdominal.	Absent below 10th. dorsal on both sides.	
	Plantar.	Extensor.	Extensor.

Sphincters. Precipitant micturition, constipation.
Pilocarpine Test. Diminished sweating below 11th. dorsal segment.
Spine. No deformity or tenderness.
X ray negative.

Operation. 15.3.10. Sir Victor Horsley.

The spines and laminae of the 9th. 10th. 11th. and 12th. dorsal vertebrae were removed. Dura tense. It was incised and there was found attached to its inner aspect a tumour the size of a marble. This tumour compressed the posterior aspect of the cord, being situated mesially, or a little to the R. of the cord at the level of the 10th. dorsal segment. The tumour and the dura to which it was attached, were removed. Microscopical examination - Psammoma.

16.3.10. Complete paraplegia. Total anaesthesia all forms to 10th. dorsal level on both sides. Sphincters. Total retention.

18.3.10. Incontinence of urine.

17.1.12. No change in condition.

Case LXXII

Died at operation.

Intra Dural Extra Medullary. Psammoma

F. G. aet 41. Female Dr. Beevor 1903

Operation - Mr. Ballance.

Complaint. Pains in back and legs, inability to walk or to straighten out her legs.

Duration. 12 months.

Fam. History. Good

Prev. Health. Good. Fall 2 years ago.

Pres. Illness. 12 months ago weakness of R. knee and a week later of L. knee, dragged her R. foot and it felt as if something were pressing on it (vedema)

10 months ago pain in the back lower Dorsal region passing round R. side to front of abdomen, not reaching middle line, sharp shooting in character, inconstant. Legs very weak, steadily worse in walking.

12 weeks ago became decidedly worse lost feeling first in R. leg then in L., also had at first trouble in passing water, later difficulty in controlling it.

10 weeks ago unable to stand, legs drawn up in flexor spasm and remaining so. R. leg became drawn up first.

Present State.

Cranial Nerves - Special Senses - Head Neck and Upper Extremities Normal

Motor System

Trunk Recti very rigid, patient cannot sit up. Respiration mostly thora abdom

Lower Extremities - Slightly wasted, flexed adducted, feet swollen.

Movements - R. only slight flexion at hip and extension of toes.

L. slight flexion at hip and extension of L. ankle and toes.

Sensory System

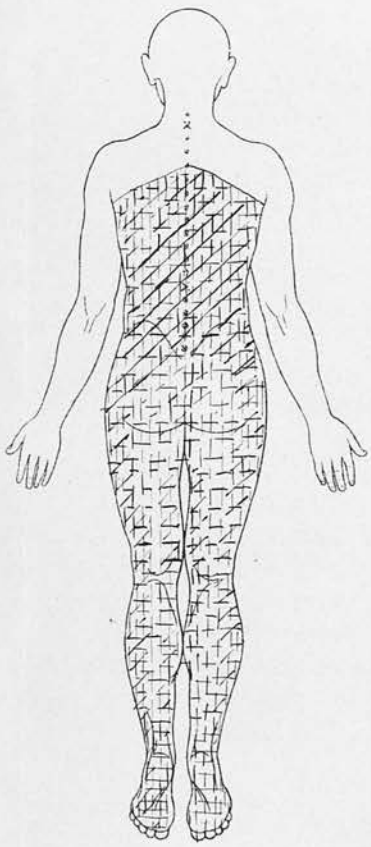
Subjective - Pain passing round abdomen at the

level of the 7th and 8th Dorsal, not constant.

Objective - Pain - Complete loss from the 5th to 7th Dorsal.
Touch - Complete loss 5th Dorsal
Thermal - Complete loss to 5th Dorsal, less on Sacral segments.

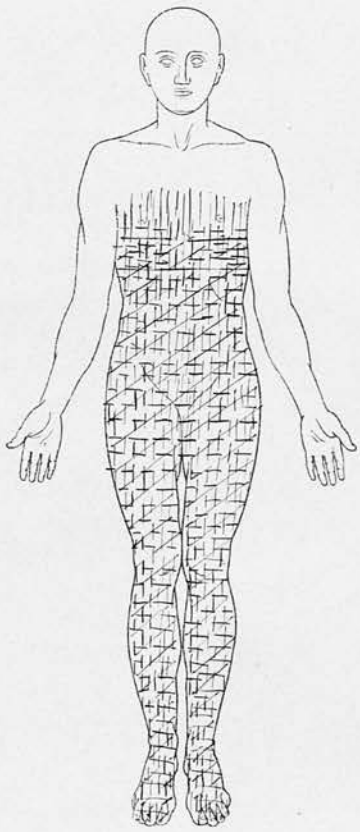
J. G. 41
1903.

Loss to touch + pain up to level of 5th Dorsal segment. Slight relative loss above this level. Loss to heat + cold below 5th Dorsal but only partial on sacral segments.



J. G. 41
1903

Loss to touch + pain up to level of 5th Dorsal segment. Slight relative loss above this level. Loss to heat + cold below 5th Dorsal but only partial on Sacral segments.



there was no evidence of return of growth. The head was small and flabby.

level of the 7th and 8th Dorsal, not constant.

Objective - Pain - Complete loss from the 5th to 7th Dorsal.
Touch - Complete loss 5th Dorsal
Thermal - Complete loss to 5th Dorsal, less on Sacral segments.

Reflexes. Deep	Right	Left
Arm	natural and equal.	
Knee	very spastic, jerks not obtained.	
Ankle	" " " "	"
Superficial		
Epigastric	0	0
Abdominal	0	0
Plantar	extensor	extensor

Sphincters.
Bladder - Retention and incontinence
Rectum - Constipation.

Spine No deformity or tenderness on pressure or movement

Operation Mr. Ballance

Tumour Intra dural attached to the dura posteriorly pressed on cord, measured 1¼ inches long. Opposite the 7th cervical vertebra to lower end of the 1st Dorsal vertebra the cord did not pulsate either at this level or below. The spines and laminae of the 6th and 7th Cervical vertebrae were removed and the tumour was found to be a Psammoma.

The patient died from heart failure.

Post Mortem

The scar tissue, theca and cord were all adherent, the Theca was very much distended above this level, there was no evidence of return of growth. The heart was small and flabby.

Case LXXIII

Intra dural. Angioma. 6 years later getting about. no increase in symptoms.

A. R. Female. 30. Sir William Gowers. 1904.

Op. Sir Victor Horsley.

Complaint. Numbness and loss of power in L. leg, difficulty in walking, trouble in passing water - constipation.

Duration. 7 months.

F

Family History. Mother died from "consumption".

Previous health. Good.

6 years ago had occipital headaches for 3 weeks and the L. leg felt numb and weak when this came on. Recovered completely in 7 weeks.

7 months ago for 3 days had sharp intermittent pain along the outer side of L. leg.

5 months ago had pain of same character but less severe along outer side of L. leg. Had to strain to pass water and motions. This lasted for 3 weeks, then suddenly

4 months ago when out walking L. leg became numb and weak - could walk - no pain.

3 weeks ago incontinence of urine.

State on Admission.

Special Senses. Normal.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. R. normal

L. all muscles soft, flabby and wasted, no fibrillary tremor. Weakness of L. leg and drop foot.

Gait. L. leg lifted up too high, foot flopped.

No Rombergism.

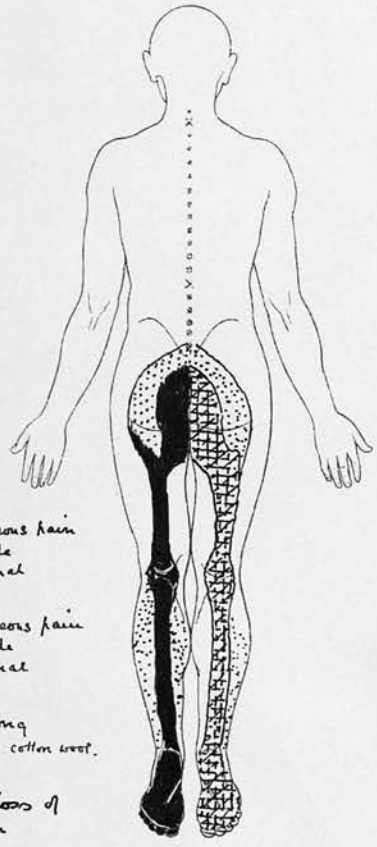
Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Absent.
Ankle.	Normal.	Absent.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantar.	?Extensor.	Absent.

Sphincters. Difficulty in micturition, feels urine pass. Constipation, faeces in rectum - no feeling of passage of faeces.

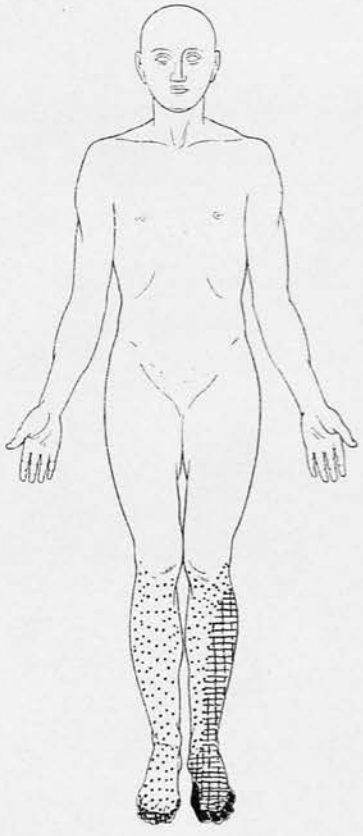
Sensory System.

A.R.
5.12.03.



A.R.
5.12.03





24.12.03. Left Leg feels heavy and L. foot completely dropped. No idea where L. foot is. Small ulcer on L. heel. Cannot pass water, but feels when she needs to. Cannot ~~retain~~ retain enemata ~~this~~ - does not feel them.

8.2.10. Seen at Hospital. Walking with stick, no pain - control over motions and over urine provided she has not to wait long. Power better but there is anaesthesia over 4th. and 5th. lumbar segments on R. side which was not present on 13.3.04.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee.	Plus.	Absent.
	Ankle.	Normal.	Absent.
Superficial.			
	Epigastric.	Normal.	Normal.
	Abdominal.	"	"
	Plantar.	?Extensor.	Absent.

Sphincters. Difficulty in micturition, feels urine pass. Constipation, faeces in rectum - no feeling of passage of faeces.

Sensory System.

Subjective. No pain. Numbness over L. leg below knee and over back of both thighs and buttocks.

Objective. Cold, heat, pain and tactile lost altogether. Sense of position

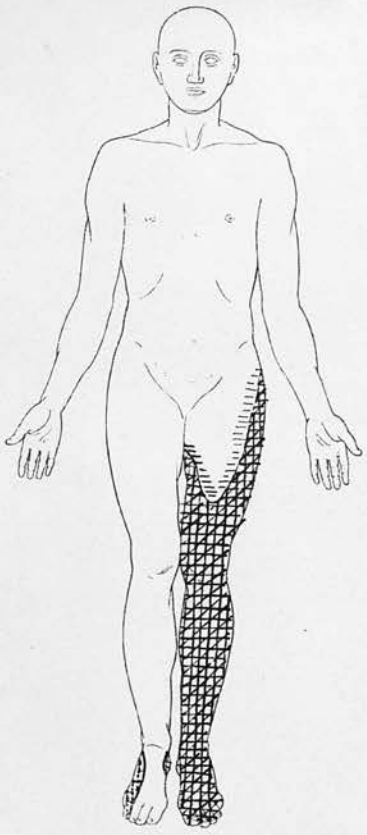
Viscera. Healthy.

Operation. Sir Victor Horsley.

Incision was made from the 10th. dorsal to the 1st. lumbar. 11th. and 12th. dorsal and 1st. lumbar spines and laminae were removed. The dura was bulging, a deep purple colour showed through. Dura free externally. The dura was opened and a dark purple coloured tumour on dorsal aspect of Pia attached to roots of L. side and to 1 or 2 on R. extended round c cord at lower part for some distance, only posterior above. Similar smaller patch higher up, like a bundle of blue worms - varicose veins. On incision tumour collapsed and cerebro spinal fluid and venous blood escaped. The growth was removed along with the pia arachnoid to which it was attached. Several nerve roots on the L. side were divided - lumbar and sacral

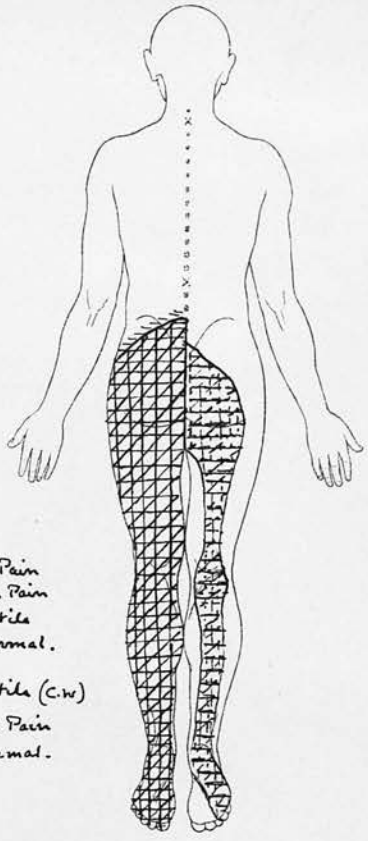
24.12.03. Left Leg feels heavy and L. foot completely dropped. No idea where L. foot is. Small ulcer on L. heel. Cannot pass water, but feels when she needs to. Cannot ~~retain~~ retain enemata ~~as~~ - does not feel them.

8.2.10. Seen at Hospital. Walking with stick, no pain - control over motions and over urine provided she has not to wait long. Power better but there is anaesthesia over 4th. and 5th. lumbar segments on R. side which was not present on 13.3.04.



A.R.

13·3·04.

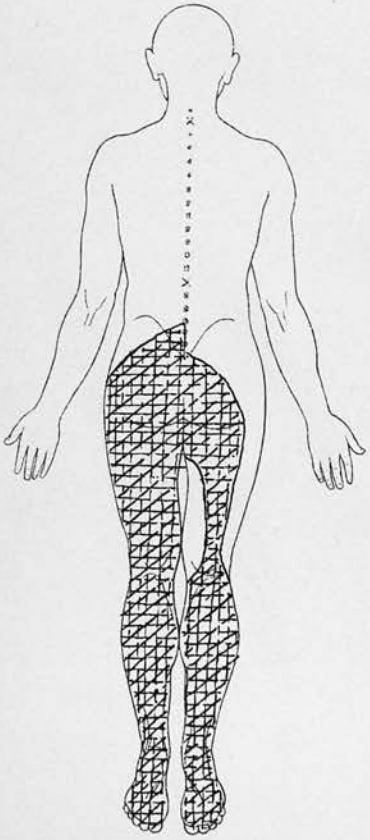


▦ = Total loss of Cut. Pain
Deep Pain
Tactile
Thermal.

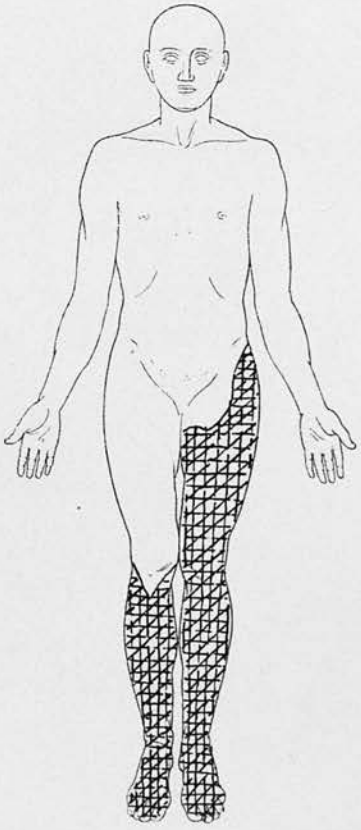
▤ = Total loss of Tactile (C.W)
Posture " " Cut. Pain
Thermal.

A.R.

8·2·10.



8 · 2 · 10

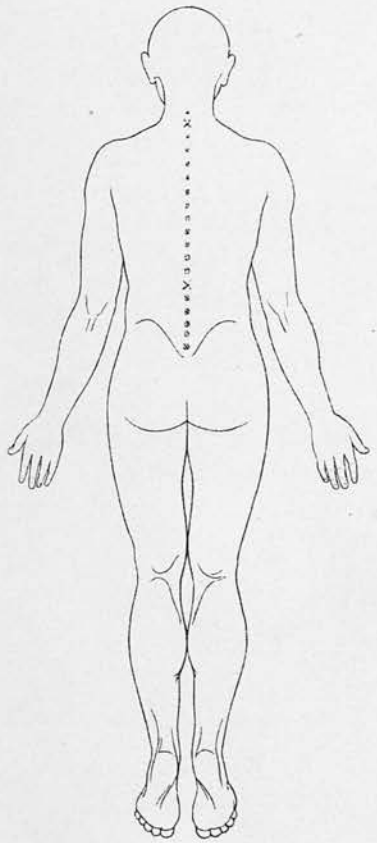


Case LXXIV

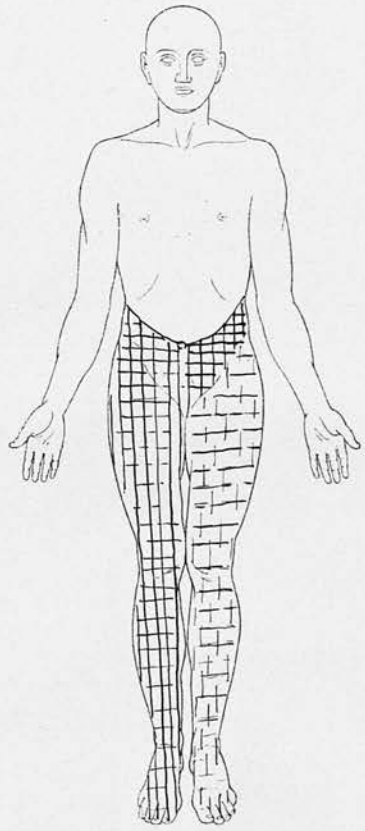
Died 10 years later. Pyelo nephritis had syringomyelic cavity extending to medulla

Intra dural extra medullary, also Syringomyelia.

G. P. Male. 36. Dr. Thomas Buzzard. 1898.



G. P.
1899.



|||| = analgesia

||| = slight analgesia

= anaesthesia

= slight anaesthesia

Sensory System.

Subjective. No pain at present time, numbness of legs and lower part of trunk.

Objective. Absolute analgesia over 10th. 11th. and 12th. dorsal segments on L. side and on R. side below level of 9th. dorsal segment.
Impairment of pain and touch over L. lower extremity.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee. }	Plus with	Plus with
	Ankle. (	clonus.	clonus.
Superficial.			
	Plantars.	Extensor.	Extensor.

Sphincters. No trouble.

Spine. Quite normal, no tenderness on pressure.

Case LXXIV

Died 10 years later. Pyelo nephritis had syringomyelic cavity extending to medulla

Intra dural extra medullary, also Syringomyelia.

G. P. Male. 36. Dr. Thomas Buzzard. 1898.

Op. Mr. Horsley.

Family History. Good.

Previous Health. Excellent.

Previous Illness. 3 months ago had excruciating pain in back beneath the kidneys. Pain did not radiate. He could not ride in a cart because the jolting gave him such pain.
7 weeks ago L, leg began to get weak.
1 month ago R. leg began to get weak.
3 weeks ago numbness in legs and abdomen. No sphincter trouble.

State on Admission. 18.10.98.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Weakness of lower abdominal muscles - rising up of umbilicus.

Lower Extremities. No wasting, no rigidity. Unable to lift L. leg off the bed. R. leg slightly weak.

Sensory System.

Subjective. No pain at present time, numbness of legs and lower part of trunk.

Objective. Absolute analgesia over 10th. 11th. and 12th. dorsal segments on L. side and on R. side below level of 9th. dorsal segment.
Impairment of pain and touch over L. lower extremity.

Reflexes.

		Right.	Left.
Deep.	Arm.	Normal.	Normal.
	Knee. }	Plus with	Plus with
	Ankle. {	clonus.	clonus.
Superficial.	Plantars.	Extensor.	Extensor.

Sphincters. No trouble.

Spine. Quite normal, no tenderness on pressure.

26.10.98. Complete paralysis of L. leg, almost complete of R.
Complete loss to pain below the umbilicus.
Touch not markedly affected on either side.
Complete retention of urine.

3.11.98. Total paraplegia and sensory loss below 9th. dorsal segment.

Operation. 22.11.98. Mr. Horsley.

The spines and laminae of 7th. 8th. and 9th. dorsal vertebrae were removed. No pulsation seen below the 9th. dorsal roots - nothing outside the cord. On opening the dura a small smooth tumour the size of a hazel nut was found lying to the left of the middle line, posterior to the cord. It was removed, the L. 10th. dorsal posterior root being divided. The cord was compressed.

9.1.99. Sensation normal except loss of sense of position in the feet - can lift either extended leg off the bed.

25.2.99. Sphincters quite normal.

30.2.99. Could stand in a go-cart.

24.3.99. Could stand alone and walk with sticks.
9.4.99. Could walk without sticks. Still had ankle clonus, extensor responses and loss of sense of position in the feet.

Readmitted. 1905.

Died.

Case LXXV

Died day after operation.

Intra dural Extra Medullary Sarcoma. Syringo Myelia. with Cavity in the Cord.

S. P. Male. 34 Dr. Beevor. 1904.

Op. Mr. Ballance.

Family History. Good.

Previous Health. ?Syphilis or gonorrhoea 15 years ago.
12 months ago curious sensation in the back and a sharp pain down the middle line of spine, also some cervical sympathetic palsy in L.eye.
9 months ago difficulty in passing and holding water, also loss of sexual desire and power.
6 months ago tenismus and constipation.
4½ months ago tingling in R. leg, weakness and numbness, also tight feeling round epigastrium.
6 weeks ago pain in L. hand + leg

State on Admission.

Cranial Nerves. Normal.
Cervical Sympathetic. Normal.
Motor System.
Neck. Movements good.
Upper Extremities. Grasps weak, especially L. no wasting.
Trunk. Power good.
Lower Extremities. Great weakness in R. leg, can hardly raise it off bed, no wasting, but tone diminished. Toe movements fair.
Some weakness at L. hip.
Sensory System.
Subjective. Formication over R. scalp from behind forwards.
Numbness in L, hand especially in 2nd. and 3rd. fingers.
Feeling as if scalding water were being poured over the whole of the R. leg.
Numbness of feet and legs.

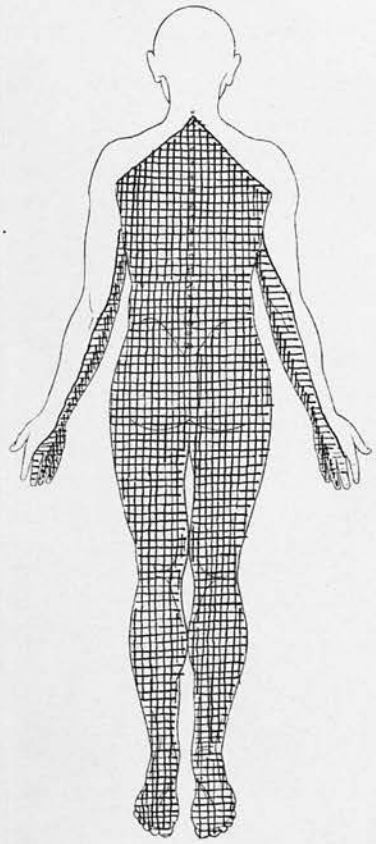
Objective. Sense of position good in arms, poor in legs. Complete analgesia, anaesthesia and thermal loss from 8th. cervical area downwards. Some relative loss along the outer border in this area in the arms.

S.P. 1904.

= loss to pain
" " heat.
" " cold.

= loss to touch (cw).

Loss of sense of Position in lower extremities.

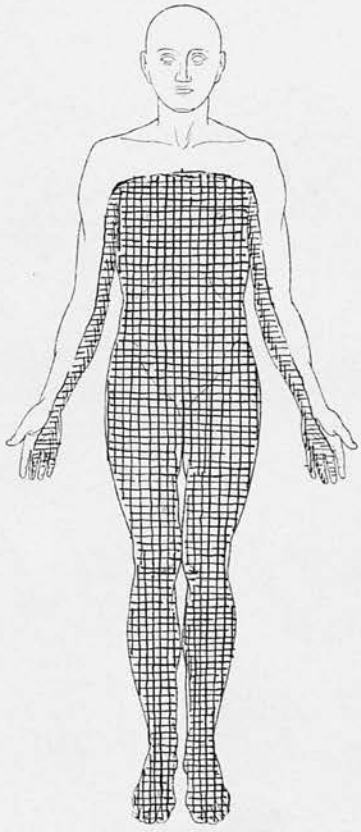


S.P. 1904

||| = loss to pain
- - heat
. . cold

≡ = loss to touch (cw)

loss of sense of position in lower extremities.



cervical and 1st. dorsal vertebrae were removed. Nothing abnormal outside dura. Dura was distended and tense and did not pulsate. The dura was opened by a longitudinal incision and what was first thought to be the cord protruded; it was found however, to be an opaque membrane which surrounded the cord and a large tumour. The tumour was thickest opposite the 7th. cervical segment, it extended upwards and downwards and lay chiefly on the L. postero lateral aspect of the cord which was pushed forward to the R. and much compressed and flattened. It was not attached to the cord, but it appeared to be attached to the lepto meninges. It was removed piecemeal and was dark coloured, friable and rather lobulated.
31.12.04. Patient died.

Objective. Sense of position good in arms, poor in legs. Complete analgesia, anaesthesia and thermal loss from 8th. cervical area downwards. Some relative loss along the outer border in this area in the arms. (7th.cervical).

Reflexes.

	Right.	Left.
Deep.		
Biceps.	Diminished.	Diminished.
Triceps.	Absent.	Absent.
Knee.	Brisk but weak.	Brisk but weak.
Ankle.	Brisk, slight clonus.	Brisk, slight clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Retention of urine, constipation with deficient rectal control.

Spine. No deformity or limitation of movement, but some tenderness on deep pressure over 6th. and 7th. cervical spines and also when head is pushed back and moved to either side.

Operation. 30.12.04. Mr. Ballance.

The spines and laminae of 5th. 6th. and 7th. cervical and 1st. dorsal vertebrae were removed. Nothing abnormal outside dura. Dura was distended and tense and did not pulsate. The dura was opened by a longitudinal incision and what was first thought to be the cord protruded; it was found however, to be an opaque membrane which surrounded the cord and a large tumour. The tumour was thickest opposite the 7th. cervical segment, it extended upwards and downwards and lay chiefly on the L. postero lateral aspect of the cord which was pushed forward to the R. and much compressed and flattened. It was not attached to the cord, but it appeared to be attached to the lepto meninges. It was removed piecemeal and was dark coloured, friable and rather lobulated.
31.12.04. Patient died.

Case LXXVI

Sarcoma Intra Dural. with Cavity in the Cord. Died 6 weeks after operation.

K. C. Female aet 9. Dr. Beevor 1903.

Op. Sir Victor Horsley.

Complaint.	Pains all over, but principally in her buttock and down to her foot.
Duration.	18 months.
Fam. History.	A twin sister died of a sarcomatous tumour at the age of 2.
Prev. Health.	Good
Pres. Illness.	18 months ago severe pain in L. buttock, of sudden onset. 6 months ago became much worse and could not stand. Incontinence of urine. Some spinal curvature was noticed about the same time. No wasting, no girdle sensation.

State on Admission. 7.8.02.

Cranial Nerves.	Normal	
Motor System.		
Upper Extremities.	Normal	
Lower Extremities.	Limited movements of both, but more especially loss of voluntary movement in L. leg.	
Sensory System.	Diminution of all forms of sensation - tactile, touch, temperature and pain in 4th and 5th sacral segments. Specially marked loss to tactile and temperature sensation.	
Reflexes.	Deep.	
	Supinator	absent
	Biceps	very slight
	Knee	Absent
	Ankle	Absent
	Superficial.	
	Epigastric	Absent
	Abdominal	Absent
	Plantar	Flexor.

The patient gradually became worse, the L. leg became very emaciated and weak, with spastic contracture at knee and hip. The R. leg became affected and spastic, but was not so weak as the L. leg.

Spine	Pain on pressure over 2nd lumbar vertebra. Prominence in the sacral region.

The spine became more prominent over lower dorsal vertebrae. Plantar reflexes could not be obtained. Complete sensory loss over all the sacral areas and over the 5th lumbar on the R. side.

October 1902. No control over sphincters.

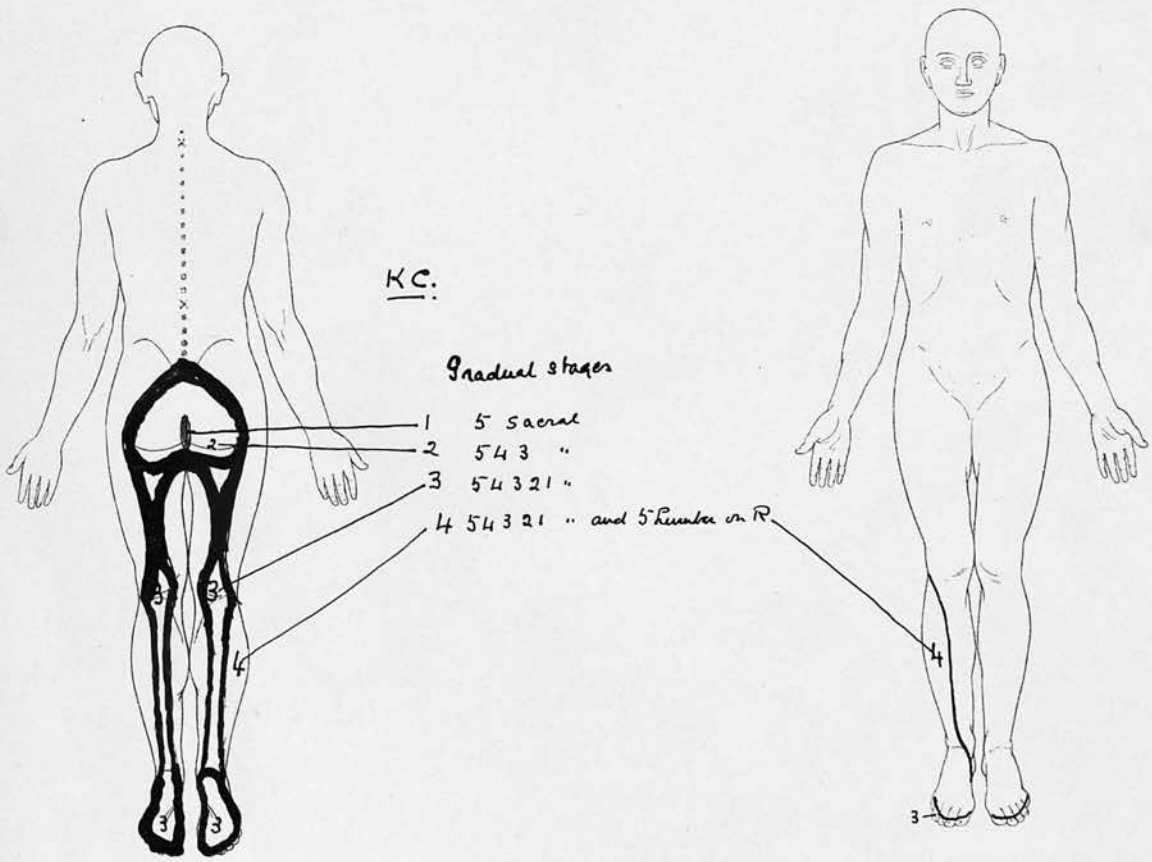
Operation 11.11.02. Sir Victor Horsley.

A large intra thecal sarcoma involving the cauda equina and extending up inside the dura as far as could be seen at the operation, compressing the cord.

1.1.03. The patient died.

Post Mortem.

Below the cord the roots were involved in a mass of tumour tissue, the lower end of the cord was adherent to the theca and a pyramidal shaped cyst extended from the surface of the cord to the centre. On microscopical examination the walls of the cyst were found to be composed of neuro glial tissue; there was no abnormality in the cord higher up.



Case LXXVII

Syphilitic Gummatous Meningitis. Great Improvement.

E. W. Female. 32. Dr. Grainger Stewart. 1908.

Op. Sir Victor Horsley.

Family History. Nil.

Previous Health. 6 years ago married - miscarriage 5 years ago. One boy living. Specific syphilis - treated for gumma in 1907.
2 months ago tingling and pain in inner side of L. arm and under L. scapula, also weakness of grip of L. hand.
9.4.08. She had pain in the distribution of the 1st. and 2nd. dorsal roots on L. side and some loss of sensation over 1st. dorsal root area.
During next month she noticed wasting of small muscles of L. hand and has had shooting pain down ulnar border of L. arm into the 4th. and 5th. fingers. Also she suffered from sudden attacks of violent sweating on L. side of face which occurred 2 or 3 times a day at first, lasting for 5 minutes or so, but they had become gradually less frequent and she had not had any for 14 days before admission.

State on Admission. 1.5.08.

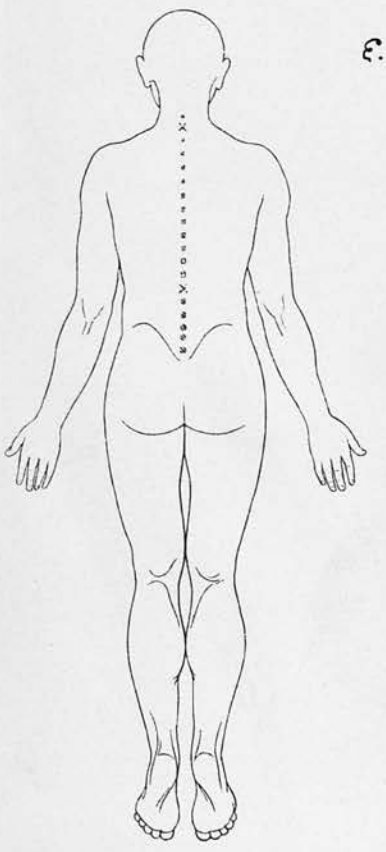
Cranial Nerves. Normal. Paralysis of R. cervical sympathetic.

Motor System.

Head & Neck. Normal.

Upper Extremities. R. normal.
L. Wasting of the deltoid posterior portion - triceps and biceps slight. Wasting of muscles of forearm on ulnar side and of small hand muscles. Flexion of wrist and grasp very poor. Extension of wrist fair. Flexion and extension of wrist feeble. Deltoid movement weak at shoulder.

Trunk.	Normal.
Abdomen.	Normal.
Lower Extremities.	Normal, but if patient is made to walk much L. leg tends to drag.
Electrical Reaction.	R.D. small hand muscles L. side, & in the deltoid.
Sensory System.	
Objective.	Complete loss to all forms of cutaneous sensibility over 1st. dorsal root area, almost complete over the 8th. cervical and 2nd. dorsal root area, also considerable but not so severe sensory loss over the 3rd. 4th. 5th. 6th. and 7th. dorsal root areas on the L. side. Slight loss to pain and temperature on R. side below level of the 5th. dorsal segment. No definite loss to any other form of sensation, except vibration is not felt from the elbow upward, but is felt at the styloid process at the wrist.
Reflexes.	



E. 40.
1908.

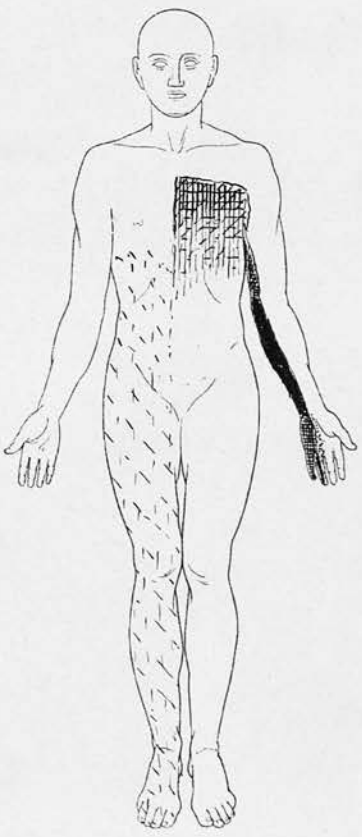
■ = Complete loss.

▨ = varying degrees of loss of pain heat cold touch.

▦ = slight blunting to Cutaneous pain + heat + cold.

Loss of vibration from elbow not from styloid.

Deep pain lost inner side of forearm.



Trunk. Normal.
Abdomen. Normal.
Lower Extremities. Normal, but if patient is made to walk much L. leg tends to drag.
Electrical Reaction. R.D. small hand muscles L. side, & in the deltoid.

Sensory System.
Objective. Complete loss to all forms of cutaneous sensibility over 1st. dorsal root area, almost complete over the 8th. cervical and 2nd. dorsal root area, also considerable but not so severe sensory loss over the 3rd. 4th. 5th. 6th. and 7th. dorsal root areas on the L. side. Slight loss to pain and temperature on R. side below level of the 5th. dorsal segment. No definite loss to any other form of sensation, except vibration is not felt from the elbow upward, but is felt at the styloid process at the wrist.

Reflexes.

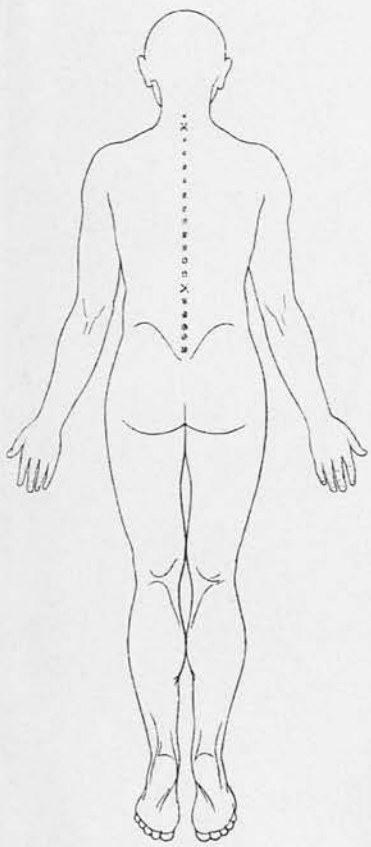
	Right.	Left.
Deep.		
Arm.	Briskeequal.	Brisk equal.
Knee.	Brisk no clonus.	Plus.
Ankle.	Brisk no clonus.	Plus.
Superficial.		
Epigastric.	Normal.	Diminished.
Abdominal.	"	"
Plantar.	Flexor.	Indefinite flexor hard to obtain.

Sphincters. No trouble.

Operation 12.3.08. Sir Victor Horsley.

Spines and laminae from 5th. cervical to 1st. dorsal vertebrae inclusive removed - nothing abnormal outside theca. On opening theca roots on L. side were surrounded by a reddish gummatous meningitis which bound the theca to the arachnoid, they could, however, be separated with the blunt end of a scalpel. The wound was washed out with 1 in 1000 perchloride and then closed.

24.7.08. Sensory loss complete over 1st. dorsal root area. Slight loss in 2nd. 3rd. and 4th. dorsal areas. Elsewhere sensation normal.
Motor. Patient can use L. arm fairly and power is good.
Reflexes. Normal.
Cervical Sympathetic. Palsy less, reacts to cocaine 2%.
6.10.08. Still less sensory loss over 1st. dorsal on L. side - otherwise normal except for the presence of slight cervical sympathetic palsy on L. side

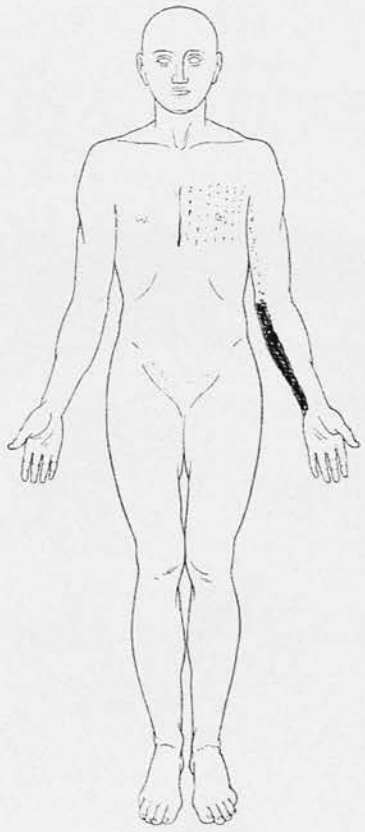


E. W. 1908

After operation

: slight sensory changes

= complete sensory loss



Case LXXVIII

Pachymeningitis. Improved - better 4 years later.

F. S. Male. 32. Dr. Grainger Stewart. 1907-8½

Op. Mr. Armour.

Complaint. Pain, numbness and weakness in the R. leg.

Previous Health. Excellent, except that 8 years previously he had contracted syphilis followed by well marked secondary symptoms. Treatment was carried irregularly for 3 months.

Present Illness. 10 months ago he began to suffer from pain in the front of the R. thigh; this continued for some months.

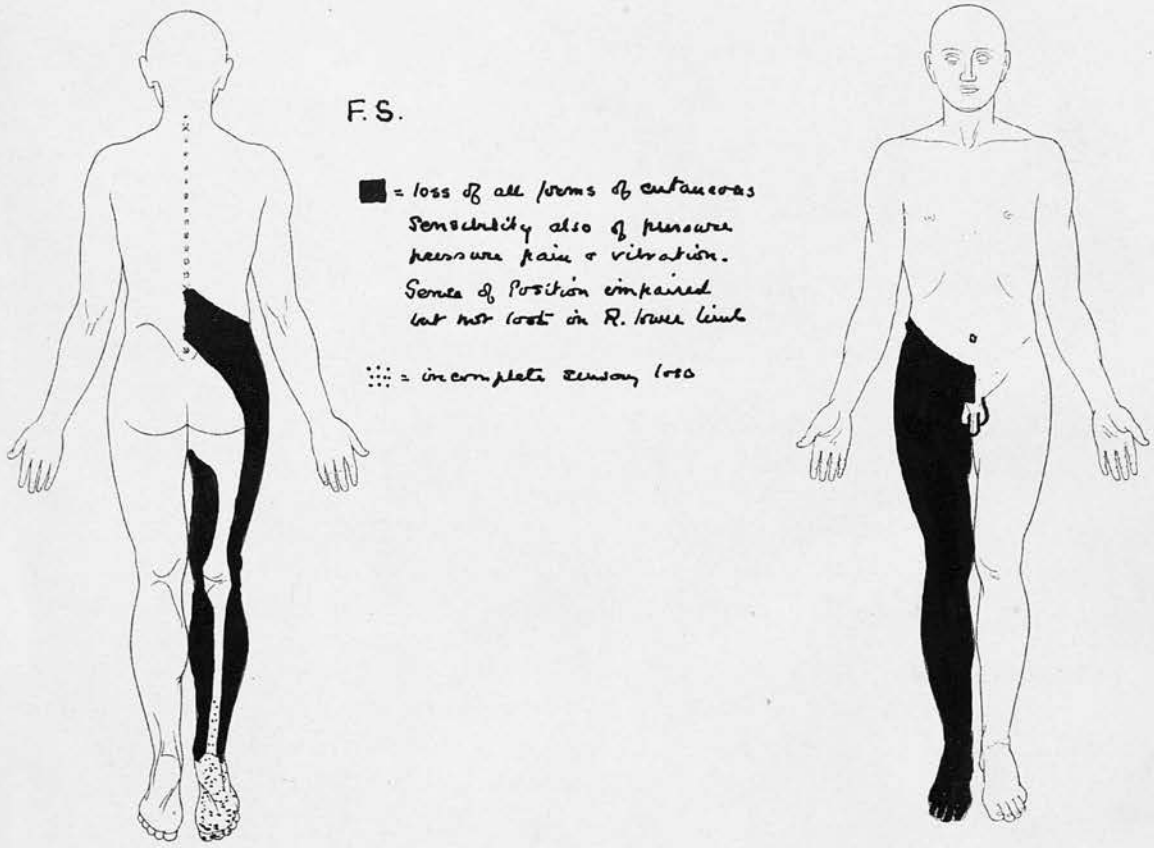
7 months ago he complained of pain in the R. leg, chiefly on the inner and outer asepcts of the calf. The pain increased and was then followed by numbness and weakness of the R. lower extremity.

3 months ago when seen his pupils w were unequal and both reacted sluggishly to light. He had weakness of the muscles and sensory loss in the areas supplied by the 1st. 2nd. 3rd. 4th. and 5th. lumbar roots of the R. side. There was no sphincter weakness nor was there any evidence of an intra-medullary lesion. The sensory loss was relatively much more severe than the motor paresis. A diagnosis of syphilitic gummatous meningitis involving the lumbar roots of the R. side of the cord was made and energetic anti-syphilitic treatment was carried out. This condition however, became worse, the pain disappeared, but the sensory loss and the motor weakness increased.

State on Admission. September 1908.

Cranial Nerves. Pupils unequal, reacting sluggishly to light, otherwise normal.

Motor System.



Subjective.	No pain, but some numbness on the sole of R. foot.
Objective.	Complete anaesthesia and analgesia, loss of appreciation of all degree of temperature, and of vibration in the areas of distribution of the posterior roots from the 10th. dorsal to the 5th. lumbar inclusive. At the upper limit of the 10th. dorsal area there was a zone in which the sensory loss was incomplete. Over the 1st. sacral area there was a d diminution to all forms of sensation. Pain pressure over the 10th. 11th. and 12th. dorsal and 2nd. 3rd. 4th. and 5th. lumbar areas was felt only as "something touching him". Sense of position diminished in R. lower extremity but not lost.

State on Admission. September 1908.

Cranial Nerves. Pupils unequal, reacting sluggishly to light, otherwise normal.

Motor System.

Trunk. The muscles of the lower abdomen on the R. side were in a state of mild flaccid paralysis.

Lower Extremities. The R. lower limb was weak; at the hip-joint flexion, abduction and extension were considerably impaired, as was external and internal rotation; adduction was less affected. At the knee joint the extensors were weak and the fl flexors affected to a less degree. At the ankle joint there was no power of dorsiflexion or eversion, inversion was feeble, but extension was good. At the toes the power of flexion was fair, but extension was impossible save to a slight extent in the great toe. The motor system elsewhere was normal.

Electrical Examination. Reaction of degeneration in the peronei and tibialis anticus on the R. side and diminished faradic excitability in the other muscles affected.

Sensory System.

Subjective. No pain, but some numbness on the sole of R. foot.

Objective. Complete anaesthesia and analgesia, loss of appreciation of all degree of temperature, and of vibration in the areas of distribution of the posterior roots from the 10th. dorsal to the 5th. lumbar inclusive. At the upper limit of the 10th. dorsal area there was a zone in which the sensory loss was incomplete. Over the 1st. sacral area there was a d diminution to all forms of sensation. Pain pressure over the 10th. 11th. and 12th. dorsal and 2nd. 3rd. 4th. and 5th. lumbar areas was felt only as "something touching him". Sense of position diminished in R. lower extremity but not lost.

Reflexes.	Deep.	Right.	Left.
	Knee.	Absent.	Normal.
	Ankle.	"	"
	Superficial.		
	Abdominal.	Absent.	Normal.
	Cremasteric.	"	"
	Plantar.	"	"
Sphincters.	Normal.		

As the patient's condition progressed steadily despite anti-syphilitic treatment, an operation was u undertaken to try and free some of the affected roots and possibly to render medicinal treatment more effective. Mr. Armour removed the laminae from the 10th. dorsal to the 1st. lumbar. The dura was apparently normal on the outer aspect; on incising the theca the L. side of the cord was exposed and showed no evidence of meningitis; on the R. side, however, the dura was more or less firmly bound to the cord by a gummatous meningitis which involved the 10th. dorsal root at its exit through the dura and extended downwards as low as the level of the exit of the 1st. sacral root from the cord. The roots were partly freed by dissection and the dura was incised in the intervals parallel to the roots. The wound was washed out with strong perchloride solution, the dura was not sewn, and the external wound was closed. The wound healed perfectly, and anti-syphilitic treatment was again resumed. There was considerable improvement in the motor power too, but the sensory loss remained much the same.

The patient remained very much in the same condition till August, 1911, although he gradually developed evidence of extension of the disease to the meninges of the opposite side of the cord. This extension was manifested by the slight involvement of some of the motor roots on the L. side, the muscles supplied by the 4th. and 5th. lumbar roots and the 1st. sacral becoming weak, although the weakness was not noticed by the patient and was only demonstrated by testing him against resistance. The L. knee jerk was diminished and the L. ankle jerk was absent. There is, however, no sensory loss of any sort on the L. side, and no sphincter trouble. In August 1911, the patient was admitted to the West London Hospital on account of a trophic sore on the dorsum of the R. foot. Under local treatment the sore completely healed up, and the patient was discharged on October 10th.

Case LXXIX

Syphilitic Pachymeningitis. Improved

G. M. Male. 46. Dr. Grainger Stewart. 1910.

Op. Mr. Armour.

Family History. Nil.

Previous Health. 20 years ago - syphilis.
13 years ago had pain in front of R. thigh and R. drop foot - recovered in 2 years.

Present Illness. Xmas 1909 - aching pain in lower part of back and down front of R. hip and thigh, slight pain in L. hip.
Pain worse after walking, easier on lying down.
April 1910 - had to give up work, the R. leg is easily tired, he could not go up a ladder and felt his foothold insecure. The pain was worse at night.
During last 6 months has had a constant pain like toothache down the front of R. thigh and slightly down front of L. The leg has got weaker and there has been a tendency for R. foot to drag. No trouble with micturition.

State on Admission.

Pupils are unequal, react normally.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

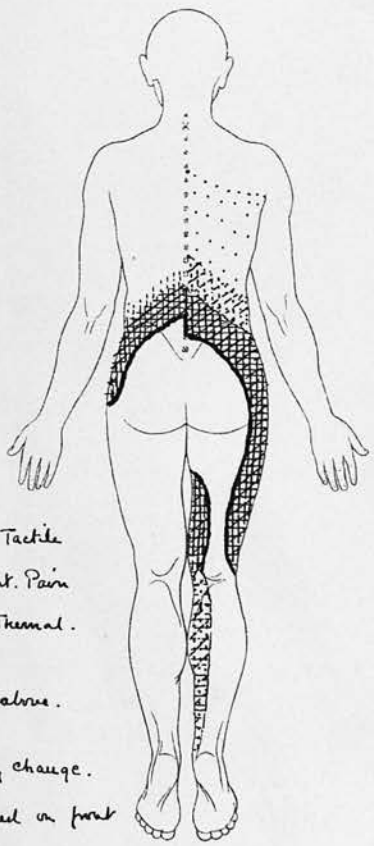
Lower Extremities. Wasting of R. thigh muscles and of the anterior leg muscles. Loss of power in flexion and extension at R. knee and in dorsi-flexion of R. foot.

Electrical Reaction. Diminution to faradism in the extensor muscles of R. thigh and in the peroneal muscles of R. leg.

Sensory System.
Objective.

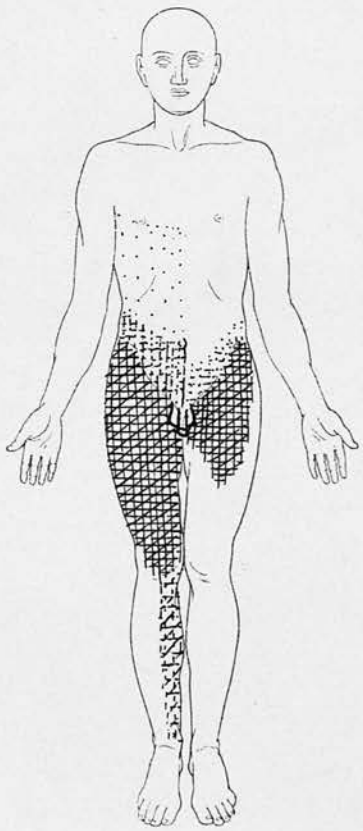
Well marked loss to all forms of cutaneous sensibility over 1st. 2nd. and 3rd. lumbar areas on R. side, and 1st and 2nd. on L.
Relative sensory loss over the 4th. lumbar area of R. leg and as high up as 10th. dorsal root area on R. side of abdomen and trunk. Very slight sensory changes can be made out on the 11th. and 12th. dorsal areas on L. side. Although no definite sensory loss can be demonstrated cutaneous sensibility appears to be sub-normal on R. side from 4th. dorsal downwards.
No loss of sense of position or of vibration, but deep pain appears to be diminished over anterior aspects of thighs.

G.M. 46.



= Complete loss to. Tactile
= " " to. Cut. Pain
= " " to Thermal.
= relative loss of above.
= indefinite sensory change.
= pain diminished on front of R thigh.
= vibration + sense of Position. no definite loss.

G. M. 46



= Complete loss to Tactile
= " " - Cut. Pain.
= " " - Thermal

= Relative loss of above

= Indefinite sensory change

Deep pain diminished on front of R. thigh

No definite loss in Vibration & sense of position

Sensory System.

Objective. Well marked loss to all forms of cutaneous sensibility over 1st. 2nd. and 3rd. lumbar areas on R. side, and 1st and 2nd. on L.
Relative sensory loss over the 4th. lumbar area of R. leg and as high up as 10th. dorsal root area on R. side of abdomen and trunk. Very slight sensory changes can be made out on the 11th. and 12th. dorsal areas on L. side. Although no definite sensory loss can be demonstrated cutaneous sensibility appears to be sub-normal on R. side from 4th. dorsal downwards. No loss of sense of position or of vibration, but deep pain appears to be diminished over anterior aspects of thighs.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Absent.	Diminished.
Ankle.	"	"
Superficial.		
Epigastric.	Brisk.	Brisk.
Abdominal.	Absent.	Present diminished.
Plantars.	?Extensor.	Flexor.

Sphincters. Unaffected.

Spine. No deformity - movements good - tenderness on pressure over 2nd. and 3rd. lumbar spines.

Operation. 24.8.10. Mr. Armour.

Laminectomy exposing lumbar sacral enlargement and cauda equina for about 3 inches. The dura mater was normal. The pia arachnoid were very thickened and brownish with a fluffy appearance. The cord could not be seen through them. This thickening was in part about 1/8 inch thick: a small piece was removed for pathological examination. The patient stood the operation very well.

January 1912.

Patient has been under constant supervision and has been treated with two courses of mercury and iodide and with two injections of "606". The sensory changes are now limited to the 1st. 2nd. 3rd. and 4th. lumbar on R. side and 1st. 2nd. lumbar on L.

The abdominal reflexes returned after the operation, and after further anti-syphilitic treatment the sensibility above the 12th. dorsal was restored. Motor condition shows slight improvement. Patient still suffers from burning pain on both sides in the distribution of 2nd. lumbar root area.

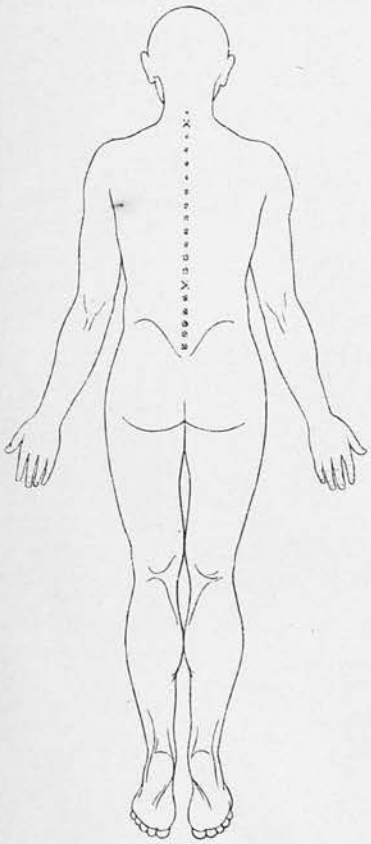
Case LXXX

Gumma c Pachymeningitis. Complete Recovery. 4 years.

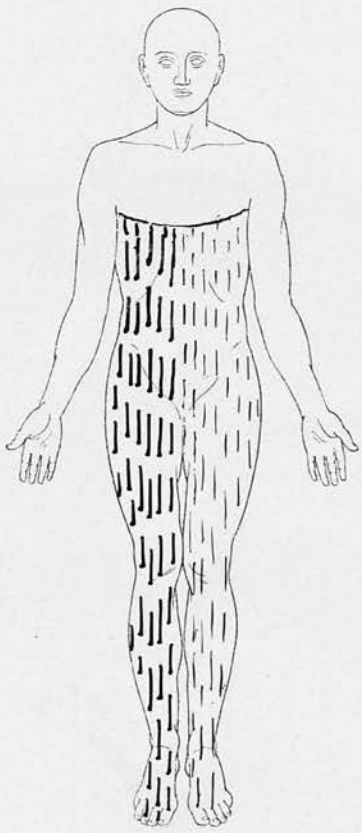
W. B. Male. 24. Sir William Gowers. 1900.

Op. Sir Victor Horsley.

Complaint.	Inability to walk, pain in chest and back - difficulty in passing water.
Duration.	3 years.
Family History.	Nil - no consumption.



W.A.B.
1900.
Sensory defect.
more on Right
than Left.



Sensory System.

Subjective.	Pain at 5th. dorsal spine on movement or coughing.
Objective.	The highest level of sensory defect is upper limit of 5th. dorsal area - rather more loss on R. side than on L. (No detailed description of sensory loss).

Case LXXX

Gumma c Pachymeningitis. Complete Recovery. 4 years.

W. B. Male. 24. Sir William Gowers. 1900.

Op. Sir Victor Horsley.

Complaint.	Inability to walk, pain in chest and back - difficulty in passing water.
Duration.	3 years.
Family History.	Nil - no consumption.
Previous Health.	Good - no syphilis.
Present Illness.	3 years ago after influenza suffered from a severe pain in the back (5th. dorsal) stabbing in character and made worse on stooping. A week later dragged R. foot - bad for 3 weeks, but after that not so bad but never normal. Pain disappeared. 1 year ago (after typhoid fever) the L. leg also became gradually weak, and later difficulty in passing water, also return of pain in same position.

State on Admission. 6.12.99.

Cranial Nerves.	Normal.
Motor System.	
Head & Neck.	Normal.
Upper Extremities.	Normal.
Lower Extremities.	Spastic paralysis of both legs, L. a little more affected than R. Flexor spasms at night. Only slight movement possible, cannot stand or walk. No wasting.
Sensory System.	
Subjective.	Pain at 5th. dorsal spine on movement or coughing.
Objective.	The highest level of sensory defect is upper limit of 5th. dorsal area - rather more loss on R. side than on L. (No detailed description of sensory loss).

Reflexes.

	Deep.	Right.	Left.
	Arm.	Normal.	Normal.
	Knee.	Plus.	Plus.
	Ankle.	Plus clonus.	Plus clonus.
	Superficial.		
	Epigastric.	Absent.	Absent.
	Abdominal.	"	"
	Plantar.	Extensor.	Extensor.
Sphincters.	Delay in starting micturition.		
Spine.	No deformity. Tenderness on pressure over 5th. dorsal spine, also on stooping or movement.		

Operation. 23.2.00. Sir Victor Horsley.

The 3rd. 4th. and 5th. dorsal spines and laminae were removed. The theca pulsated above the 4th. dorsal segment at which level the theca was distended, and below which there was no pulsation. The dura was incised, there being no evidence of any disease of the bone or peritheral tissues, and a quantity of cerebro spinal fluid escaped. There was a definite pachymeningitis, and beneath this in the cord itself there was a dense white formation. This was incised on the chance of its being cystic, but it was firm and of a uniform consistency throughout. The wound was closed, a drainage tube being left in.

1.3.00. Tube removed after 2 days, wound healed. Much pain after the operation.

6.3.00. Much more power in the legs. No sphincter trouble.

19.3.00. Wound firmly healed.

Motor. Much more power in legs.

Sensory. Normal sensibility over trunk - some loss over thighs - severe loss over legs.

9.5.00. Walks with support, sensation normal.

7.11.00. Walks quite naturally. Knee and ankle reflexes brisk. Plantars extensor.

5.5.04. Quite well. Has been accepted for insurance.

Case LXXXI

Pachymeningitis. Cauda Equina. Improved

E. M. A. Female. 48. Dr. Tooth. 1904.

Op. Sir Victor Horsley.

Complaint. Weakness of L. leg - no feeling in L. foot. Pain in L. foot and up inside of L. leg. 3 months difficulty with water - 6 weeks.

Family History. Consumption in husband and in children.

Previous Health. Typhoid 13 years ago. No miscarriages.

Present Illness. 3 months ago was sitting quietly at fire when she suddenly felt a sharp shooting pain in L. hip, (just below iliac crest). It continued for 2 months, aggravated on movement.

2½ months ago pain like needle pricks on inner side of L. foot and sole also across toes - worse on movement - keeps patient awake at night.
Feeling of deadness on outside of L. leg from outside of foot to junction of mid and lower third of thigh - never associated with pain.
Weakness of leg and slow wasting, limb became thin and flabby, loss of power came on rather suddenly.

2 months ago could not put any weight on L. leg, quite sudden onset, could not walk or stand. Has been confined to bed or chair since.

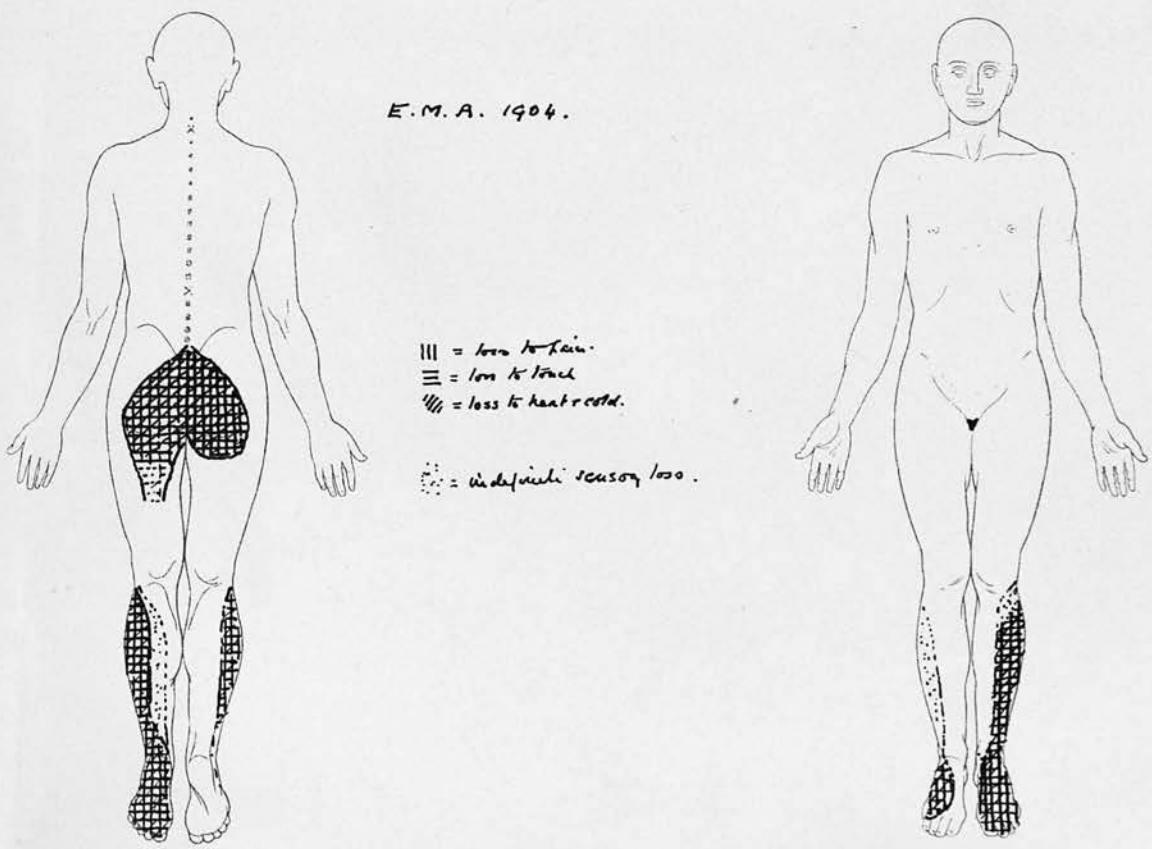
6 weeks ago water became thick.

2 weeks ago had to strain to empty bladder, water dribbled from her at the end and wet her.
No pain in back, no loss of sensation in urinary tract. Bowels getting constipated.

State on Admission.

Patient pale, rather poorly developed. No signs of tubercle or syphilitic disease.

Special Senses.	Normal.
Cranial Nerves.	Normal.
Motor System.	
Upper Extremities.	Normal.
Trunk.	Normal.
Lower Extremities.	Muscles soft and flabby, toneless. Hypotoxia. No involuntary movements, no fibrillary tremor. Coordination in legs better in R. than L. (due to general weakness). Arms good.
Gait.	Only walks with help, leans to R. drops front of L. leg which is dragged. No rombergism.
Vasomotor.	No affection.
Sensory System.	
Subjective.	Pain in L. leg across dorsal toes, under sole of foot, (distal half) on inner side of foot to heel, and up outer side of leg to knee. Numbness outisde of R. foot and the whole of L. foot. No internal sensation of micturition or defaecation.
Objective.	Sensory loss over the R. side of the 4th. and 5th. sacral and partial over



Special Senses. Normal.
Cranial Nerves. Normal.
Motor System.
Upper Extremities. Normal.
Trunk. Normal.
Lower Extremities. Muscles soft and flabby, toneless. Hypotoxia. No involuntary movements, no fibrillary tremor. Coordination in legs better in R. than L. (due to general weakness). Arms good.
Gait. Only walks with help, leans to R. drops front of L. leg which is dragged. No rombergism.
Vasomotor. No affection.
Sensory System.
Subjective. Pain in L. leg across dorsal toes, under sole of foot, (distal half) on inner side of foot to heel, and up outer side of leg to knee. Numbness outisde of R. foot and the whole of L. foot. No internal sensation of micturition or defaecation.
Objective. Sensory loss over the R. side of the 4th. and 5th. sacral and partial over the 5th. lumbar area. On L. side over the 3rd. 4th. and 5th. sacral and 5th. lumbar areas and partial over the 1st. sacral.

Operation. 24.1.05. Sir Victor Horsley.

An incision was made over 4th. lumbar to 2nd. sacral spines and the lamina of 5th. lumbar was removed and later 1st. to 2nd. sacral. Membranes bulged. The theca was incised and a considerable amount of cerebro spinal fluid escaped. It was a pachymeningitis with fine adhesions between the membranes and cord and sensory nerve roots - cord was pink.

Dura was sewn up.

Case LXXXII

Syphilitic Pachymeningitis. Improved

J. K. Male. 37. Dr. Buzzard. 1911.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Syphilis 7 years ago.

Present Illness. Nov. 1909. Weakness of L. foot, and later leg.
Dec. 1909. Weakness of R. foot and leg. Stumbling gait - girdle sensation round abdomen and precipitant micturition.
Feb. 1910. Progressive weakness, had reached such a stage that he was unable to walk.

State on Admission. 26.4.10.

Spastic paralysis below 5th. dorsal, L. more than R., with relative sensory loss to pain, heat and cold to that level. No loss of joint sense or sense of position. Precipitancy of micturition.

Under treatment with iodide and mercury improved, both motor and sensory.

19.7.10. Left Hospital.

Patient remained better for a few months, then relapsed. He went to Aix. Given "606" - no improvement.

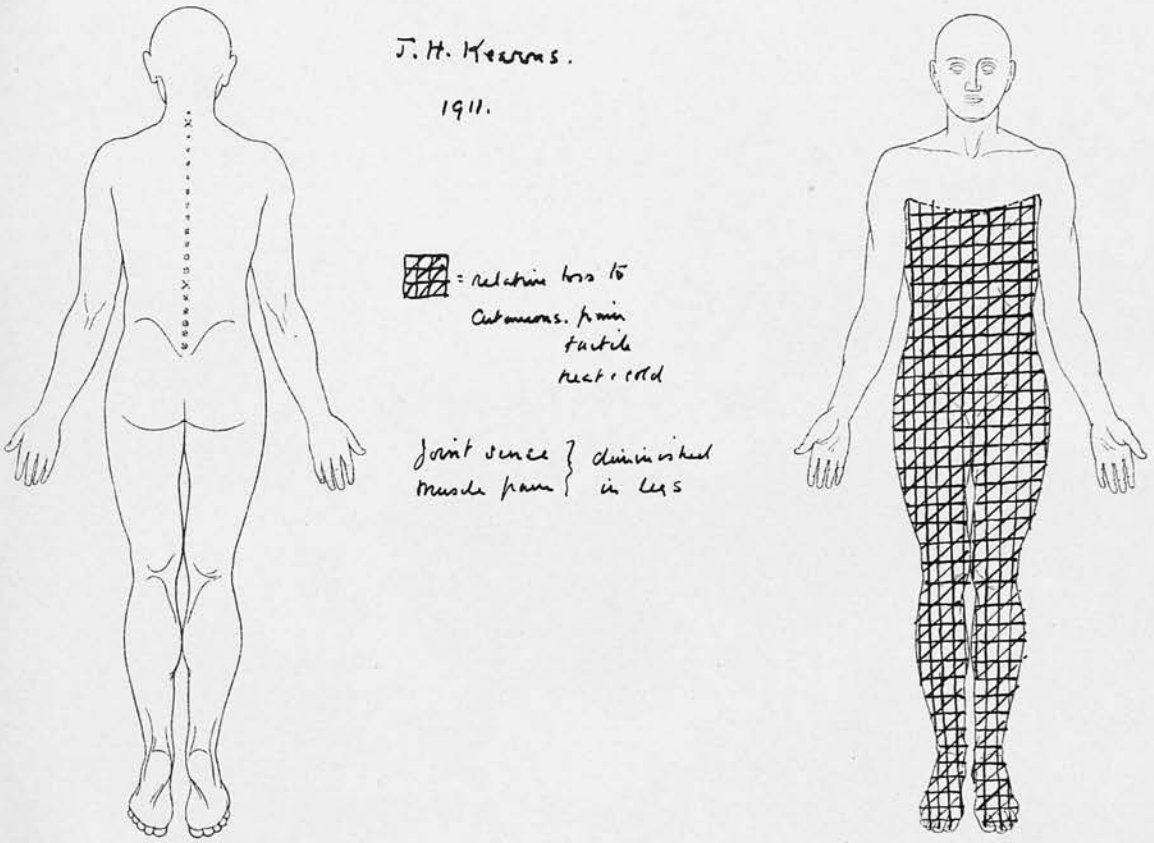
State on Admission. 13.1.11.

Cranial Nerves. Pupils unequal but react normally, other cranial nerves normal.

Motor System.
Upper Extremities. Normal.
Trunk. Spastic paralysis.
Lower Extremities. Spastic paralysis - fair movement within limits of spasticity ~~more so~~.
Gait. Can stand and walk a few steps with assistance.

Sensory System.
Objective. Slight relative anaesthesia to cotton wool, most in legs and feet up to level of 4th. dorsal segment. Relative loss to pain, heat and cold

up to 4th. dorsal, worse in 5th. lumbar area. Joint sense and muscle pain sense diminished.



appeared and escaped after the removal of the [illegible].
Patient's spasticity less, reflexes and sensory changes in statu quo.
8.2.11. Escape of more cerebro spinal fluid - rise of temperature.
22.2.11. Wound quite healed. Spasticity less, can move flex knees and move toes and ankle of R. leg.
Sensory loss less. Sphincters as before operation.
6.3.11. "606" injected intravenously - 4 grms.
18.5.11. Spasticity much less. Patient can walk with assistance. Sensory changes less. Control of sphincters returning.

up to 4th. dorsal, worse in 5th. lumbar area. Joint sense and muscle pain sense diminished.
Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Precipitant micturition.

Operation. Mr. Armour.

The spines and laminae of 7th. cervical to 3rd. dorsal removed. Nothing outside dura, but dura tense. Dura opened longitudinally. The arachnoid was found to be thickened and slightly adherent to the dura and cord. The cord was displaced backwards and to the right by something lying in front of it. On the anterior L. aspect of the cord an elongated dark blue swelling was seen. This proved to be an encysted collection of cerebro-spinal fluid lying between or surrounded by the arachnoid and dura. The cyst was opened and the cord then fell back into its normal position. The dura was not sutured and the wound was closed.

7.2.11. A collection of cerebro spinal fluid had appeared and escaped after the removal of the stitches. Patient's spasticity less, reflexes and sensory changes in statu quo.

8.2.11. Escape of more cerebro spinal fluid - rise of temperature.

22.2.11. Wound quite healed. Spasticity less, can move flex knees and move toes and ankle of R. leg. Sensory loss less. Sphincters as before operation.

6.3.11. "606" injected intravenously - 4 grms.

18.5.11. Spasticity much less. Patient can walk with assistance. Sensory changes less. Control of sphincters returning.

Case LXXXIII

Syphilitic Pachymeningitis. Died night of Operation

W. H. Male. 32. Dr. Ferrier 1906.

Op. Mr. Ballance.

Complaint.	Loss of power, pain, wasting and loss of sensation in L. leg and wasting and weakness of R.
Duration.	7 months.
Family History.	Good.
Previous Health.	Gonorrhoea at 19. ? Syphilis.
Present Illness.	June 1905. Pain in L. lumbar region - became worse - extended down thigh, worse at night, relieved by exercise. Later a sharp shooting pain in L. calf and wasting of leg.
	Sept. 05. Guy's Hospital. Pain now in L. foot, the rest of leg numb and anaesthetic.
	Oct. 05. Wasting very progressive, also numbness in R. leg with wasting of muscles.
	Jan. 06. Unable to hold urine and precipitate defaecation, also bad twitchings of L. leg.

State on Admission. 29.1.06.

	Thin, rather ill looking man.
Cranial Nerves.	Normal.
Mental Condition.	Good.
Motor System.	General muscular wasting.
Upper Extremities.	Normal.
Trunk.	No paralysis, but cannot sit up owing to fixation of L. hip.
Lower Extremities.	Right. Wasting of all groups of muscles, but all movements performed with moderate power, more than one would expect from the aspect of the Muscles.
	Left. Wasting of all muscles, no voluntary movement - some spasticity and spastic contraction of L. hip joint. Cannot stand or walk.

Electrical Reactions. In L. lower extremity no response to faradism except in adductors of thigh. In R. all muscles contract, thigh more sluggish than others.

Sensory System.

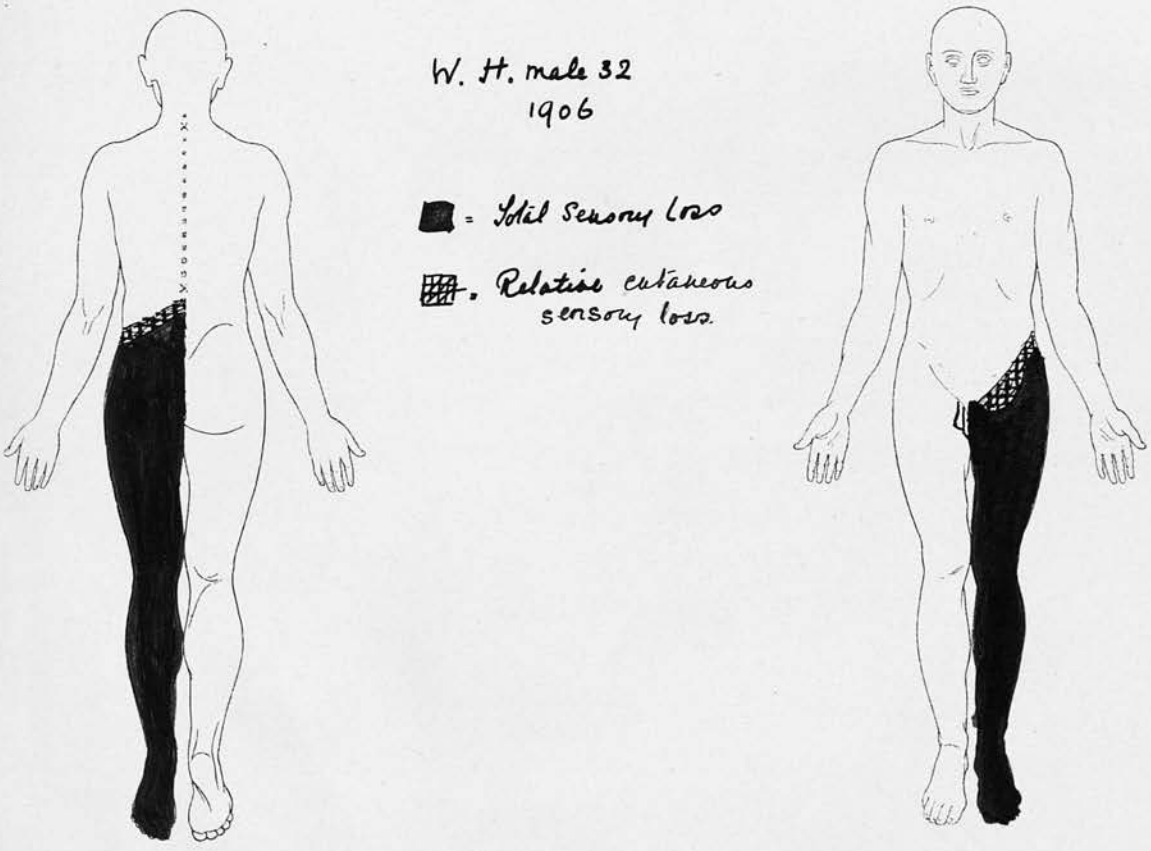
Subjective. Severe aching pain in L. ankle.

Objective. Total anaesthesia of L. leg as high up as the upper part of thigh - above this a small narrow area with relative sensory loss. In R. leg sensation is normal except for a small patch on the outer side of thigh.
L. vibration diminished - sense of position diminished but not gone

1906

Total Sensory Loss

Relative Cutaneous Sensory loss.



Lumbar posterior root[illegible]

the anterior and posterior roots, from the 11th. dorsal to the 5th. sacral inclusive were involved in some part of their course.

Electrical Reactions. In L. lower extremity no response to faradism except in adductors of thigh. In R. all muscles contract, thigh more sluggish than others.

Sensory System.

Subjective. Severe aching pain in L. ankle.

Objective. Total anaesthesia of L. leg as high up as the upper part of thigh - above this a small narrow area with relative sensory loss. In R. leg sensation is normal except for a small patch on the outer side of thigh.
L. vibration diminished - sense of position diminished but not gone.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Present.	Absent.
Ankle.	Present diminished.	"
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	"	"
Plantars.	Flexor.	Absent.

Sphincters. Precipitated micturition and defaecation. Patient got worse and abdominal reflexes on L. side below umbilicus disappeared.

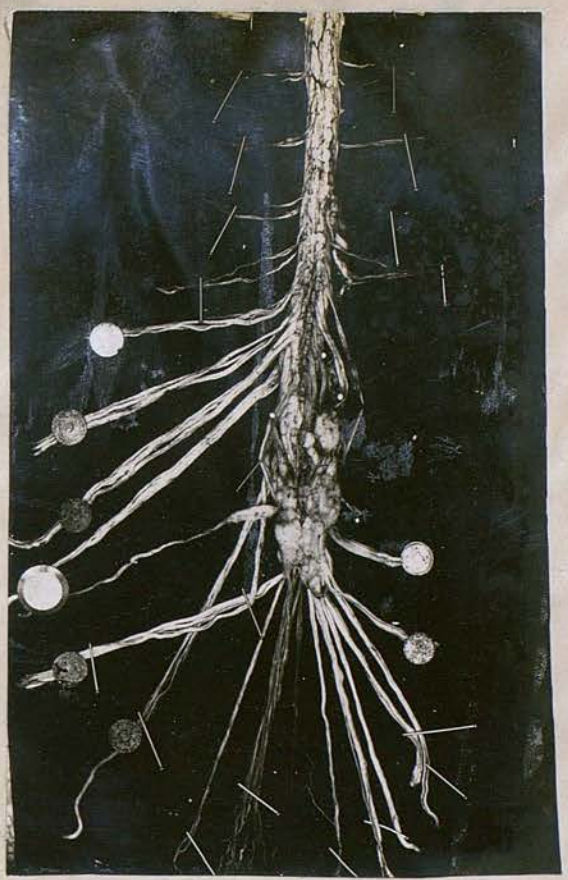
Operation. 21.2.06. Mr. Ballance.

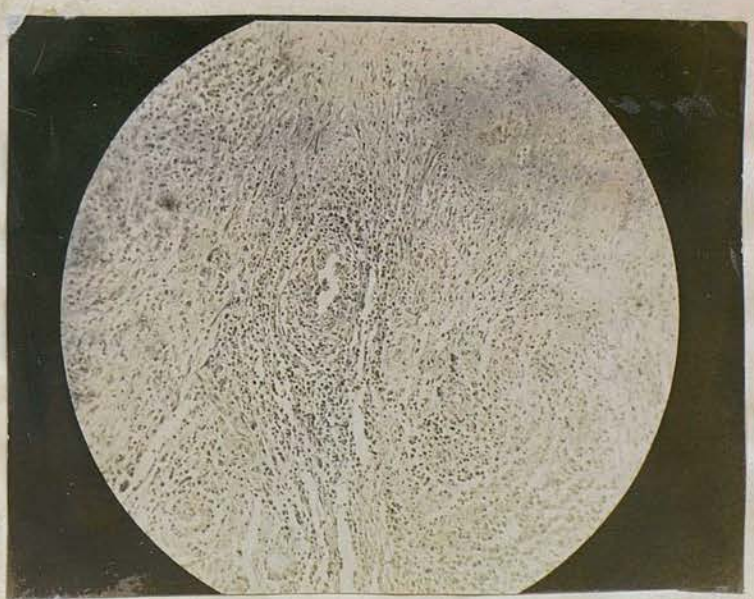
The Spines and laminae of 10th. 11th. and 12th. dorsal and 1st. 2nd. and 3rd. lumbar were removed. There was nothing outside the theca, but hard masses could be felt beneath it.

Patient died at midnight.

Post Mortem. A syphilitic gummatous pachymeningitis was found entirely intra dural. It involved the 4th. and 5th. lumbar and 1st. sacral anterior roots and the 4th. lumbar posterior root on the R. side. On the L. side the anterior and posterior roots, from the 11th. dorsal to the 5th. sacral inclusive were involved in some part of their course.





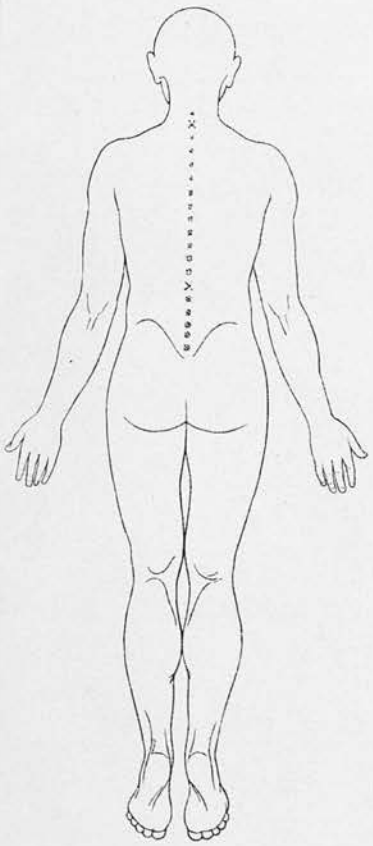


Case LXXXIV

THICKENING of LEPTO-MENINGES. Recovery.

R. C. Male. 57. Sir William Gowers. 1909.

Op. Sir Victor Horsley.



R.C. 57.

18.1.09.

⁘ = very slight sensory loss to cutaneous stimuli

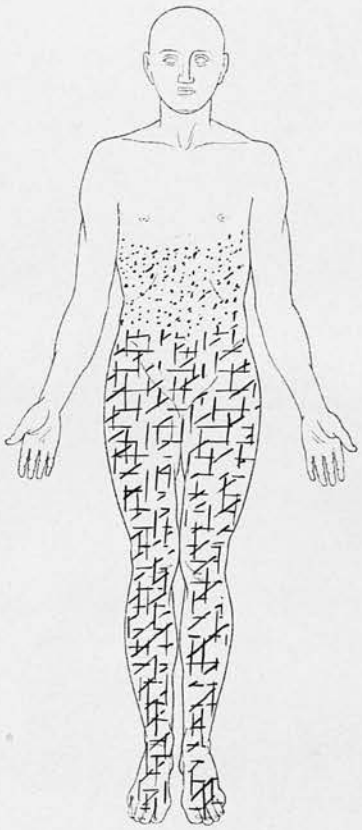
≡ relative loss to tactile

|||| " " " pain

▨ " " " heat & cold.

No loss of joint sense

No loss of deep pain



Sensory System.

Objective. Relative defect of all forms of cutaneous sensibility below 9th. dorsal level. Slighter impairment up to 5th. dorsal area. Sense of position and deep pain normal.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Brisk.	Brisk.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Diminished.	Diminished.
Abdominal.	Absent below 10. D.	Absent below 10. D.
Plantar.	Extensor.	Extensor.

Sphincters. Delay in starting micturition, occasional incontinence of urine.

Case LXXXIV

THICKENING of LEPTO-MENINGES. Recovery.

R. C. Male. 57. Sir William Gowers. 1909.

Op. Sir Victor Horsley.

Family History. Good.

Previous Health. Exposed to venereal infection.

Present Illness. 1 year ago pain in lumbar region shooting down back of thighs, worse on movement. Gradual onset of weakness and stiffness in the legs. 7 months ago had to give up work, and then had delay in starting micturition. Since then has occasionally had incontinence of faeces. Patient has had energetic anti-syphilitic treatment for 3 months.

State on Admission. 18.1.09.

Cranial Nerves. Pupils sluggish to light.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. Spasticity of both, R. weaker than L.

Gait. Spastic and ataxic.

Sensory System.

Objective. Relative defect of all forms of cutaneous sensibility below 9th. dorsal level. Slighter impairment up to 5th. dorsal area. Sense of position and deep pain normal.

Reflexes.

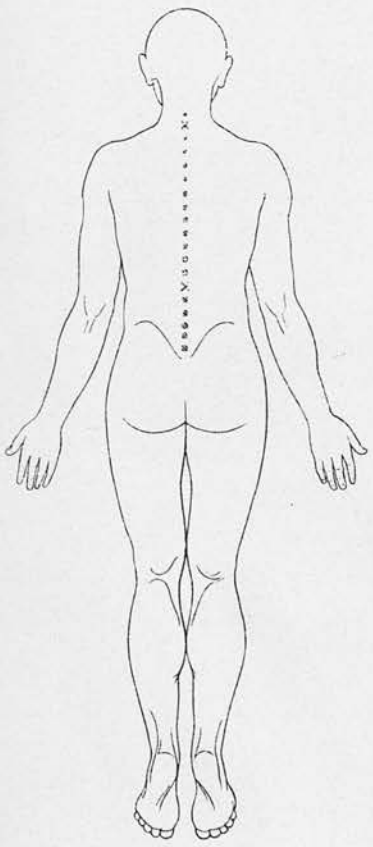
	Right.	Left.
Deep.		
Arm.	Brisk.	Brisk.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Diminished.	Diminished.
Abdominal.	Absent below 10. D.	Absent below 10. D.
Plantar.	Extensor.	Extensor.

Sphincters. Delay in starting micturition, occasional incontinence of urine.

Operation. 27.4.09. Sir Victor Horsley.
The spines and laminae of the 2nd. to 6th. dorsal vertebrae were removed. Nothing abnormal found. except thickening of the lepto-meninges
28.4.09. Retention.

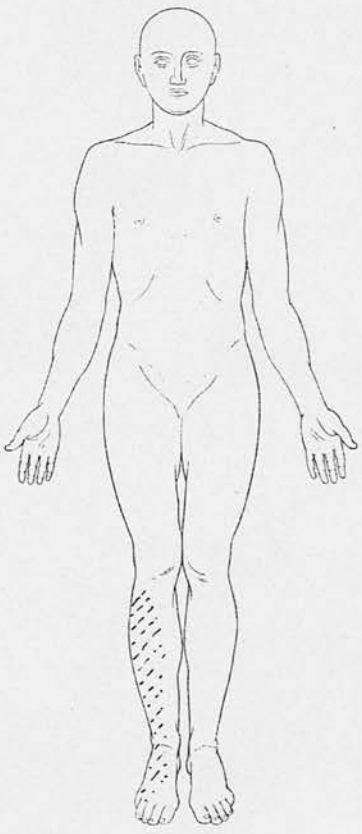
29.4.09. Control over urine and faeces.

22.6.09. Gait almost normal, no weakness.
Sensory. Only slight confusion to heat and cold over outer side of R. leg below the knee.
Sphincters. Normal.
Patient has had no ~~active~~ anti syphilitic treatment in hospital.



R.C. 57.
after operation
22.6.09.

= slight confusion of heat & cold.



Operation. 27.4.09. Sir Victor Horsley.
The spines and laminae of the 2nd. to 6th. dorsal vertebrae were removed. Nothing abnormal found. except thickening of the lepto-meninges

28.4.09. Retention.

29.4.09. Control over urine and faeces.

22.6.09. Gait almost normal, no weakness.
Sensory. Only slight confusion to heat and cold over outer side of R. leg below the knee.
Sphincters. Normal.
Patient has had no ~~ante~~ anti syphilitic treatment in hospital.

Case LXXXV

CHRONIC · LEPTO. MENINGITIS Improved

G. D. Male. 42. Dr. Beevor. 1903.
Op. Sir. V. Horsley.

Complaint. Weakness in legs.

Previous Health. Good, no syphilis.

Present Illness. 3 years ago pain in back followed by tired stiff feeling in legs, gradually worse.
2 years ago difficulty in micturition. No sensory change, girdle or root pains noticed.

State on Admission. 24.4.03.
Motor System. Normal above abdomen.
Trunk. Lower abdomen weak.
Lower Extremities. Legs spastic, weak.
Sensory System. Normal.
Reflexes.

Superficial.	Right.	Left.
Epigastric.	Normal.	Normal.
Abdominal.	Absent below 8th. dorsal.	

Sphincters. Unaffected.
Spine. 6th. dorsal depressed, some rigidity, pain on pressure.

Operation. 1.6.03. Sir Victor Horsley
The 5th. 6th. and 7th. dorsal were removed, dura was distended. On being opened there was an escape of a quantity of cerebro spinal fluid. No adhesions above or below, but thickening of Pia and arachnoid, which compressed cord.

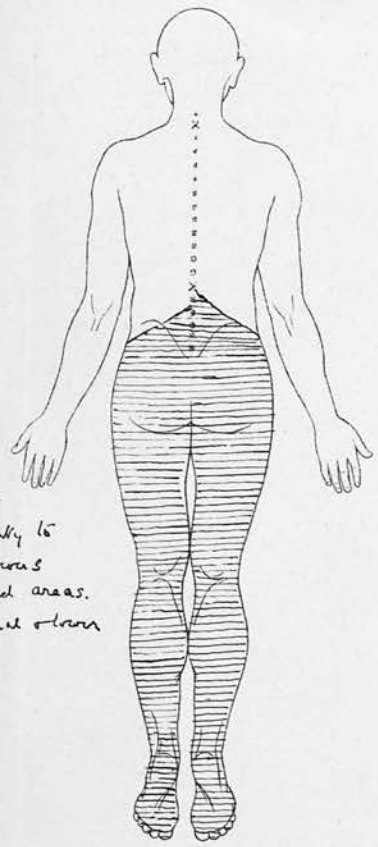
14.8.03. Gait slightly improved - very little change.

Case LXXXVI

Thickening of Arachnoid. Some Recovery.

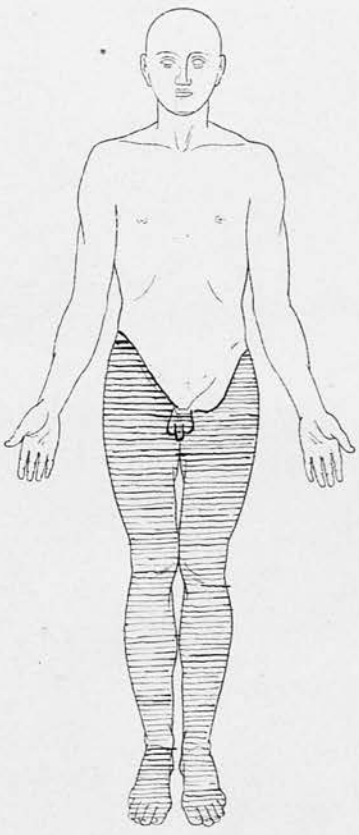
G. H. Male. 44. Dr. Taylor. 1909.

G.H. 44.



Diminished sensibility to all forms of cutaneous stimuli in shaded areas. Rather less in sacral & lower lumbar areas.

G. H. male 44
1909



Diminished sensibility to all forms of cutaneous stimuli in shaded areas. Rather less in sacral & lower lumbar areas

Sensory System.
Objective. Diminished sensation to cutaneous sensibility to the level of the 12th. dorsal segment. Some hyperaesthesia in region of 11th. dorsal area.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Clonus.	Clonus.
Superficial.		
Epigastric.	Brisk.	Brisk.
Abdominal.	"	"

Sphincters. Precipitant micturition. Rectum normal.

Case LXXXVI

Thickening of Arachnoid. Some Recovery.

G. H. Male. 44. Dr. Taylor. 1909.

Op. Sir Victor Horsley.

Family History. Nil.

Previous Health. Gonorrhoea 4 years ago - denies syphilis.

Present Illness. 14 months ago legs got tired easily when walking
11 months ago weakness more marked.
9 months ago tight feeling bound back (lower) - precipitant micturition, legs becoming stiff - no paraesthesia.
7 months ago pins and needles in both feet - spasms in muscles of both legs.

State on Admission. 9.9.07.

Mental Condition. Normal.
Cranial Nerves. Normal.
Motor System.
Upper Extremities. Normal.
Trunk. Normal.
Lower Extremities. Spastic gait.
Sensory System.
Objective. Diminished sensation to cutaneous sensibility to the level of the 12th. dorsal segment. Some hyperaesthesia in region of 11th. dorsal area.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Clonus.	Clonus.
Superficial.		
Epigastric.	Brisk.	Brisk.
Abdominal.	"	"

Sphincters. Precipitant micturition. Rectum normal.

13.11.07. Left the Hospital. Spastic weakness of the legs increased - can only walk with 2 sticks.

23.3.08. Readmitted.

Motor.

Trunk. Weakness of lower abdominal muscles.

Lower Extremities. Both limbs very spastic, especially the L. - movements much impaired owing to spasticity.

Sensory System.

Subjective. Some pain over 11th. dorsal root area.

Objective. Cutaneous sensibility diminished to 11th. dorsal on R. and 12th. dorsal on L.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	Absent.	Absent.
Plantar.	Extensor.	Extensor.

Sphincters. Normal.

Spine. No rigidity, deformity, or pain on pressure or movement.

Operation. 31.3.08. Sir Victor Horsley.

The spines and laminae of 11th. and 12th. dorsal and 2nd. and 3rd. lumbar vertebrae were removed. Dura was incised. There was thickening of the pia arachnoid and cord appeared shrunken, also posterior roots. No tumour.

5.8.08. Anaesthesia In statu quo.
Power much improved.

Case LXXXVII

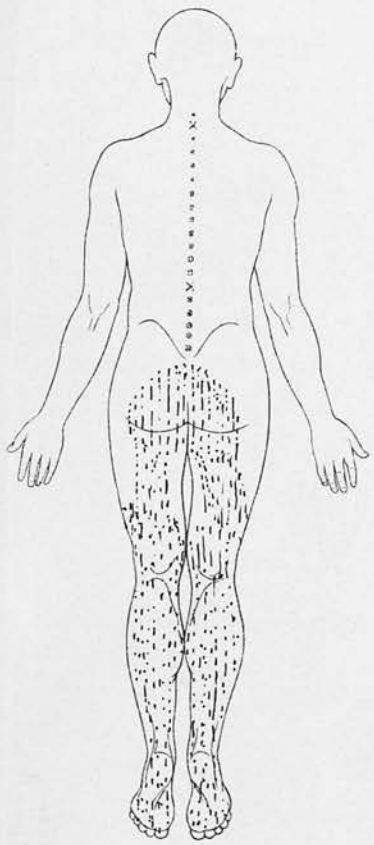
Died suddenly some weeks after operation. Syphilitic heart.

Morbid Condition of Lepto Meninges. Syphilitic Lepto-meningitis

W. M. Male. 43. Sir William Gowers. 1905.

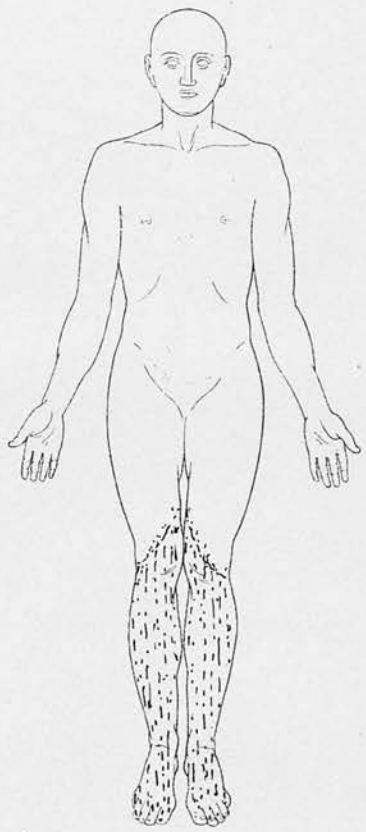
Op. Sir Victor Horsley.

W.M. 1905. Slight loss to Temperature Pain.



W. M. male 43
1905

Slight loss to Temperature & Pain.



Sensory System.

Subjective. Some numbness in feet and a feeling of tightness round lowest part of abdomen.

Objective. Some loss to pain and temperature below 3rd. lumbar root area. No loss to touch, or sense of position in legs.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee. } Ankle. {	Increased with clonus.	Increased with clonus.
Superficial.		
Epigastric. } Abdominal. {	Not obtained, much fat in abdomen.	
Plantar.	Extensor	Extensor.
	Well marked crossed flexor.	

Case LXXXVII

Died suddenly some weeks after operation. Syphilitic heart.

Morbid Condition of Lepto Meninges. Syphilitic Lepto-meningitis

W. M. Male. 43. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

Complaint. Inability to walk, sphincter trouble.

Previous Health. Intermittent fever in S. Africa.
Syphilis 14 years ago - well treated.

Present Illness. 3 years ago numbness in R, foot up to knee. Shortly afterwards began to drag R. foot and still later L.
2 years ago unable to walk - legs stiff, reflex spasms at night, difficulty in starting micturition and incontinence of urine at night.

State on Admission. 4.11.04.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. Spastic weakness of both, no wasting. All movements weak especially ankle and toe movements, flexion of knee and extension of hip. R. leg worse than L., patient cannot stand alone.

Sensory System.

Subjective. Some numbness in feet and a feeling of tightness round lowest part of abdomen.

Objective. Some loss to pain and temperature below 3rd. lumbar root area. No loss to touch, or sense of position in legs.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Increased with clonus.	Increased with clonus.
Ankle.		
Superficial.		
Epigastric.	Not obtained, much fat in abdomen.	
Abdominal.		
Plantar.	Extensor	Extensor.
	Well marked crossed flexor.	

Sphincters. Slight difficulty in starting micturition nocturnal incontinence. - constipation.

Spine. No deformity or limitation of movement, some tenderness on pressure over 1st. lumbar spine and lower D. region.

Operation. 28.3.05. Sir Victor Horsley.

11th. and 12th. dorsal and 1st. lumbar spines and laminae were removed. The theca was distended. On incision a large amount of cerebro spinal fluid escaped under pressure - it seemed to be contained within the arachnoid which was thickened and opaque.

He recovered well from operation and rapidly began to improve

He died suddenly from heart failure.

Post Mortem. He had marked syphilitic disease of the coronary arches with a large fibroid patch in the wall of the L. ventricle with thrombosis of the vessels. Extensive syphilitic meningitis, especially of the lepto meninges which were adherent to the cord.

Case LXXXVIII

Recovery

CHRONIC LEPTO-MENINGITIS. DAMMING up of CEREBRO-SPINAL FLUID.

Morbid Condition of Lepto Meninges.

W. H. Male. 35. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

Complaint. Difficulty in walking - 3 years duration.

Family History. Good.

Previous Health. Denies syphilis.

Present Illness. 3½ years ago weakness in R. leg.
2½ years ago fell and hurt base of his spine and R. leg. Since then he has had aching pain in R. leg.
2 years ago some weakness in R. arm which rapidly passed off. He improved for a year but for some time had pins and needles in L. leg.
8 months ago R. leg again became weak.
No sphincter trouble - unable to walk.

State on Admission.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. No wasting, slight hypertonicity. Weakness of all movements in R. leg.

Sensory System. No sensory loss.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Plus plus.	Plus plus
Ankle.	" " clonus.	" "
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor both sides.	Extensor both sides.

Sphincters. Normal.

Spine. Tenderness on pressure over 5th. dorsal vertebra.

Operation. 12.12.05. Sir Victor Horsley.

4th. 5th. and 6th. dorsal spines and laminae were removed. Theca distended, no pulsation below the level of 6th. dorsal segment. Theca was incised and cerebro spinal fluid escaped under pressure. At level of 5th. and 6th. dorsal segments there were adhesions of the Pia arachnoid and dura which had apparently dammed up the cerebro spinal fluid. Nothing abnormal was found above or below the level, and the cord pulsated normally after the opening of the dura.

Some time after the operation the patient suffered from thrombosis in the legs chiefly the L., eventually that cleared up.

25. 4.06. Power in both legs much improved, able to stand.

October 1907. Patient quite well.

Case LXXXIX

Improved.

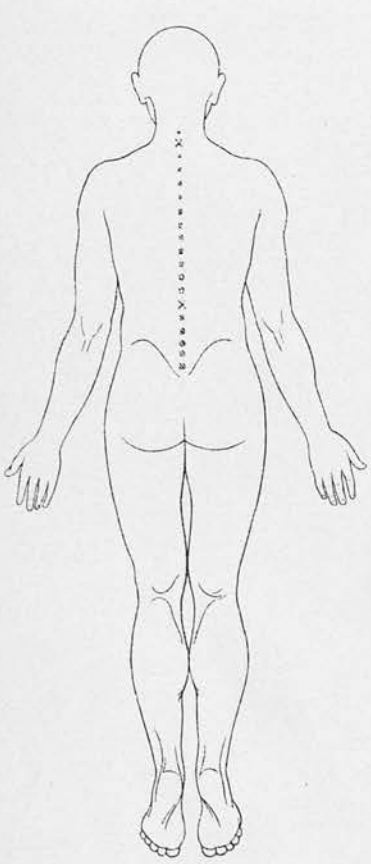
CHRONIC LEPTO MENINGITIS. DAMMING up of CEREBRO. SPINAL FLUID.

C. D. Female. 29. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

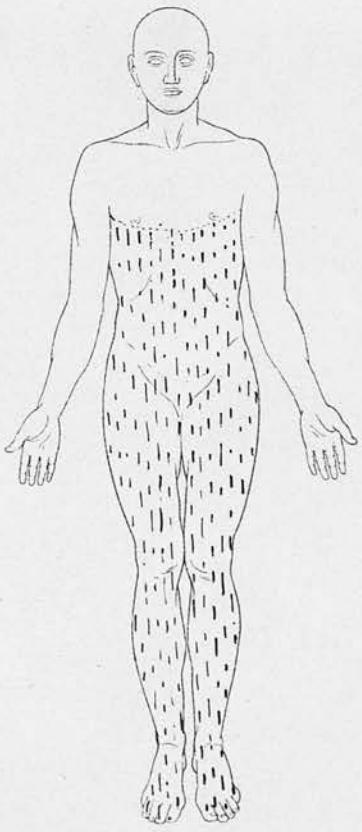
Complaint. Weakness of legs.

Previous Health. No tubercle or syphilis.
15 months ago was confined.
July 1905 felt tired and weak in legs, which increased and several times she lost power in legs temporarily and fell down. Menorrhagia at this time, for which patient was treated at Women's Hospital. Miscarriage [illegible]



C.D. 13.11.05.

|||| = Relative loss to pain & touch.



Sensory System. Relative loss to pain and touch to level of 5th. dorsal.

Case LXXXIX

Improved.

CHRONIC LEPTO MENINGITIS. DAMMING up of CEREBRO SPINAL FLUID.

C. D. Female. 29. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

Complaint. Weakness of legs.

Previous Health. No tubercle or syphilis.
15 months ago was confined.
July 1905 felt tired and weak in legs, which increased and several times she lost power in legs temporarily and fell down. Menorrhagia at this time, for which patient was treated at Women's Hospital. Micturition a little difficult. Was curretted and remained in bed. After being in Women's hospital, when patient was to get up, found she could not do so. Had oc occasional slight pains in legs, no girdle sensation or tight feeling. Ever since has had difficulty in micturition.
No numbness or tingling of legs - has gradually lost power in legs more and more, since August 18th. when she had her operation in Women's Hospital.

State on Admission. 13.11.05.
Cranial Nerves. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. Normal.
Thorax. Some weakness of lower intercostals.
Trunk. Muscles flaccid, no contraction at all.
Lower Extremities. No wasting, great spasticity, especially on R. side. Only movement on R. is of slight extension of great toe. On L. all movements very feebly performed.
Sensory System. Relative loss to pain and touch to level of 5th. dorsal.

Reflexes.

Deep.	Right.	Left.
Arm.	Brisk, equal.	Brisk, equal.
Knee.	Plus.	Plus.
Ankle.	Plus.	Plus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Some trouble.

Operation. 12.12.05. Sir Victor Horsley.
An Incision was made over the 4th. and 5th. and 6th. dorsal and the 4th. and 5th. were removed. Membranes thickened and distended. Opened and adhesions found between pia and arachnoid. There was escape of some fluid under considerable pressure. Cord normal and healthy but dragged back by adhesions. Membranes were slight down to upper margin of 7th. dorsal.

1.1.05. Recovery of control over micturition.

6.1.05. Some power of flexion and extension, abduction and adduction of L. hip, extension of R. Slight flexion.

10.2.06. Considerable improvement. Can move both legs, though R. remains weaker. Can walk in the go-cart. Sphincters normal.
Sensation has returned to a considerable extent.

Case ℔ XC

Improved.

Meningitis - Damming up of Cerebro Spinal Fluid.

C. B. Female. 37. Dr. Risien Russell. 1910.

Op. Sir Victor Horsley.

Family History. Mother had painful swelling of arm similar to patient.

Previous Health. Typhoid fever at 29 - scarlet fever at 32.

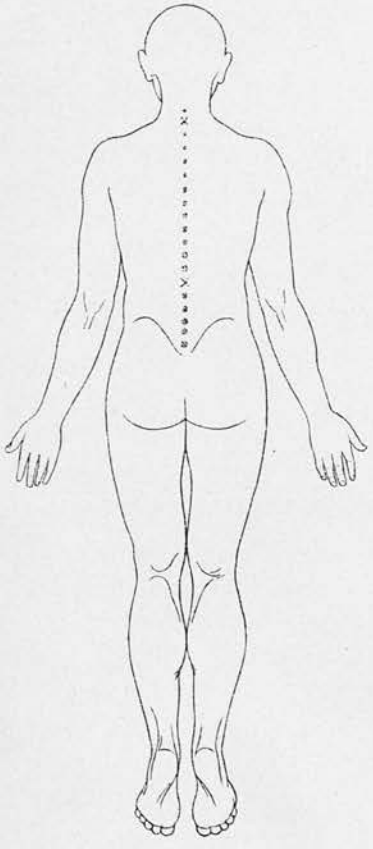
Present Illness. 15 months ago aching pain in 2nd. and 3rd. fingers of L. hand, swelling of fingers, acute attack lasted for 6 weeks. Since then pain has been intermittent and involving the whole of the L. upper limb, but being most felt along the ulna side - the palm of the hand feels stinging.
14 days ago the L. arm became weak. Patient thinks that sensation has been impaired during the whole of the illness.

State on Admission.

Cranial Nerves. Normal.
Cervical Sympathetic. Normal.
Motor System.
Head & Neck. Normal.
Upper Extremities. R. normal.
L. hand and forearm swollen - the swelling is soft and pits on pressure, some wasting of the interossei and flexors of the wrist. Flexion and extension of wrist and flexion of fingers was decidely weak.
Trunk. Normal.
Lower Extremities. Normal.
Sensory System.
Subjective. Pain in L. arm of a dull aching character, more especially along ulnar border.

Sensory System.

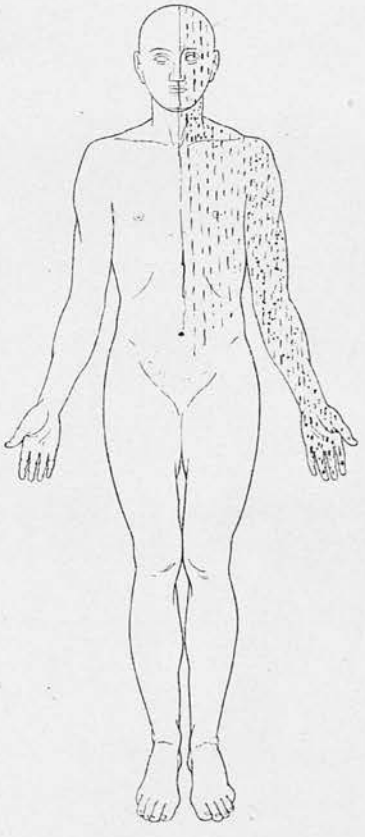
Objective. Over the L. arm, neck and face a relative degree of analgesia and anaesthesia, more marked in arm and neck than elsewhere. Sensory loss does not come quite to the middle line. Felt heat and cold more on R. than on L, side and temperature recognition is delayed.
Joint sense normal. Compasses normal. Some hyper acuity of deep pain in L. arm. Stereognosis normal



C.B. female 37

Relative Analgesia and Anaesthesia

Heat + Cold slightly affected.



the same. Reflexes the same.

Sensory System.

Objective. Over the L. arm, neck and face a relative degree of analgesia and anaesthesia, more marked in arm and neck than elsewhere. Sensory loss does not come quite to the middle line. Felt heat and cold more on R. than on L, side and temperature recognition is delayed.
Joint sense normal. Compasses normal. Some hyper acuity of deep pain in L. arm. Stereognosis normal.

Reflexes.

	Right.	Left.
Deep.		
Jaw.	Normal.	Normal.
Arm.	"	Brisk.
Knee. }	" no	Increased.
Ankle.{	clonus	
Superficial.		
Epigastric.	Normal.	Diminished.
Abdominal.	"	"
Plantars.	Normal.	Extensor.

Sphincters. Not affected.
Gait. Normal.

Operation. 19.7.10. Sir Victor Horsley.

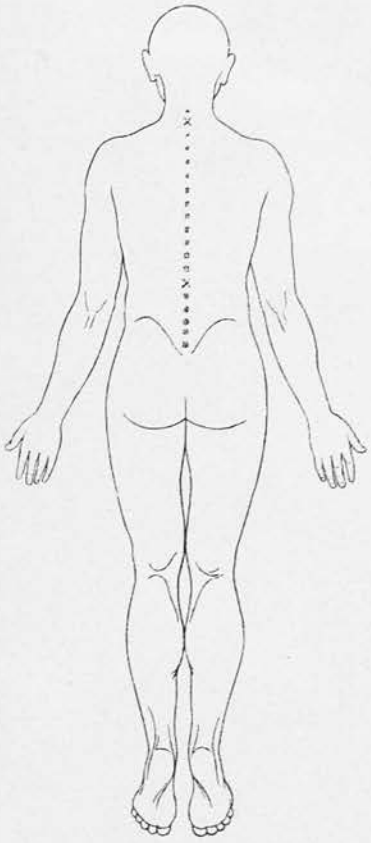
The spines and laminae of 2nd. 3rd. and 4th. cervical removed, nothing abnormal found outside the theca. The theca was distended and on opening it a large quantity of cerebro spinal fluid escaped under pressure. There was no sign of tumour inside or outside the cord. The cord if anything appeared rather small. The wound was closed.

3 months later. Patient was able to do knitting and had no pain in the arm. Sensory condition remained the same. Reflexes the same.

Case XCI

Improved.

NON-SYPHILITIC LEPTO. MENINGITIS. DISTENSION OF MEMBRANES with CEREBRO-SPINAL FLUID.



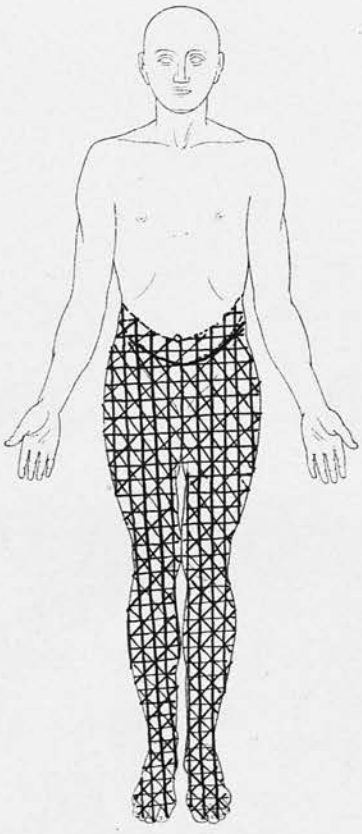
B.D. 1903.

≡ = tactile loss

|||| = pain loss } to. 9 D.

/// = loss to cold

/// = loss to heat. (to 10 D)



Sensory System.	Loss to all forms impaired to 10th. dorsal and all to 9th. dorsal except heat.		
Reflexes.	Deep.	Right.	Left.
	Knee.	Plus plus.	Plus plus.
	Ankle.	" "	" "
	Superficial.		
	Epigastric.	Normal.	Normal.
	Abdominal.	Present above 10th. dorsal.	
	Plantars.	Extensor.	Extensor.
Sphincters.	Incontinence of urine and faeces.		
Spine.	Kink at 8th. dorsal, prominence at 10th. dorsal.		

Operation. 24.5.03.

The 7th. 8th. and 9th. dorsal laminae were removed. Theca bulged. The dura was incised and there was an escape of cerebro spinal fluid. Arachnoid free above, adherent to cord at lower end of opening.

May. 4th. Some return to pain sensation in L. leg.

August. Slightly better, but cannot walk.

1905 - JAN. - able to walk with sticks.

Case XCI

Improved.

NON-SYPHILITIC LEPTO. MENINGITIS. DISTENSION OF MEMBRANES with CEREBRO-SPINAL FLUID.

B. D. Male. 42. Dr. Jackson. 1903.
Op. Sir Victor Horsley

Complaint. Unable to walk properly since April 1899.

Duration. 4 years.

Previous Health. When 5 osteo.
Sober and steady, no history of syphilis or gonorrhoea.
Se

Present Illness. Sept. 98. Pain in L. side - continued.
April 99. L. leg gradually weak and numb, could only drag it in July.
July 99. L. leg became worse and R. leg rapidly affected - 2 days. Incontinence of urine. Not able to walk since.

State on Admission. 21.1.03.
Pain in lumbar region.

Motor System. Loss of power below 10th. dorsal.
No voluntary movements in either lower limb. R. spastic, L. less so.

Sensory System. Loss to all forms impaired to 10th. dorsal and all to 9th. dorsal except heat.

Reflexes.		Right.	Left.
Deep.	Knee.	Plus plus.	Plus plus.
	Ankle.	" "	" "
Superficial.			
	Epigastric.	Normal.	Normal.
	Abdominal.	Present above 10th. dorsal.	
	Plantars.	Extensor.	Extensor.

Sphincters. Incontinence of urine and faeces.

Spine. Kink at 8th. dorsal, prominence at 10th. dorsal.

Operation. 24.3.03.
The 7th. 8th. and 9th. dorsal laminae were removed. Theca bulged. The dura was incised and there was an escape of cerebro spinal fluid. Arachnoid free above, adherent to cord at lower end of opening.
May. 4th. Some return to pain sensation in L. leg.
August. Slightly better, but cannot walk.

1905 - JAN. - able to walk with sticks.

Case XCII

Slight Improvement.

DAMMING up of CEREBRO-SPINAL FLUID

A. D. Male. 46. Dr. Tooth. 1905.
Of. Sir. Victor Horsley.

Complaint. Loss of power in both legs, spasticity.

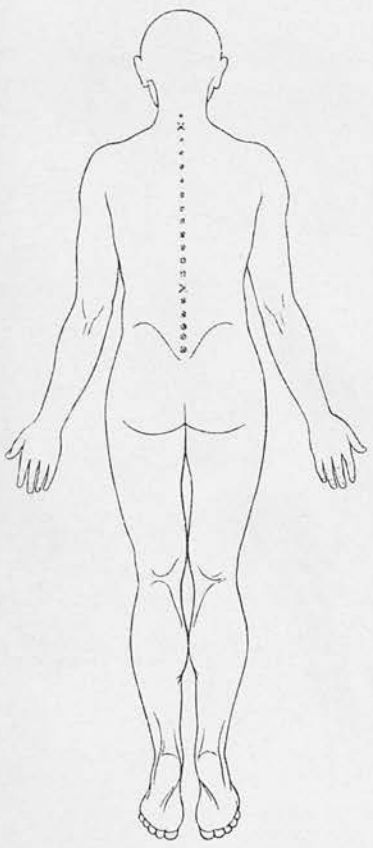
Duration. 15 months.

Family History. Nil.

Previous Health. Syphilis.

Present Illness. 15 months ago R. leg knocked against L. when wheeling a barrow across a plank. As this continued he had to give up work. R. leg became stiff and weak. 2 weeks later L, leg also affected. 4 months ago flexor spasms and numbness in legs, and girdle sensation. Slight delay in starting micturition.

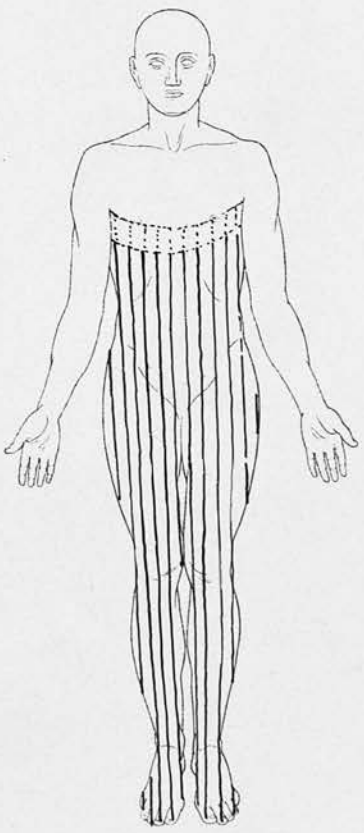
State on Admission. 27.12.05.
Spastic paresis below 6th. dorsal.



A.D.

::: = relative loss

||| = complete loss.



Case XCII

Slight Improvement.

DAMMING up of CEREBRO-SPINAL FLUID

A. D. Male. 46. Dr. Tooth. 1905.
Op. Sir. Victor Horsley.

Complaint. Loss of power in both legs, spasticity.

Duration. 15 months.

Family History. Nil.

Previous Health. Syphilis.

Present Illness. 15 months ago R. leg knocked against L. when wheeling a barrow across a plank. As this continued he had to give up work. R. leg became stiff and weak. 2 weeks later L, leg also affected. 4 months ago flexor spasms and numbness in legs, and girdle sensation. Slight delay in starting micturition.

State on Admission. 27.12.05.
Spastic paresis below 6th. dorsal.
Sensory System. Sensory loss to relative 4th. to complete 5th. dorsal.
Reflexes.

Deep.	Right.	Left.
Arm. = Normal	Plus with clonus.	Plus with clonus.
Knee. = Normal		
Ankle. = Normal		
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Delay in starting micturition.
Spine. 4th. dorsal spine tender.

Operation. 13.2.06.
The 1st. 2nd. and 3rd. dorsal laminae were removed. ?Old fracture of 2nd. dorsal lamina. No pulsation. Theca was opened and a quantity of cerebro spinal fluid at plus tension escaped. Cord appeared rather thin anteriorly
11.3.06. Sensory system improved. Less spasticity in legs. Slight return of voluntary movement.
2.6.06. Slight improvement.

Case XCIII

No improvement

Syphilitic Meningitis - damming up of Cerebro Spinal Fluid.

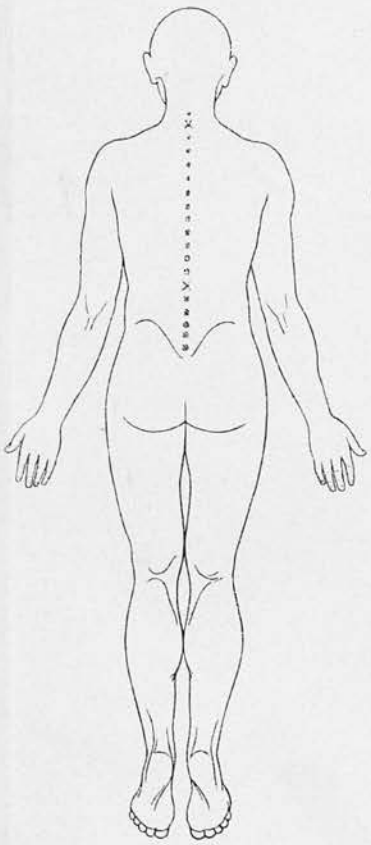
A. B. Female. 40. Dr. Tooth. 1909.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Fair, no serious illness.

Present Illness. 6 months ago severe pain in upper dorsal region of spine, shoulders and under

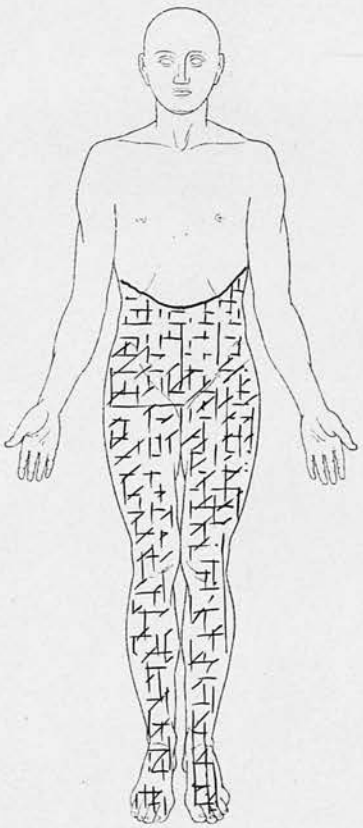


A.B.
1909.

Analgesia & anaesthesia to 6-7 Dorsal area.

Loss to Heat & Cold to 9th Dorsal area.

Loss of Sense of Position and blunting of deep pain in both lower extremities.



Sensory System.

Objective. Analgesia and anaesthesia to level of 6th. to 7th. dorsal segment - loss to heat and cold to 10th. dorsal segment. Sense of position lost in both lower extremities. Deep pain blunted in both legs.

Case XCIII

No improvement

Syphilitic Meningitis - damming up of Cerebro Spinal Fluid.

A. B. Female. 40. Dr. Tooth. 1909.

Op. Mr. Armour.

Family History. Nil.

Previous Health. Fair, no serious illness.

Present Illness. 6 months ago severe pain in upper dorsal region of spine, shoulders and under L. arm, worse on movement and made sleep impossible. Pain continuous and also stabbing but not radiating.
5 months ago tight feeling round waist, numbness below waist and flexor spasm of legs with weakness of both legs, and shortly after onset of sphincter trouble.
3 months ago L. leg began to contract, and sensory loss noticed below waist.
2 months ago R. leg began to contract, and a tight painful feeling was noticed on the R. side round the abdomen.

State on Admission. 10.8.08.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Weakness of Recti abdominis on both sides.

Lower Extremities. Spastic weakness of both legs, especially of L. Some voluntary movement of R. - almost none of L.

Sensory System.

Objective. Analgesia and anaesthesia to level of 6th. to 7th. dorsal segment - loss to heat and cold to 10th. dorsal segment. Sense of position lost in both lower extremities. Deep pain blunted in both legs.

Reflexes.

		Right.	Left.
Deep.			
	Arm.	Normal.	Normal.
	Knee.	Plus plus.	Plus plus.
	Ankle.	" "	" "
		clonus.	clonus.
Superficial.			
	Epigastric.	Absent.	Absent.
	Abdominal.	"	"
	Plantar.	Extensor.	Extensor.

Sphincters. Control, but difficulty in starting micturition.

Spine. No deformity, but tender on percussion over 8th. dorsal to 1st. lumbar.

Operation. 3.9.08. Mr. Armour.

Spines and laminae of 4th. 5th. 6th. 7th. and 8th. dorsal vertebrae were removed. Nothing abnormal found inside or outside dura.

After operation slight improvement in spasticity of legs and lessening of sensory loss over trunk. This improvement continued till February 1909, when patient began to get worse. The sensory loss which had cleared up, except over the feet and legs, returned.

2nd. Operation. 11.6.09. Mr. Armour.

Spines and laminae of 7th. cervical and 1st. dorsal vertebrae were removed. Outside dura nothing abnormal was seen, but a probe passed along the spinal canal gave a feeling as if the bone were bare in places.

On opening the dura very little cerebro spinal fluid escaped, and on passing a probe upwards the dura and arachnoid were found to be adherent. The dura was opened up to this level and the adhesions separated - a gust of cerebro spinal fluid escaped. The arachnoid was reddish and thickened. The cord was flattened from before backwards - nothing else abnormal was found and the wound was closed.

6.9.09. Patient made no improvement and left Hospital rather worse than when she came in.

During stay in Hospital the patient was treated with mercury and iodide.

Case XCIV

Worse.

CHRONIC LEPTO-MENINGITIS. DAMMING up of CEREBRO. SPINAL FLUID.

E. A. Female. 40. Sir William Gowers. 1907.

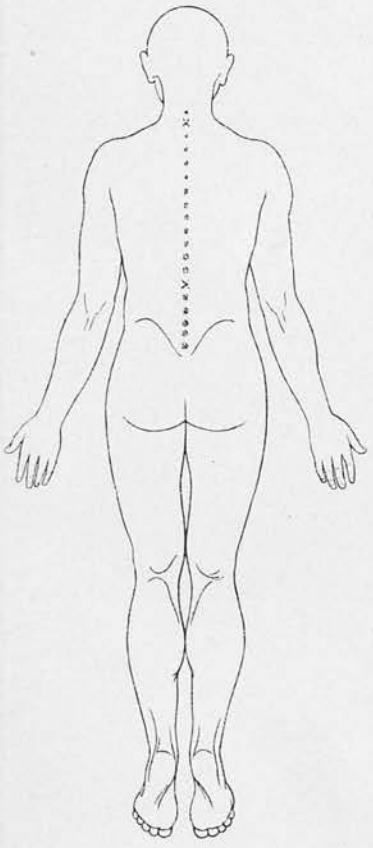
Op. Sir Victor Horsley.

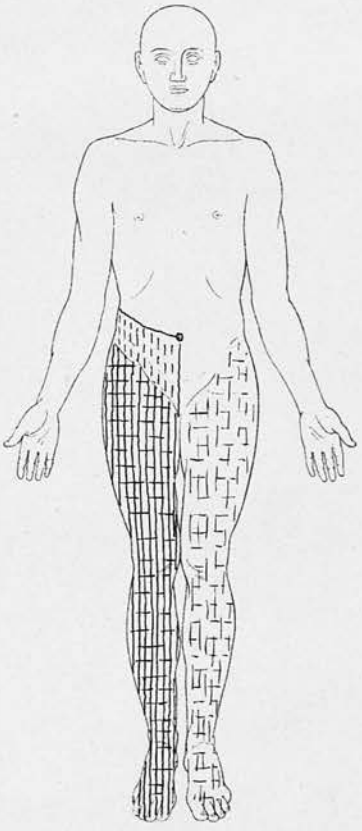
Family History. Nil.

Previous Health. No serious illness.

Present Illness. 4 years ago after influenza began to have pains on movement in the R

E. A. Female 40.
1907.





Gait. Walks fairly well, drags R. leg.

Sensory System.

Subjective. Constant severe pain in R. groin, hip and leg.

Objective.

Case XCIV

Worse.

CHRONIC LEPTO-MENINGITIS. DAMMING up of CEREBRO. SPINAL FLUID.

E. A. Female. 40. Sir William Gowers. 1907.

Op. Sir Victor Horsley.

Family History. Nil.

Previous Health. No serious illness.

Present Illness. 4 years ago after influenza began to have pains on movement in the R. groin. The pain spread gradually.
3 years ago Pain constant in the R. groin and spread down the front and inner and outer sides of the R. thigh.
2 years ago has noticed weakness of the R. leg and involuntary spasms, pain and tenderness in the back, "tightness and numbness" over both thighs.
1 year ago pain has spread down to R. foot and is worse at night.
2 months ago pain in L. thigh. Some dribbling of urine.
1 month ago severe localised pain in small of back.

State on Admission. 5.7.07.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. General wasting of R. lower limb, weakness of dorsiflexion of R. foot and extension of hip.

Gait. Walks fairly well, drags R. leg.

Sensory System.

Subjective. Constant severe pain in R. groin, hip and leg.

Objective.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Absent.	Present.
Ankle.	Absent.	Absent.
Superficial.		
Epigastric.	Present.	Present.
Abdominal.	"	"
Plantars.	?flexor.	Flexor.

Sphincters. Some dribbling of urine.
Spine. No irregularity. X-ray negative.

Operation. 16.7.07. Sir Victor Horsley.

The spines and laminae of the 8th. 9th. 10th. 11th. and 12th. dorsal vertebrae were removed. Outside the theca it is normal, but cord does not pulsate. On opening theca fluid escaped under great tension. The arachnoid was markedly thickened and opaque and there were large "plaques" on the inner side of the dura. A probe passed up and down met with no resistance. The theca was left open and the wound was not sewn up.

12.8.07.
Sphincters normal.
R. leg stronger.
Sensory changes in legs less marked.
Pain in groin still continues.
Patient under antisyphilitic treatment.

15.8.07.
Diplopia. palsy of R. external section - better in 9 days.

5.9.07. In statu quo.

Case XCV

Improved

Lepto Meningeal Cyst.

T. B. Male. 26. Sir William Gowers. 1904.

Op. Sir Victor Horsley.

Complaint. Cannot walk, loss of feeling in legs, sphincter trouble.

Previous Health. Fell and hurt his back 13 years ago.

Present Illness. 11 years ago had enteric fever, slowness in starting micturition. L. leg weak, leg would "give way when walking". Does not know if there were any sensory loss. This improved after 6 months but the leg never became normal and he has never been able to run. He remained in that condition till

3 years ago he noticed the L. leg got tired easily when walking, it gradually became weaker.

2 years ago the R. leg also became affected. At this time he had a severe pain in the back and under the L. ribs. This lasted for 2 weeks, but since then he has occasionally had a girdle sensation, he also had deficient control over his rectum. For 16 months he has been unable to walk.

State on Admission.

A well nourished man, visceral organs healthy.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal.

Trunk. Weakness of lower half of recti abdominis.

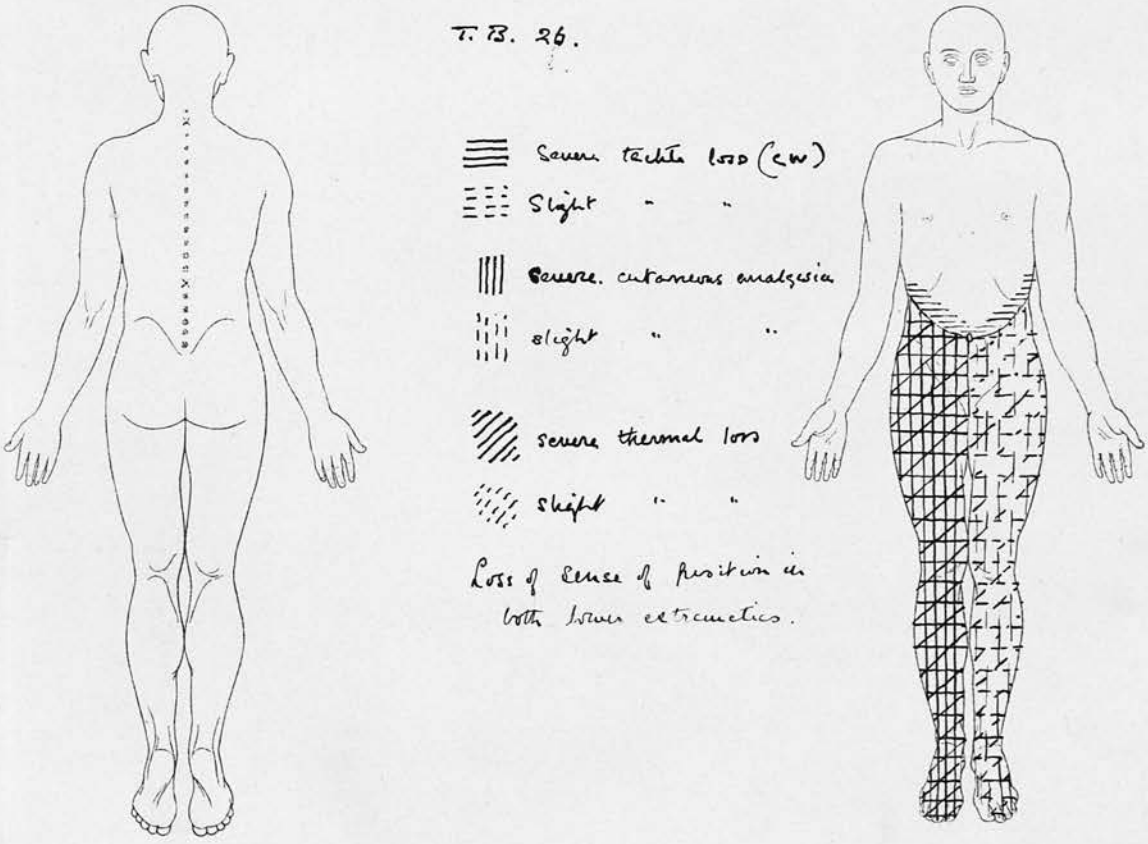
Lower Extremities. No wasting, limbs very spastic with reflex spasm, very little movement possible, unable to walk.

Sensory System.

Subjective. Occasional girdle sensation at level of umbilicus.

Objective. Loss of sense of position in both legs. Severe loss to pain, temperature and cotton wool below the level of the umbilicus on R. side, diminished on L. Above this area there is a small band in which tactile sensibility is diminished.

Reflexes



very well. He had considerable pain during the night after the operation.

14.11.04. There was considerable return of power in the legs, more in R, than in L. Still troubled with reflex spasms. Patient has been supplied with a spinal support and is now able to sit up.
Sensory System. The sensory loss is decreasing, especially the loss of pain.

20.12.04. Rigidity much diminished, especially in R.

Sensory System.

Subjective. Occasional girdle sensation at level of umbilicus.

Objective. Loss of sense of position in both legs. Severe loss to pain, temperature and cotton wool below the level of the umbilicus on R. side, diminished on L. Above this area there is a small band in which tactile sensibility is diminished.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal & equal.	Normal & equal
Knee. } Ankle. {	Increased but hard to open owing to rigidity of legs.	
Superficial.		
Epigastric.	Normal.	Normal.
Abdominal.	Absent.	Absent.
Plantars.	Extensor.	Extensor.

Sphincters. Slowness in starting micturition and deficient control over rectum.

Spine. Normal, no tenderness on pressure.

Operation. 14.10.04. Sir Victor Horsley.

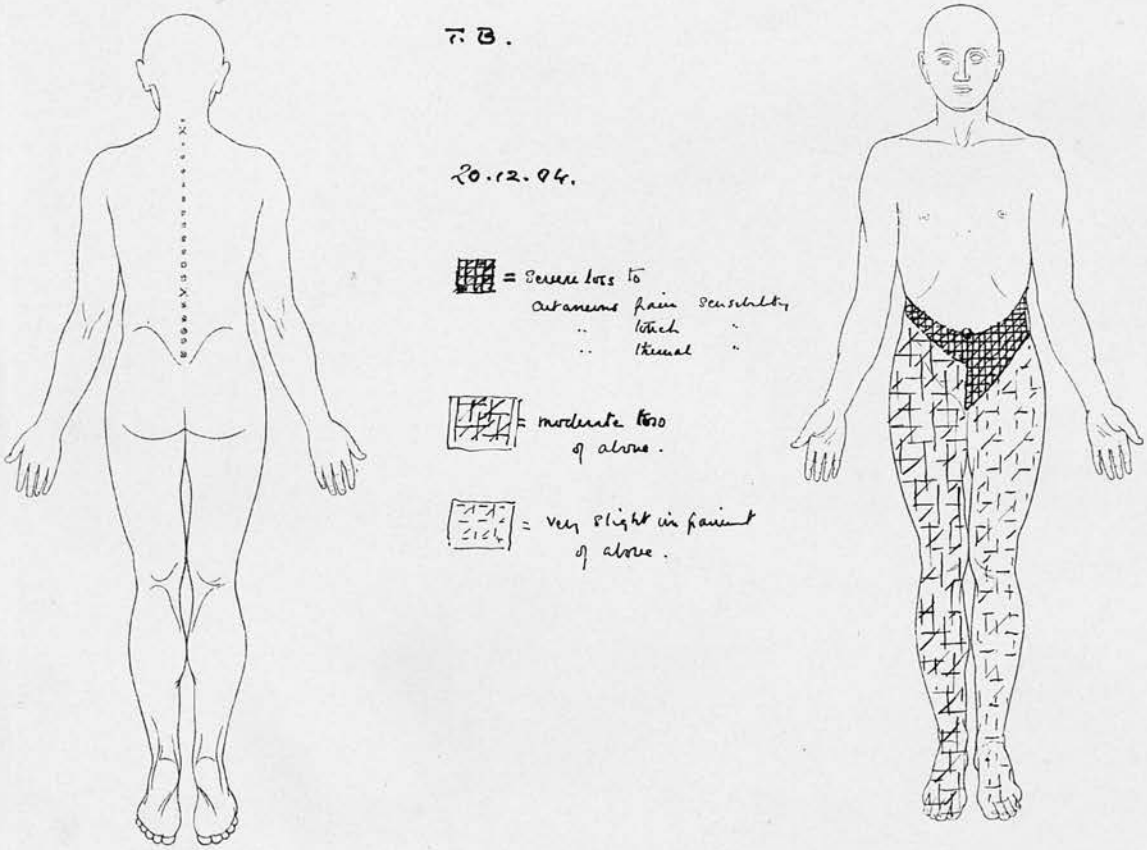
Laminae and spines of 6th. 7th. and 8th. dorsal vertebrae were removed. Dura was found distended. No evidence of extra thecal disease - dura was incised and some thick translucent tissue at once bulged through the incision, this tissue was composed of thickened arachnoid and when it was cut through a large amount of cerebro spinal fluid escaped. It was a meningeal cyst of considerable length and extended up cord for about a couple of inches from the level of 9th. dorsal segment. The cord appeared small and flattened and had evidently been much compressed. The cyst was drained and the dura sewn up. The patient stood the operation very well. He had considerable pain during the night after the operation.

14.11.04. There was considerable return of power in the legs, more in R, than in L. Still troubled with reflex spasms. Patient has been supplied with a spinal support and is now able to sit up.
Sensory System. The sensory loss is decreasing, especially the loss of pain.

20.12.04. Rigidity much diminished, especially in R.

leg in which there has been a steady improvement. L. leg is still very spastic and reflex spasms occur in it frequently.
Reflexes as before, but sphincters are under complete control.
Sensory System. Improved over dorsal areas on R. and over 10th. 11th. and 12th. on L. There is well marked loss of all forms of cutaneous sensibility especially pain. Below these levels sensation is slightly affected on L. side and rather more affected on R.

9.1.05. He left hospital.



leg in which there has been a steady improvement. L. leg is still very spastic and reflex spasms occur in it frequently.
Reflexes as before, but sphincters are under complete control.
Sensory System. Improved over dorsal areas on R. and over 10th. 11th. and 12th. on L. There is well marked loss of all forms of cutaneous sensibility especially pain. Below these levels sensation is slightly affected on L. side and rather more affected on R.

9.1.05. He left hospital.

Case XCVI

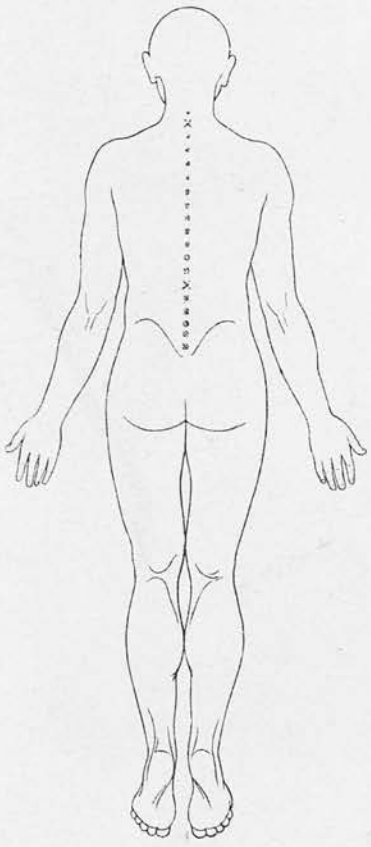
Slightly improved

Curious Morbid Condition of Lepto Meninges. – Meningeal Cyst.

E. G. Female. 42. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

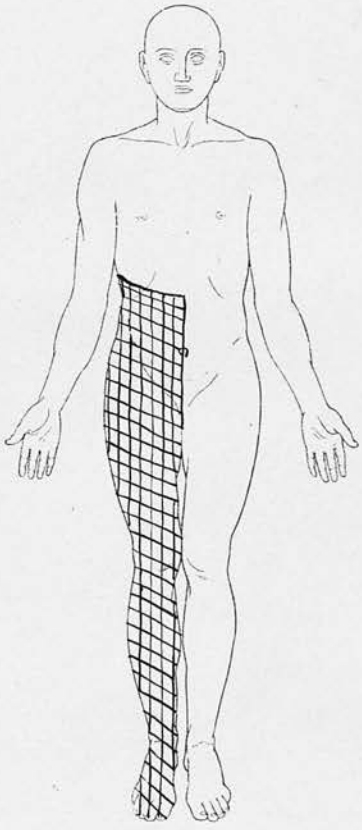
Complaint Loss of power in both legs especially



E. G 42.
1905.

= loss of sensibility
to pain heat cold

Loss of sense of position
in R. leg.



R. leg and slightly of L.

Sensory System.
Subjective.

Subjective. Girdle sensation about level of 6th. dorsal segment, tingling down L. side.

Objective. Loss to pain, heat and cold on R. side below level of 6th. dorsal segment. very little if any tactile loss and only present in R. leg. Some loss of sense of position in L. leg.

Gait. Spastic dragging of R. leg.
Spastic weakness of L. leg.

Case XCVI

Slightly improved

Curious Morbid Condition of Lepto Meninges. – Meningeal Cyst.

E. G. Female. 42. Sir William Gowers. 1905.

Op. Sir Victor Horsley.

Complaint. Loss of power in both legs, especially in R. – pain in back.

Family History. Good.

Previous Health. 15 years ago tumour removed from uterus.
6 years ago pelvic inflammation – sphincter trouble, cured by pessary.
R. ankle injured, lame on R. leg since.

Present Illness. 2½ years ago aching pain in back, it gradually became worse.
1 year noticed weakness of R. leg.
9 months ago sensation of tightness round waist, some sphincter trouble.
2 months ago began to get weak in L. leg.

State on Admission.

Cranial Nerves. Normal.

Motor System.

Head & neck. Normal.
Thorax. "
Abdomen. "
Upper Extremities. Normal.
Lower Extremities. No wasting, spastic paralysis of R. leg and slightly of L.

Sensory System. Subjective.
Subjective. Girdle sensation about level of 6th. dorsal segment, tingling down L. side.
Objective. Loss to pain, heat and cold on R. side below level of 6th. dorsal segment. very little if any tactile loss and only present in R. leg. Some loss of sense of position in L. leg.

Gait. Spastic dragging of R. leg.
Spastic weakness of L. leg.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee. } Ankle. {	Increased more R. than L.	
Superficial.		
Epigastric.	present.	Present.
Abdominal.	Absent.	Absent.
Plantars.	Extensor.	Extensor.

Spine. No deformity some tenderness on pressure over 4th. dorsal - no loss of movement.

Operation. 11.7.05. Sir Victor Horsley.

Spines and laminae of the 4th. 5th. and 6th. dorsal vertebrae removed. Level of 6th. dorsal, cord was seen to be enclosed in distended membranes. Membranes were incised and fluid escaped under pressure. There was no sign of meningitis and a probe passed up and down alongside the cord encountered nothing abnormal.

30.7.05. Some return of power in all movements - sensation less affected but still to the same level

5.8.05. Spasticity of R. leg less marked - great improvement in power.

17.8.05. Only now some patchy analgesia on R. side of abdomen and thigh.

2.9.05. Patient left hospital, walked well. Deep reflexes normal, tendency to extensor response on both sides, L. leg still slightly weaker than R.

As regards weakness of R. leg she had previously hurt the R. ankle and the weakness of the leg may have been in part due to this.

A month after leaving hospital L. foot became worse, began to drag.

On Examination. Occasional reflex spasm in both legs. difficulty in retaining water.
Discharged 2.6.06. She had some slight sensory changes over the trunk but none in the R. lower limb. She dragged her L. foot when tired. No sphincter trouble.

Case XCVII

Complete recovery - 5 weeks

Thickening of Arachnoid.

F. C. Male. 52. Dr. Holmes. 1911.

Op. Mr. Sargent.

Family History. Nil.

Previous Health. Syphilis at 18 (treated 2 months). For from 10 to 12 years has had pains in the loins whenever he had any chill or cold.

Present Illness. May 1910. when at work was suddenly taken by a sharp pain which shot down the back of the L. leg, when he moved the pain became worse. He walked home and stayed there for 2 days when the pain disappeared and he returned to work, but as the pain again commenced he was given a week's notice. Has not worked since. He was in the Infirmary during July and August. He noticed some loss of sensation on the inner side of the shin of the L. leg from the commencement of the illness, and 4 months ago noticed that he could not feel properly on the front of the L. thigh. The pain in the L. leg was severe when at work and was made worse by movement. He also had shooting pain in the same distribution on the R. leg, this was relieved by lying down. The L. leg felt weak, but it was only in July that he noticed it in the muscles on the front of the L. thigh.
Never had any sphincter affection.

State on Admission. 23. 11. 10.
Mental Condition. Slow and memory is defective.
Cranial Nerves. Normal.
Motor System.
Head & Neck. Normal.
Trunk. "
Upper Extremities. "

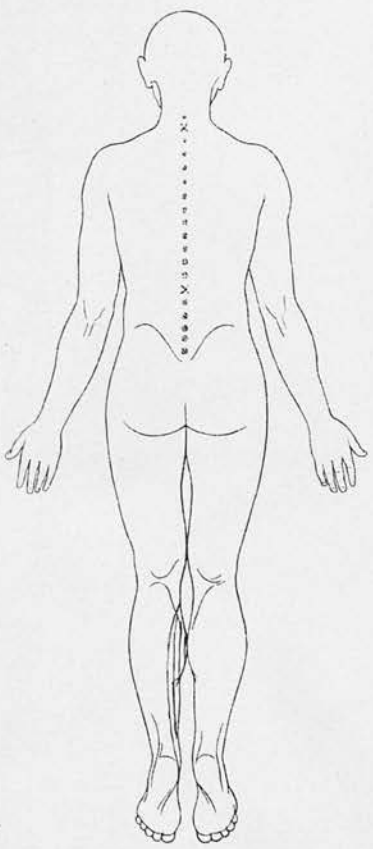
Lower Extremities. Right. Normal.
Left. Wasting of the anterior thigh muscles, but also to a less extent of all the muscles of the limb. Movements weakened especially extension of the knee.

Gait. L. leg limp, dragged in walking.

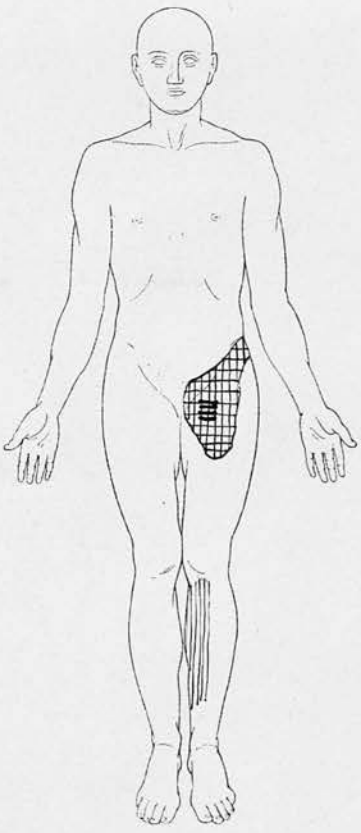
Sensory System.

Objective. Definite relative anaesthesia (cotton wool) over the 12th. dorsal and the 1st. lumbar root areas on the L. side, also relative loss to pin prick. Slight loss to pin prick over 4th. L. lumbar area. Joint sense and muscle pain normal.

F. W. C. 52.



= Definite relative Anaesthesia
= Relative loss to pin prick
= Slight loss to pin prick.



Lower Extremities. Right. Normal.
Left. Wasting of the anterior thigh muscles, but also to a less extent of all the muscles of the limb. Movements weakened especially extension of the knee.

Gait. L. leg limp, dragged in walking.

Sensory System.

Objective. Definite relative anaesthesia (cotton wool) over the 12th. dorsal and the 1st. lumbar root areas on the L. side, also relative loss to pin prick. Slight loss to pin prick over 4th. L. lumbar area. Joint sense and muscle pain normal.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Present.	Diminished.
Ankle.	"	Present.
Superficial.		
Epigastric.	Normal.	Diminished.
Abdominal.	"	"
Plantar.	Flexor.	Flexor.

Sphincters. Unaffected.

Operation. Mr. Sargent. 3.1.11.

Spines and laminae of the 12th. dorsal and 1st and 2nd. lumbar vertebrae were removed. The only thing found was some thickening of the arachnoid.

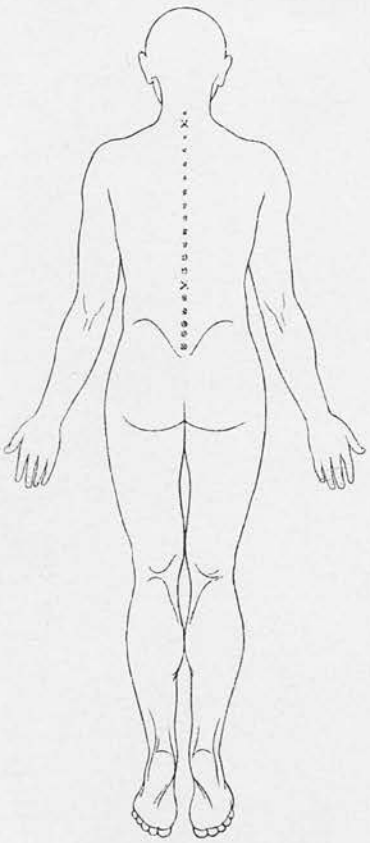
11.2.11. Patient recovered completely.

Case XCVIII

No improvement.

? ARACHNOID CYST.

F. D. L. Female. 57. Dr. Turner. 1911.



F. D. Locke
1911.



Very severe, can walk with help.

Sensory System. Anaesthesia, analgesia and thermaæsthesia - diminished but not completely from 4th. dorsal.
Deep pain impaired in lower extremities.
Joint Sense impaired in L. toes.
Localisation. Good.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Delay and occasional incontinence.

Case XCVIII

No improvement.

? ARACHNOID CYST.

F. D. L. Female. 57. Dr. Turner. 1911.

Op. Mr. Sargent.

Family History. Good.

Previous Health. Superficial fibromata, as long as she can remember.

Present Illness. 2 months ago legs began to get stiff and weak, if anything R. leg more than L.. The feet feel numb and polished. Pain in the lower back. Occasionally difficulty in passing and controlling water. Occasional pins and needles in her arms.

State on Admission. 2.6.11.

Many soft subcutaneous nodules. (Multiple fibromata)

Cranial Nerves. Normal except that she has never been able to smell.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Slight weakness.

Lower Extremities. Spastic weakness of both, not very severe, can walk with help.

Sensory System. Anaesthesia, analgesia and thermaesthesia - diminished but not completely from 4th. dorsal.
Deep pain impaired in lower extremities.
Joint Sense impaired in L. toes.
Localisation. Good.

Reflexes.

Deep.	Right.	Left.
Arm.	Normal.	Normal.
Knee.	Plus.	Plus.
Ankle.	Plus clonus.	Plus clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Plantar.	Extensor.	Extensor.

Sphincters. Delay and occasional incontinence.

Operation. 13.6.11. Mr. Sargent.

The spines and laminae of 5th. 6th. and 7th. cervical and 1st. 2nd. and 3rd. dorsal vertebrae were removed. Nothing outside theca. Cord did not pulsate well. Theca was opened, and cord seemed rather large. On passing a probe upwards there was a sudden gust of cerebro spinal fluid and the cord began to pulsate. Mr. Sargent thought it was an extra-medullary loculus.

11.8.11. No change.

Case XCVX

died 3yrs after operation

SYPHILITIC. LEPTO MENINGITIS - MENINGEAL. CYST.

C. J. Male. 28. Dr. Collier. 1904.

Complaint. Loss of power in legs, sphincter trouble.

Family History. Good.

Previous Health. Gonorrhoea - no syphilis.

Present Illness. Sept. 01. had a riding accident, hurt L. leg and laid up for 14 days. Then rode again, but began to drag his L. foot, very slightly at first, then noticed most when he was climbing. Difficulty in micturition first noticed. Gradually the weakness became worse though he was able to play tennis and cricket.

12 months ago weakness increased more rapidly and he saw a doctor for the first time.

9 months ago noticed weakness in R. leg. Since then both gradually got worse, and he was unable to walk without support. L, leg began to draw up involuntarily in bed. Slight difficulty in starting micturition, and incontinence - constipation.

8 months ago simultaneously some loss of feeling and numbness appeared in the whole of the L. lower limb. This increased and soon appeared in the R. leg. (Does not subjectively know of loss of feeling extending on to trunk). Never had pain.

For past 4 to 5 months had tight feeling round body above level of umbilicus.

No symptoms lesewhere.

State on Admission.

Viscera. Healthy.

Special Senses. Normal.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Weakness of Abdominal muscles.

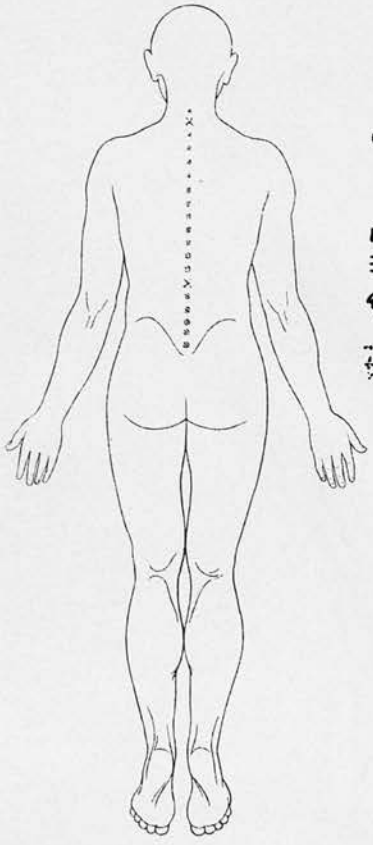
Lower Extremities. No wasting, some rigidity in both limbs, L. more than R. Cannot raise the L. leg from bed when extended, can just raise the R. Movements of toes and ankles are fairly good - occasional flexor spasms of L. leg. No marked incoordination.

Gait. Cannot stand alone. With assistance drags both feet and shuffles along.

Sensory System.

Subjective. No pain, girdle sensation - occasionally at level of umbilicus.

Objective. Considerable tactile loss, almost complete on L. side up to level of umbilicus, on R. somewhat more diminished. On both sides impaired to half way up Xiphoid. Posteriorly tactile change up to 7th. dorsal spine. Pain - relative - as anaesthesia. Thermal. Loss to moderate degrees*, as tactile (*less marked and not complete)



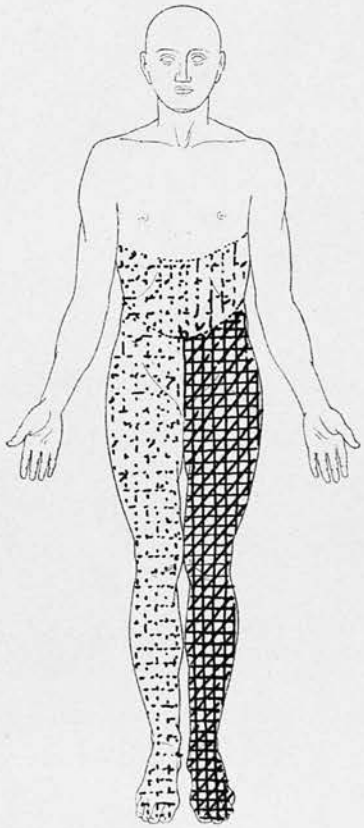
C.J. 1904.

||| loss K. pain

≡ " " touch

" " heat & cold.

= relative loss



Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Weakness of Abdominal muscles.

Lower Extremities. No wasting, some rigidity in both limbs, L. more than R. Cannot raise the L. leg from bed when extended, can just raise the R. Movements of toes and ankles are fairly good - occasional flexor spasms of L. leg. No marked incoordination.

Gait. Cannot stand alone. With assistance drags both feet and shuffles along.

Sensory System.

Subjective. No pain, girdle sensation - occasionally at level of umbilicus.

Objective. Considerable tactile loss, almost complete on L. side up to level of umbilicus, on R. somewhat more diminished. On both sides impaired to half way up Xiphoid. Posteriorly tactile change up to 7th. dorsal spine. Pain - relative - as anaesthesia. Thermal. Loss to moderate degrees*, as tactile. (*loss incomplete and not compared to moderate degrees all are somewhat impaired.)

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Plus.	Plus plus.
Ankle.	Plus with clonus.	Plus with clonus.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	Absent.	Absent.
Plantar.	Extensor.	Extensor.

Sphincters. Precipitant micturition and obstinate constipation.

Spine. No deformity - some tenderness on pressure of 5th. and 6th. dorsal spines.

Operation. 19.7.04.

Spinal canal was opened at the 6th. dorsal - 6th. and 7th. dorsal partly removed , dura distended and bulging, but no vertebral disease or tumour. The theca was incised longitudinally and the arachnoid was found thickened and bulging into the wound. On opening it a quantity of clear straw-coloured fluid escaped. The cord was much compressed and appeared yellowish.
Result. Improvement, patient able to walk about. Recovery of sensation.

7.12.04. Patient left hospital. Temperature had been normal for last fortnight, after an attack of urinary fever.
Motor System. Considerable power in both legs, can walk fairly well, though only slowly without assistance or a stick.
Sensory System. No loss now detectable.
Reflexes. Knee jerks plus. Ankle jerks Plus, no clonus. Plantar - extensor.
Sphincters. Practically no control.

Lumbar puncture done 2 weeks ago by Dr. Collier, but no fluid drawn off.

1907 Patient died. CEREBRO-SPINAL SYPHILIS. CEREBRAL GUMMA. + WIDE SPREAD MENINGITIS

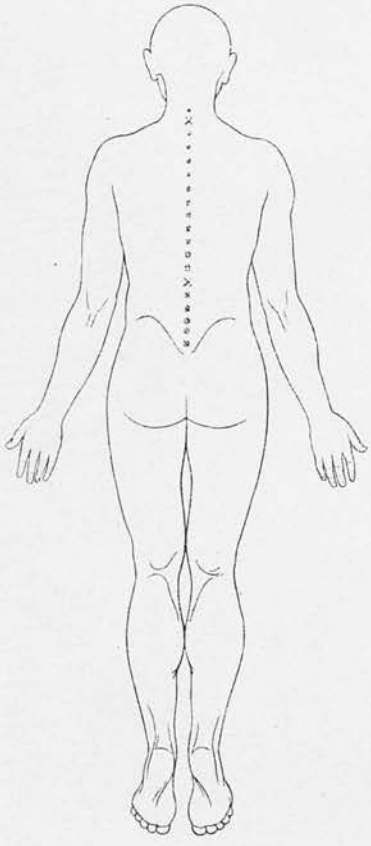
Case 100

Died

Gumma in Cord - Syphilitic Meningitis.

H.P.L. Male. 21. Dr. Beevor. 1904.

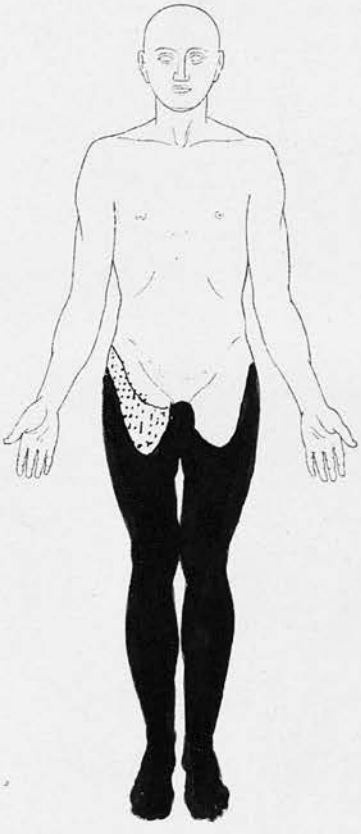
Family History. Nil



H. P. L.

■ = total sensory loss.

▨ = defect in cutaneous sensibility.



part of the R. thigh.
Objective - Complete sensory loss below the level of the 2nd lumbar area, relative sensory loss especially in the 2nd lumbar root area on the R. side.

The patient died three weeks after admission.

Post Mortem.

Gummatous meningitis involving the cauda equina and spreading up to surround the cord; at the level of the 3rd dorsal segment a gumma was found situated in the posterior columns.

Case 100

Died

Gumma in Cord - Syphilitic Meningitis.

H.P.L. Male. 21. Dr. Beevor. 1904.

Family History. Nil.

Previous Health. Syphilis,

Present Illness. 13 weeks ago pain in R. knee, numbness in perineum, unable to pass urine. Weakness spread up to involve legs and groins. R. leg weak. 2 - 3 days later both legs powerless. Retention for 3 weeks.

State on Admission.

Cranial Nerves. Normal.

Motor System.

Lower Extremities. Muscles soft and flabby, no voluntary movements.

Electrical Reactions. Sluggish to faradism.

Reflexes.

	Right.	Left.
Deep.		
Knee.	Absent.	Normal.
Ankle.	Absent.	Normal.
Superficial.		
Cremasteric.	Absent.	Absent.
Plantars.	Extensor.	Extensor.

Sphincters. Loss of bladder and rectal control.

Trophic. Bedsores.

Sensory System. Subjective - Pain in the upper part of the R. thigh.
Objective - Complete sensory loss below the level of the 2nd lumbar area, relative sensory loss especially in the 2nd lumbar root area on the R. side.

The patient died three weeks after admission.

Post Mortem.

Gummatous meningitis involving the cauda equina and spreading up to surround the cord; at the level of the 3rd dorsal segment a gumma was found situated in the posterior columns.

Case 101.

Meningo-myelitis. Improved.

W. M. Male. 37. Dr. Grainger Stewart.

Op. Mr. Bidwell.

Complaint. Paralysis of the legs, inability to hold his water.

Duration. 21 months.

Family History. Mother suffered from "fits".

Previous Health. Good. Denies syphilis, admits gonorrhoea

Present Illness. 24 months ago began to suffer from pain in the L. hip; this was dull and aching in character and made worse by movement. There was no weakness noticed.

3 weeks later the pain became much worse.

1 week later he had a sudden severe pain in both buttocks, and down the backs of both thighs; at the same time both legs became paralysed and he lost feeling in them. He was unable to pass his water and he became very constipated. The onset of the paralysis took place quite suddenly and the paralysis was complete within five minutes.

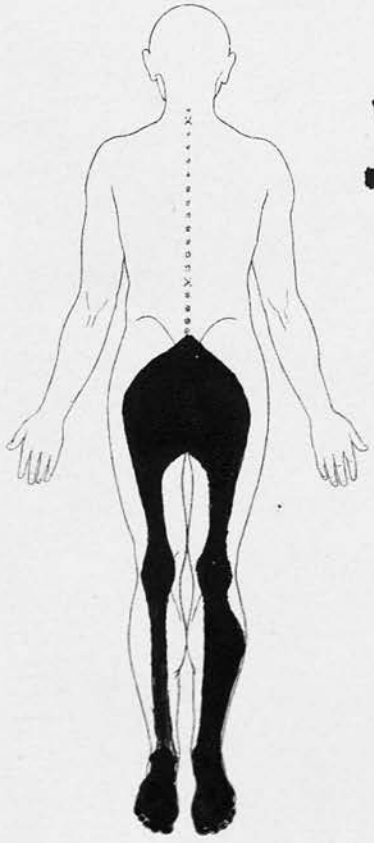
2 days later the patient was admitted to hospital and was catheterised daily for 2 months.* The muscles of the thighs and legs wasted rapidly and there was complete loss of all sensation from the 2nd. lumbar segment downwards. Mr. Bidwell performed an exploratory laminectomy. The meninges were thickened and adherent to the cord.

18 months ago the patient was transferred to the infirmary and remained there for 13 months. During that time he improved considerably and became able to walk and to pass his water normally. There was also

* Cerebro-spinal fluid a) Lymphocytes, Polys b) Wassermann Positive

Acting Acute syphilis. Treatment. Hg & K.I. for 2 months. Salivation. No improvement.

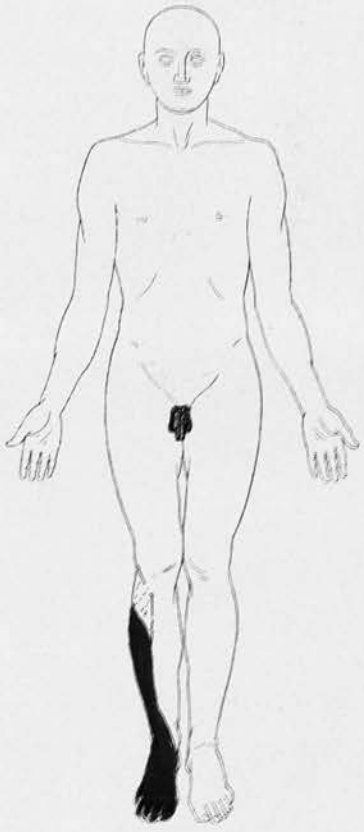
great improvement in the sensibility of the lower extremities, the sensory loss becoming confined to the sacral areas on both sides and the 5th.



W.M.

■ = total sensory loss (cutaneous)
loss of feeling in Rectum and bladder
diminution of deep pain & vibration
loss of sense of position in R foot & toes.

No loss of testicular pain



Sensory System.

Subjective.	No Pains.
Objective.	Complete loss to all forms of cutaneous sensibility over all sacral areas. Slight relative sensory loss over the 5th. lumbar area on the R. side. Loss of sense of position in toes and foot on the R. side. No loss of deep pain or of sensibility to vibration. The patient has lost feeling in the rectum and has no sensation of the passage of urine or faeces.
Reflexes.	Deep knee-jerks absent on both sides. Ankle-jerks absent on both sides. Plantar. Absent on both sides.
Sphincters.	Normal.

great improvement in the sensibility of the lower extremities, the sensory loss becoming confined to the sacral areas on both sides and the 5th. lumbar on the R.

State on Re-admission, Sept. 1911.

Special Senses. Normal.

Cranial Nerves. Normal.

Motor System.

Upper Extremities. Normal, all reflexes present.

Trunk. Normal, all reflexes present.

Lower Extremities. Patient is able to walk with difficulty, dragging the toes of both feet along the ground.

R. Marked wasting of the muscles below the knee, slight wasting of the muscles above, almost complete paralysis of all movements of the ankles and toes, and considerable weakness of the extensors of the knee, and to a less extent of the flexors. Hip movements rather weak. There is no spasticity.

L. Weakness is greatest in the calf muscles. There is also marked weakness of the dorsi-flexors of the ankle, but only slight weakness of the muscles above the knee.

Sensory System.

Subjective. No Pains.

Objective. Complete loss to all forms of cutaneous sensibility over all sacral areas. Slight relative sensory loss over the 5th. lumbar area on the R. side. Loss of sense of position in toes and foot on the R. side. No loss of deep pain or of sensibility to vibration.

The patient has lost feeling in the rectum and has no sensation of the passage of urine or faeces.

Reflexes. Deep knee-jerks absent on both sides. Ankle-jerks absent on both sides. Plantar. Absent on both sides.

Sphincters. Normal.

Case 102.

Syphilitic Meningo Myelitis. Died 3 weeks after operation.

J. C. Male. 55. Dr. Ferrier. 1905.

Op. Mr. Ballance.

Family History. Nil.

Previous Health. Syphilis at 19.

Present Illness. 9 months ago pain in L. buttock and outer side of L. thigh, lasted for few days and a few days later had incontinence of urine which gradually got worse.
8 months ago cold feeling in R. buttock.
3½ months ago R. leg began to drag.
3 months ago cold feeling in R. buttock was replaced by sharp shooting pain in R. leg, sometimes associated with painful flexor spasms. Patient was obliged to take to bed and developed a bedsore over R. trochanter, 3 days later.
During last month pain which is of a shooting character has been very severe, also a sharp pain coming round R. side of abdomen above the iliac crest.

State on Admission.

Cranial Nerves. Pupils pin point, scarcely any reaction to light or convergence.

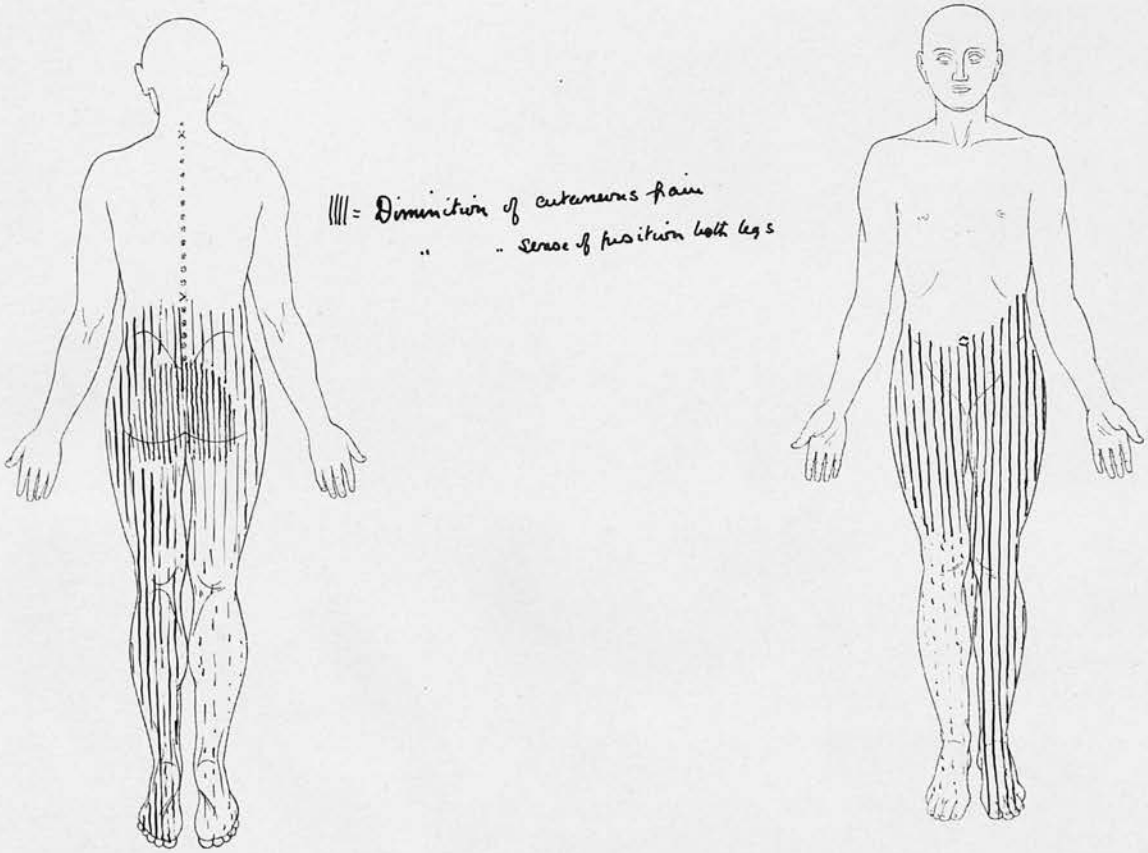
Motor System.

Head & Neck. Normal.
Trunk. Normal.
Upper Extremities. "
Lower Extremities. Wasting of both thighs and legs, especially of R. R. leg very weak, movements at R. hip weak. L. leg movements weakened but performed with fair power. Patient unable to stand.

Sensory System.

Subjective. Numbness of legs, pain in hips and thighs and aching pain in back.

Objective. Complete loss of sensation during micturition, incomplete during defaecation. Cutaneous pain diminished over sacral areas on both sides, over the L. leg and trunk below the level of the 9th. dorsal segment and over the front and outer aspect of the upper part of R. thigh. There is probably also some loss to other forms of cutaneous sensibility in same areas, but patient is a very bad witness. Deep pain and sense of position impaired in both legs



especially in the dorsal region, and at the level of the 8th. and 9th. dorsal segments the cord was compressed and undergone degeneration. Evidently there was a myelitic condition at the 9th. dorsal.

Sensory System.

Subjective. Numbness of legs, pain in hips and thighs and aching pain in back.

Objective. Complete loss of sensation during micturition, incomplete during defaecation. Cutaneous pain diminished over sacral areas on both sides, over the L. leg and trunk below the level of the 9th. dorsal segment and over the front and outer aspect of the upper part of R. thigh. There is probably also some loss to other forms of cutaneous sensibility in same areas, but patient is a very bad witness. Deep pain and sense of position impaired in both legs.

Reflexes.

	Right.	Left.
Deep.		
Arm.	Normal.	Normal.
Knee.	Diminished ~~both sides~~.	Diminished ~~both sides~~.
Ankle.	Brisk.	Brisk.
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	"	"
Cremasteric.	"	"
Plantars.	Extensor.	Extensor.

Sphincters. Complete and continual incontinence of urine and faeces.

Operation. 5.7.05. Mr. Ballance.

The spines and laminae of 1st. and 2nd. lumbar vertebrae were removed. Nothing abnormal was found. The dura was opened and the cauda equina appeared free. The dura was stitched up and the wound closed.
28.7.05. Patient died from heart failure and congestion of the lungs.

Post Mortem. There was thickening of the lepto meninges. In the lower cervical and in the lower dorsal regions the lepto meninges were adherent to the cord and to the dura, especially in the dorsal region, and at the level of the 8th. and 9th. dorsal segments the cord was compressed and undergone degeneration. Evidently there was a myelitic condition at the 9th. dorsal.

Case 103

Syphilitic Meningo Myelitis. Died 1 month after operation

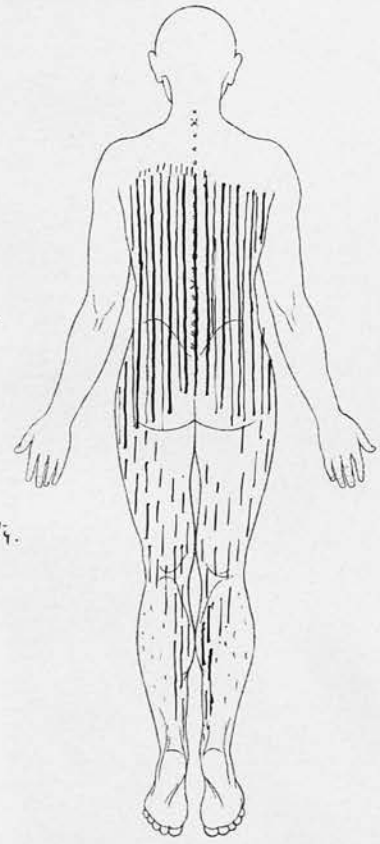
H. W. Male. 51. Sir William Gowers. 1906.

Op. Sir Victor Horsley.

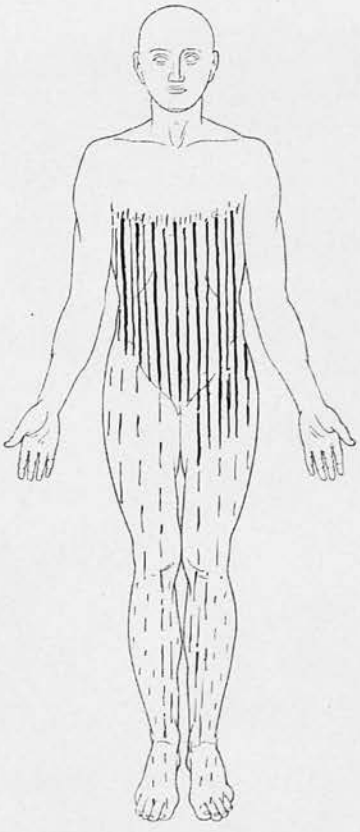
Family History. [illegible]. Good.

Previous Health. 20 years ago had syphilis, treated 2 years. (patient infected his wife).
6 years ago operation for Renal calculus.
5 years ago sudden onset of paraplegia with pains in neck and upper part of chest, followed a few hours later by paralysis of the R. 3rd. nerve.

W. 51.



H. W. 51



= Severe affection of all forms of cutaneous sensibility

= Slight sensory loss of cut. sensibility

= Very indefinite loss of cut. sensibility

Sensory System.
Objective. Very severe sensory loss from 4th. dorsal to 12th. dorsal, all forms impaired. Slight sensory loss in lower extremities, the 4th. and 5th. sacral and the 5th. lumbar and 1st. sacral being little affected.

Case 103

Syphilitic Meningo Myelitis. Died 1 month after operation

H. W. Male. 51. Sir William Gowers. 1906.

Op. Sir Victor Horsley.

Family History. [illegible]. Good.

Previous Health. 20 years ago had syphilis, treated 2 years. (patient infected his wife).
6 years ago operation for Renal calculus.
5 years ago sudden onset of paraplegia with pains in neck and upper part of chest, followed a few hours later by paralysis of the R. 3rd. nerve. Improved after 7 weeks anti-syphilitic treatment.
3 years ago loss of sexual power and desire.
2 years ago numbness in both legs, especially L. with later incontinence of urine. Increasing difficulty in walking.
1 year ago precipitate defaecation.
6 months ago reflex spasms in legs - legs weaker.

State on Admission. 6.4.06.

Cranial Nerves. Pupils irregular, unequal, Argyll Robertson.
Nothing special of note in other cranial nerves.

Motor System.
Upper Extremities. Good power, no paralysis.
Trunk & abdomen. No weakness of muscles.
Thorax. Weakness of lower thoracic muscles.
Lower Extremities. Both lower extremities flabby and powerless, L. weaker than R. which is slightly spastic. Cannot stand alone.

Sensory System.
Objective. Very severe sensory loss from 4th. dorsal to 12th. dorsal, all forms impaired. Slight sensory loss in lower extremities, the 4th. and 5th. sacral and the 5th. lumbar and 1st. sacral being little affected.

Reflexes.

Deep.	Right.	Left.
Arm.	Brisk.	Brisk.
Knee.	Plus.	Plus.
Ankle.	"	"
Superficial.		
Epigastric.	Absent.	Absent.
Abdominal.	Diminished.	Diminished.
Plantar.	Extensor.	Extensor.

Sphincters. Incontinence.

Operation. 15.5.06. Sir Victor Horsley.

The spines and laminae of the 3rd. 4th. 5th. 6th. 7th. 8th. 9th. 10th. dorsal vertebrae were removed. No extra thecal disease. Theca was incised and cerebro spinal fluid escaped under pressure. Arachnoid thickened and adherent to cord which appeared small.

15.6.06. Patient died.

Post Mortem. Cord meningo myelitis from 4th. dorsal to 10th. inclusive. Syphilitic meningitis with degeneration of peripheral portions of cord. No definite softening in the cord. Severe case of cerebro spinal syphilis.

Case 104.

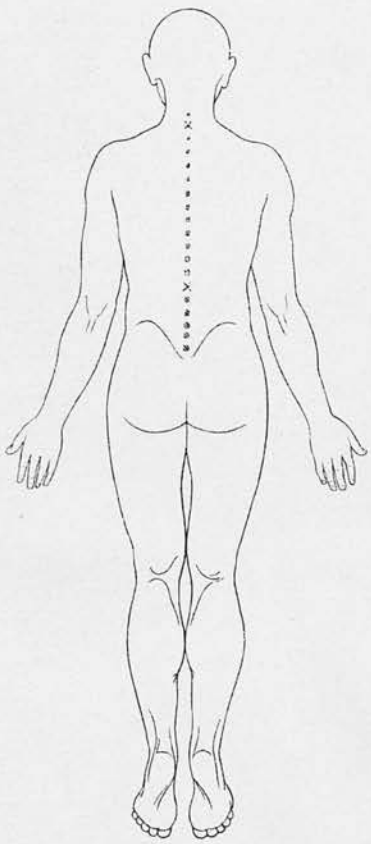
Syphilitic Meningo Myelitis. Improved

A. K. Female. 37. Dr. Tooth. 1911.

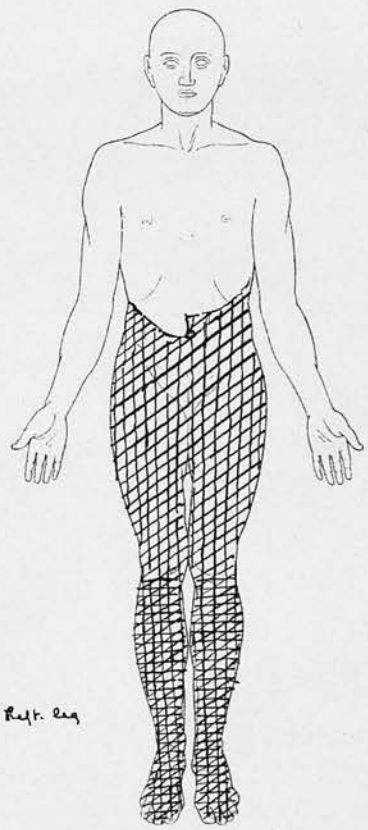
Op. Mr. Sargent.

Family History. Nil.

Previous Health. No special illness. Positive Wasserman in blood and cerebro spinal fluid.
Sept. 1909. A hard red swelling appeared in R. calf, and a month later she had ulcers in L. leg, and at this



A.K. 37



= loss to heat & cold.

= loss to pain

= loss to touch.

Slight loss sense of position in Rt. leg
No loss to deep pain

Abdomen. Spasm.

Sensory System.
Objective. Most definite loss to heat and cold up to level of 9th. dorsal on R. side and 8th. dorsal on L. - probably slight loss to pin prick over same areas. Tactile loss over the lower limbs, mostly below the knee. Definite loss

Case 104.

Syphilitic Meningo Myelitis. Improved

A. K. Female. 37. Dr. Tooth. 1911.

Op. Mr. Sargent.

Family History. Nil.

Previous Health. No special illness. Positive Wasserman in blood and cerebro spinal fluid.

Sept. 1909. A hard red swelling appeared in R. calf, and a month later she had ulcers in L. leg, and at this time L. leg began to get stiff and she had numbness on outer side of thigh.

3 weeks later R. leg became similarly affected. Legs became weak and stiff and in Dec. 1909 she could hardly walk.

She was admitted to the London Hospital for 7 weeks and afterwards sent to a convalescent home. She was treated with iodide and when at the home she was able to walk a mile without being tired.

6 weeks ago she suddenly began to get worse.

27.6.09. Went to infirmary.

Jan. 1910. Began to suffer from sphincter trouble.

State on Admission. General condition good.

Cranial Nerves. Normal, except for some slight lateral nystagmus.

Motor System.

Upper Extremities. Normal.

Lower Extremities & " Abdomen. Weak and spastic with much spasm.

Sensory System.

Objective. Most definite loss to heat and cold up to level of 9th. dorsal on R. side and 8th. dorsal on L. - probably slight loss to pin prick over same areas. Tactile loss over the lower limbs, mostly below the knee. Definite loss

of sense of position in L. leg, slight in R. Deep pain not affected.

Reflexes.

	Deep.	Right.	Left.
	Arm.	Brisk.	Brisk.
	Knee.	Plus.	Clonus.
	Ankle.	"	"
	Superficial.		
	Epigastric.	Present.	Present.
	Abdominal.	Absent.	Absent.
	Plantars.	Extensor.	Extensor.
Sphincters.	Incontinence of urine - constipation.		
Gait.	Unable to stand.		
Spine.	Normal.		

24.7.10. Level of analgesia and thermal loss.

Operation. 13.3.11. Mr. Sargent.

Patient having become slowly worse, Mr. Sargent operated and removed spines and laminae of 5th. 6th. 7th. 8th. and 9th. dorsal vertebrae. The arachnoid was thickened and adherent to the dura and also to the cord. The pia arachnoid was thickened and gave a beaded appearance to the cord.

28.6.11. She left hospital distinctly less spastic, but with no change in sensation and no improvement in voluntary power.

Case 105

Syphilitic Lepto Meningitis. Some Improvement.

G. F. Male. 27. Sir William Gowers. 1909.

Op. Mr. Armour.

Family History. Nil.

Previous Health. ?Syphilis 3 years ago.

Present Illness. 11 months ago difficulty in holding water and motions.
10 months ago Pain from R. knee to toe, recurrent and sharp.
9 months ago Gradual weakness of R. leg.
5 months ago gradual weakness of L. leg.

State on Admission. 21.7.09.

Cranial Nerves. Normal.

Motor System.

Head & Neck. Normal.

Upper Extremities. Normal.

Trunk. Normal.

Lower Extremities. Slight spastic weakness of both, R. more than L.

Gait. Can walk alone, gait spastic and ataxic.

Sensory System.

Objective. No sensory loss except some loss of position in both lower extremities.

Relfexes.

		Right.	Left.
Deep.	Arm.	Normal.	Normal.
	Knee.	Plus.	Plus.
	Ankle.	Plus plus clonus.	Plus plus clonus.
Superficial.	Epigastric.	Normal.	Normal.
	Abdominal.	Absent.	Diminished.
	Cremasteric.	Present.	Present.
	Plantars.	Extensor.	Extensor.

Sphincters. Difficulty in starting micturition - occasional loss of control over urine and faeces.

Spine. Normal.

Cerebro Spinal Fluid. Lymphocytosis.

Operation. 20.8.09. Mr. Armour.

The spines and laminae of 4th. 5th. 6th. 7th. and 8th. dorsal vertebrae were removed. Thickening of arachnoid. Dura was not sewn up.

8.9.09. Patient walking better, still definite spasticity in both legs, R. more than L.
Complete sphincter control.
Sensory. Impairment to heat and cold in lower extremities, no tactile or pain loss. Only slight loss of sense of position in toes.