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On Sciatica

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M.B. C. 17-



This Thesis is founded on a dissertation
written for and read before the Royal
Medical Society Edinburgh a few
years ago by the author.

Part of this paper has been copied
from the draft by my brother as my
time has been a great deal occupied
and I have not been able to copy all
myself.

I regret that having lost the
reference to Dr. Lawson quoted on pages
54 & 55 I am unable to give the nec-
essary data - The matter was in
my dissertation above noted and the
notes for the preparation of it have
been mislaid

1 Esplanade
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Alfred Leys

Introductory ^{and} Anatomy Causes.

The subject of sciatica has received such scant treatment at the hands of authors that it has seemed to me that to collect the information to be derived from various writers, & at the same time to add my own observations, would form a suitable subject of thesis in application for the degree of Doctor of Medicine.

There are few writers who pay particular attention to the disease of which I write, & even there as a rule attack the subject, as one might say, from all parts of the compass, & without any regular method of examination. The causes, symptoms, and treatment are blended by some in a manner that is at times most confusing, & as regards the treatment especially, some writers seem to set down any drug which in some case may have relieved pain next to another whose usefulness is most marked in a certain definite set of cases.

Before we enter into the subject of the disease itself, it is necessary to have laid down a statement as to the course & distribution of the nerve, the peculiar pain in which is recognized by the name of sciatica.

Anatomy.

The sciatic nerve, known as the great sciatic, to distinguish it from the lesser, is a branch, & the principal one, of the Sacral plexus, & is indeed the largest nerve in the whole body.

The general course is down the back of the thigh, & its distribution is to a large extent confined to the lower limb below the knee.

Let us however look at the anatomical relations of the nerve more deeply, as this must form an integral part of the study of sciatica; as, without a definite idea of the relations of the sciatic nerve, many of the symptoms of the disease would seem vague.

The great sciatic nerve, as I have already stated, is a branch of the sacral plexus. It emerges from the pelvis through the sacro-sciatic foramen below the pyriformis muscle, & here its covering are: Skin & super.

ficial layers of fat, the expansion of the pectens maximus & the pyiformis muscle.

The great sciatic nerve then descends between the tuber ischii & the trochanter major, & runs down the back of the thigh to its lower third, where it divides into two great branches.

The internal popliteal

The external popliteal

In its descent the nerve rests on the external rotator muscle, & lower down upon the adductor magnus, where it is covered by the long head of the biceps.

This then is the whole course of the great sciatic nerve, but it is necessary that we should trace in a general manner at any rate, the course & distribution of the two great divisions of that nerve which have already been mentioned -

The internal popliteal nerve is the larger of the two branches. This nerve passes along through the popliteal space, & then passes out of that space below the arch of the soleus muscle, & becomes the posterior tibial nerve. The internal popliteal nerve in its course gives off branches.

- 1st Articular to the knee
- 2nd Muscular to the calf muscle
- 3rd External or short saphenous nerve

which passes down the middle of the back of the leg, & passing round the outer malleolus supplies the skin of the outside of the foot.

4. Posterior tibial, which, passing down the leg to the foot, supplies the plantar surface of the foot. This nerve passes between the inner malleolus & the heel.

The External Popliteal nerve passes along the outside of the popliteal space, then round behind the head of the fibula, & as such below this it divides into the Anterior fibial nerve.

Musculo-cutaneous nerve.

Its branches are.

1st Articular to the knee

2nd Cutaneous

3rd Anterior tibial, which passes to the front of the interosseous membrane, & then down the leg to the front of the ankle joint, & then divides

4th Musculo-cutaneous supplies the muscles on the fibular side of the leg & the dorsum of the foot.

Thus I have attempted to bring forward the principal points to be noted in connection with the anatomy of the great Sciatic nerve & its branches, & for this I need, I think, make no apology, for when we con-

sider that the parts to which pain is re-
 ferred in statistics are the parts at which
 the nerve & its branches & continuations
 are more or less superficial, & when
 we examine into these special points
 where pain is usually experienced, & when
 the pain is most severe, we find that
 the anatomy of the part is directly inter-
 esting as regards the seat of pain; for
 those places where the pain is most
 felt, & which will hereafter be mentioned,
 are all, or nearly all, merely subcutaneous.

Causation

While it is our chief duty
 with regard to disease to effect its cure,
 we must ever bear in mind that to the
 most effectual accomplishment of this great
 end, it is necessary that we should know
 the cause of the disease, & that we should
 be able to formulate some theory as to the
 nature of the malady under consideration.

The causes which produce the disease
 must be recognized, obscure though they
 maybe, & also, & this by no means an
 unimportant part of our investigation,
 those circumstances, conditions, & general
 surroundings which render one in-
 dividual more liable to be afflicted

with one disease more than another.

What is termed the constitution of the patient is of vast importance, & he who is able most accurately to determine what that constitution is, will be far more likely than another to render assistance to his patient.

It is often of the most valuable assistance if we can recognize when a man is of a pouty, or a lymphatic, or a nervous constitution, or of any of those other constitutions which are well known, or whether in him we see an amalgamated two or more of these conditions. To get at the cause of the disease from which a patient suffers, to come to an exact determination as to the special physical condition which has rendered a certain man liable to fall a victim to a certain disease, is of great value as by this means we may be able to counteract such a cause, & to warn the sufferer to avoid such a cause not only for the present, but also, that for the future by being forewarned he may be forearmed, & maybe able to ward off all chance of recurrence of the disease. When we find that a certain man is invariably afflicted with an attack of urticaria if he indulges

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in a crab or lobster suffer, or if he may chance
to take a little honey, we warn such a man
that he should abstain from these delicacies
though to others they are harmless. In the
same way if we find that a man suffers
from sciatica, we find out, so far as we
are able, what was the cause of the sciatica,
though this is much more obscure than
the cause of urticaria in the former case,
still we endeavour to make out the cause,
& warn our patient to avoid that condition
or those circumstances in the future, which in
the past have proved so unfortunate - We
may treat a patient on most rational prin-
ciples, ordering those internal remedies, em-
brocations &c. which in the hands of writers
on or teachers of medicine have been used
with marked benefit, & yet, contrary to our
most sanguine hopes or most fervent ex-
pectations, the disease seems either un-
affected by our treatment, & this not because
our drugs are useless, but because we
have trusted too much to the remedies which
are mentioned in books, & have not
enquired into the causes which have brought
about the attack of sciatica which we
are called upon to treat.

The sciatic nerve is the seat
from time to time & from some cause or an-

other of a dull aching pain which can hardly be called sciatica. This occurs in many rheumatic & gouty persons, & in those who, for some cause or another, have exchanged an active life for one of a more sedentary nature. Although the pains are often associated with premature degeneration of the tissues of the body generally, yet the most severe cases of sciatica are to be found in those who are in the prime of life, who may yet look forward to, it may be many, years of activity, & whom aphas had yet touched with a heavy hand; but those whose ages are from the third to the fifth decade of life.

In syphilis, rheumatism, & foot an laid many of the diseases to which flesh is heir, & sciatica without doubt frequently arises in those who have acquired or inherited one of the above mentioned diseases. In Syphilis, & those persons who are tainted with that most dread disease are very many of the tissues of the body are below par, & are always liable to be affected by external conditions; should these conditions tend to the production of neuralgia, the sufferer may be affected with sciatica ^{or} trifacial or some other neuralgia. The situation of his pain depending on which part is in a condition most liable to take on morbid action.

In the rheumatic subject the condition of sciatica frequently occurs, & we find that those of a rheumatic habit of body are at all times liable to neuralgic pains, & in such patients it most necessarily behoves us to take very special note of the rheumatic condition in the treatment of neuralgia, & in applying remedies for the neuralgia to treat the rheumatism, as to treat the one without the other would be a most useless proceeding.

In the pouty subject neuralgic conditions also occur, though these most frequently take the form of facial neuralgia. Sciatica does, however, occur in the pouty, & it is best not to overlook the pouty condition of the patient.

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Passing over these general states of the body, let us look at the more direct causes of sciatica. Pain in the sciatic nerve may be due to any exciting causes as Violent Strains, Blows, Severe exertion, disturbance of circulation, mechanical pressure, & to these I would now draw attention.

A violent strain, such as the lifting of a heavy weight, or severe labours in certain positions, may bring on a sharp attack of neuralgia in the sciatic nerve. Pain which, acute at the time, may pass

into a subacute & then into a chronic state which is most difficult to alleviate when once fairly set in.

A blow over the great Sciatic foramen with a blunt weapon may set up a sciatic pain of a very acute type (see case of A. B.)

Mechanical pressure, as in the case of tumours & other sources of pressure, as effusion of blood or serum, may give rise to a sciatica either of an acute or of a subacute character.

In addition to these causes I would mention others, as those caused by uterine displacements & diseases & also ovarian & uterine tumours & cysts. Also distended bladder in the case of prostatic disease, disease of the vertebrae & pelvic bones, Syphilitic periostitis in the same region, pregnancy, & frangmata of the nerve sheath, which ^{last} ~~latter~~ might included in the tumours giving rise to pressure.

These are not true Sciatica

All these conditions giving rise to sciatica which I have now mentioned may be looked upon as mechanical causes, more or less, giving rise to pressure on the nerve, or its branches. But there is another set of causes which perhaps I may call indirect causes of the sciatic pain; or I might

call the first list direct causes of sciatica, either acting on the nerve itself or on some of its nearest branches. I might call those of which I have now speak indirect causes: that is - those which do not act exactly or ~~altogether~~ on the sciatic nerve itself, but yet an undoubtedly closely related to the pain in the connection of cause & effect. Undoubtedly there is no exact boundary between the two, & then are certain causes which it would be difficult to determine as to their being instant or mechanical, indirect or direct. Still for the purposes of classification & description, it is well to make a distinction, even though it may be arbitrary, & I hope that will not be misconstrued if the reader should think that a cause which I might put down in the second list might with more advantage be put in the first.

very
hard

The Classification is merely for the purpose of more easily bringing out my own ideas, & not with any idea of laying down rules for others. I need hardly say I think that both mechanical & instant causes may be present & at work in one case.

Many cases of sciatica may be traced to some occasion when the individual has got wet through, & has perhaps sat for some time in wet clothes, or to some occasion when he may have lain or sat for sometime on wet ground & fallen asleep. This may be almost taken as an example - a typical example of the indirect cause, a cause more ir-
 ritant than mechanical. The cold or damp night quite as well have given rise, & in many cases would undoubtedly have given rise, to tic douloureux or other forms of neuralgia, & not necessarily to sciatica, unless it had been that the sciatic nerve was in a condition which rendered it liable to take on morbid action. Some one might argue that as the man sat on the damp ground or in the damp clothes, the sciatic nerve was in juxtaposition to the cause, & consequently was liable to morbid action from its situation, but when we see the number of cases of tic douloureux & other forms of neuralgia caused by the very same conditions, we must conclude that the close contiguity of the nerve bears little weight, that more than this is required before the neuralgic pain should necessarily appear in the sciatic nerve.

Practice. S
Somewhat proud and a little
confident. but fairly well
composed

Some predisposing cause must have been at work in the case of sciatica, as for instance severe physical exertion, while in the case of hidradenoma another predisposing cause might be present, as for instance a decayed tooth, & the combination of the chill from the damp ground or the clothing give rise to neuralgia of the fifth cranial nerve & thus I would point out that it is not a question of chance which nerve is affected -

Sciatica may be brought about in people of feeble habit of body through depressing causes, or it may occur in those of robust health whose health may be impaired by sickness or mental anxiety, or who through weakening discharges have become liable to take on diseased action, this action being in the direction of nerve pain - that is neuralgia -

Sciatica may have also a central origin - the sciatic pain having originated in disease of the central nervous system, as in the case of locomotor ataxia, when pain is sometimes felt of an excruciating character passing down the sciatic nerves. To go however at all deeply into the subject of nerve pain in the limbs due to central nervous lesion, would lead me to a long digression, & I shall abstain from this matter, merely noting the fact that sciatica in some cases is not a local condition, but is a manifestation of a much graver disease. Sciatica, in the ordinary

sense of the term, is a condition of the sciatic nerve itself due to some local or general cause & not dependent on any lesion of the central nervous system between the sciatic nerve & the brain itself. It is this sciatica of ordinary sense that I desire to treat, with its causes &c, & will leave out of account lesions of a pueral character.

As previously mentioned the gravid uterus is liable occasionally to cause sciatica, but, in doubt as to which class it should be in, I have included pregnancy under both heads. Neuralgia in pregnancy is very common, especially trifacial neuralgia or "the dolourne". The gravid uterus is a cause in direct pressure on the sciatic nerve & thus be a mechanical cause of pain, but we must not lose sight of the fact of the dolourne being extremely common in pregnant women, as it also is in women who are suckling their children, & thus we must look for several causes. A woman, in the earlier months of pregnancy at any rate, never feels well (such is the common occurrence, though exceptions do occur, & some women affirm that they are never so well as when they are pregnant), she is always complaining, & it is at this early period that neuralgia is common, though in some it persists all through

the period of utero-gestation. The uterus in the early months lies in the pelvis, not appearing over the pubis until about the 4th month, during this early period of pregnancy the uterus may exert pressure on the sacral plexus. A woman in her early pregnancy loses her equilibrium, if it may be so called. She is liable to fainting & other phenomena of a weak state of health, & in people of weak health neuralgia is common. It will from the above be seen that the classification of pregnancy as a cause of sciatica is extremely difficult, seeing that it may be both mechanical & irritant, direct & indirect, as however it acts in both ways I have put it under each heading.

The position in which a man stands or sits when engaged at his work may conduce to sciatica. Thus the puddler in iron works, & the furnaceman at gas works, & those men who (almost an entire class) work at looms in their own houses, are all sufferers from sciatica.

Let me, without going into the causes of all these cases, take the case of the furnaceman.

The furnaceman at a gaswork stands before the orifice with his right leg thrown out behind him & his body bent so that body

& right leg are in one line. The right foot is
 inclined outwards. The left leg is bent, & as I
 have just said, the body is bent, that is on the
 left thigh - This man's occupation for several
 hours every day is to throw the coals into the stork.
 He raises a shovel full of coals & throws the
 coals into a stork in front of him, and each
 time he throws forward he gives to his right leg
 a certain amount of strain, which though it may
 seem a small thing to those accustomed to it,
 is very severe to the foreign workman. The strain
 is undoubtedly very severe & many foreigners
 find the work too hard for them. Though
 this strain is severe it is not the only cause
 of sciatica in the furnacemen, for if it were so
 this would be an example of the direct cause
 of sciatica.

The temperature of the air & the gen-
 eral surroundings of the man while
 at his work are conducive to anything but
 health. Any one who has stood in front of
 the storks in a furnace work and has seen the
 men shovelling the coals, throwing them
 from a distance so great is the heat
 that it would be impossible to stand close
 to the stork, while all the time through the
 shed is blowing a draught of cold air from
 the outside, any one as I say who has looked at
 this will readily conceive that the work is by no means healthy.

The gaseous emanations also coming from the stoves take part in rendering the place unhealthy; the close hot stifling atmosphere with the cold draught; the gaseous emanations from the stoves when they are opened, all combine to render the furnaceman liable to certain diseases, & as his leg is strained at his work, it is by no means a wonderful thing that sciatica is a disease to which those men are peculiarly liable.

But there is yet another reason why the furnaceman should be liable to neuralgic pains in his sciatic nerve. The workman when his working day is over, & all perspiring as he is, throws down his shovel & picks up his coat which he draws on as he walks away. It may be that the man may have to walk home in a shower of snow or rain or sleet, or it may be that through the street there blows the deadly east-wind. Homeward the man trudges, seemingly utterly unmindful of the change of temperature which he has undergone so suddenly, for as he says he is used to it.

All do not escape & some there are who through combination of all the conditions just mentioned fall victims to a

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most intractable & most painful disease, when
very name sciatica brings up before the public
mind the idea of a painful & protracted disease,
which it seems to be almost out of the power
of physician or surgeon to eradicate, and which,
without going that length, the medical man
recognizes as a disease most difficult of
treatment, & most liable to recur if once it
has been present.

It is worthy of observation that when
the furnaceman is left-handed he stands
in the exact reverse position to that in which
the right-handed man stands. That is to
say that his left leg is thrown back, & left-
leg & body are in the same line, the right-
leg being bent, & the body being also bent
on the right thigh. Thus when the left-
handed workman is throwing the
coals it is the left thigh which receives
the strain, & it is in this limb he feels
the sciatica.

A heated atmosphere
alone would seem to be a potent cause
of neuralgia, if we may judge from the
number of cooks, kitchen maids, &c., who
suffer from neuralgiae. The number
of cooks who suffer would be incredible,
were it not that they are continually ex-
posed to heat, & are frequently warming from

a superheated atmosphere into the cold air outside it may be, & they thus run many risks of suffering from a most painful disease. Of course the rapid change of temperature has great effect, & the change from a hot kitchen to the cold searching winds in a kitchen garden is undubitably deleterious, but there is another aspect; there being no possible doubt that the continual practice of working in an atmosphere superheated must be, & is, most debilitating & weakening; and this debilitating process renders the individual an easy prey to neuralgia; and then the change into cold air acting on an enfeebled state of the body completes the process, the person becoming the victim of neuralgia whether in the form of sciatica or of "tic douloureux".

Another

cause of sciatica which is well worthy of notice is stricture of the urethra. This condition as being a cause is not so fully recognized by the profession as it might be. I hope in recording at the close of this paper a number of cases of sciatica, to note several in whom there can be no doubt that the neuralgic condition depended on the stricture of the urethra.

It is necessary to the understanding of the matter that we should have before us a general idea of the nervous supply of the peritonian tract.

The supply of this region is two-fold, but for our purposes we can leave out one of those sources of nerve supply viz: the hypogastric plexus.

The other source of nerve supply is the sacral plexus.

The Sacral Plexus,

Gives off branches:—

- Muscular
- Superior Gluteal
- Genit. Sciatic
- Pudic
- Small Sciatic

It is the pudic nerve which supplies the peritonian tract, & the course & distribution of the nerve must be briefly considered.

The pudic nerve arises from the lower part of the sacral plexus, and passes out of the pelvis through the great-sacro sciatic foramen below the pyriformis muscle.

It then crosses the spine of the ischium & enters the pelvis through the lesser sacro sciatic foramen. It accompanies the pudic artery upwards & forwards along the internal of the ischio-rectal fossa, being covered by

the obturator fascia, & divides into two terminal branches - The perineal nerve and the dorsal nerve of the penis - Near its origin the pudic nerve gives off the inferior haemorrhoidal nerve.

Let us follow the course of the perineal nerve & we find that it divides; one part going to supply the sphincter ani and another going forward, supplying the scrotum & the under surface of the penis.

The muscular branches of the perineal nerve supply the transversus perinei, the accelerator urinae, the erector penis and the compressor urinae.

The dorsal nerve of the penis of course supplies that surface of the organ -

We find that the nervous supply, then, of the tract from the bladder to the external orifice of the urethra, and ~~that~~ the nervous supply of the perineum, depends to a very large extent on the pudic nerve, and this nerve we have already found to be a branch of the sacral plexus of which the great sciatic nerve is the principal branch, and thus we find that the nerve supply of the urinary tract from the bladder to is in connection, though not directly, with the nerve supply of the thigh and leg - the great sciatic nerve.

Dr. Kuon, & Charcot points out, that irritation in the puitovinary tract is liable to bring on nervous manifestations which Charcot calls "urinary paralyses." From our own experience we know that in childhood a long & tight prepuce is apt to cause certain nervous phenomena, & as a curative we recommend circumcision. As the saying of Charcot on the point of urinary paralyses are short I may quote him in part: "The cases, few in number, which compose this group of urinary paralyses are so far examples of false paraplegia, at least in this respect that it is not the cord which is attacked." Charcot goes on to speak of a celebrated case reported by Hussmann; "In that instance descending neuritis, directly propagated, had become developed owing to a severe irritation of the urinary passages, & had occupied the lumbar & sacral flexures. During life, besides paralysis of the lower extremities, acute pain had been remarked along the course of both sciatic nerves."

Diseases of the Nervous System. 2nd Series New Sydenham Society 1881 page 260

Charcot devotes a chapter in his book just quoted to urinary paraplegia and he speaks of cases of gonorrhoea followed by stricture which may occasion the passage of instrument, & urethritis has afterwards followed. He cites a case reported by

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D. Gull in which, after gonorrhoea, an abscess has formed near the bulb of the urethra & created a communication between bladder and rectum.

Those few lines I have quoted from D. Charcot's work to show that nervous disease may result from urinary mischief, and find it necessary to do so, as it has more than once been denied to me that a stricture of the urethra could give rise to sciatica. In page 22 of this paper will be found a quotation from Charcot about the irritation in the urinary passages communicating with the sacral plexus and giving rise to sciatica. I have been told (by an Edinburgh surgeon) that the sciatica was not due to the stricture but that the result of the stricture was a retention of urine in the bladder which was never completely emptied, and that this gave rise to sciatica. This seems to me a mere multiplication of words for if the stricture gives rise to the condition of a bladder never completely emptied & that gives rise to sciatica, then the stricture is the cause of the sciatica. But is the surgeon just quoted right? Does the condition of the urethral stricture necessarily give rise to a constant retention of a residuum of urine in the bladder? I find that is usually the case in prostatic disease.

enlargement and it is a fact well known -
 But it does not seem to me necessarily to
 follow in the case of the ordinary strictures. In
 prostatic enlargement the course of the urethra
 is more or less altered, & the bladder orifice
 of the urethra is raised above the base of
 the bladder & more or less occluded. But
 this is not the case in urethral strictures.

This is a mere contraction or narrowing
 of the canal through which the urine must
 needs flow in a smaller stream, but though
 the pipe be narrow & of small calibre, it is
 able to empty the cistern, though not so fast
 as if it were of normal diameter. The
 retention of the fluid cannot be looked upon
 as the source of irritation, & some other must be
 looked for. The canal is narrowed at a cer-
 tain part by what may be called a constricting
 band or ring. Until it gets to this point the
 urine runs in a normal stream, and then
 presses against the band, & great irritation may
 ensue from this pressure, & indeed it is frequently
 the case that the man who suffers from
 strictures is attacked by considerable pain during
 micturition. I shall bring forward in sup-
 port of the argument of stricture, ^{as} an occasional
 cause of sciatica several clinical cases, in
 which I have not the slightest doubt
 that the stricture was the cause of the sciatica -

In the perineal region are also to be found at times causes of sciatica. Retention of urine in prostatic disease, fissure & fistula in ano, & I also remember of seeing a case of calculus in the bladder, in which the man suffered from pain in both his sciatic nerves the only cause to be observed being the presence of the stone.

I have had a case recently mentioned to me by a medical man in which sciatica occurred in a young man apparently from over indulgence in sexual intercourse. He had been recently married & suffered from considerable pain. On the advice of the medical attendant he lived separate from his wife for some time & recovered rapidly.

Symptoms.

The symptoms are so well known that it is hardly necessary to go over them, but as a paper on Sciatica would not be complete without such a description, it is necessary that I should say some few words with regard to the symptoms of the disease.

Naturally the first & great symptom to which I would direct attention is pain, & this pain is referred to the course of the nerve, & more especially to certain parts of it when it is more superficial though in all parts the pain is felt. The patient in the early stages of the disease indicates that it is entirely confined to the origin of the nerve from the pelvis but before long he finds on questioning that he complains of pain in the knee. The man (or woman as the case may be) does not deny that

The pain is in the thigh but complains first of pain at the hip, & then some day you find him saying that he is worse, & that he has pain in his knee. You elicit on enquiring that the pain shoots from the hip to the knee these two being the most painful parts. Before many days pass, the pain shoots down to the ankle & at this point, notably at the outer ankle, the pain is severe. The pain is present in thigh & leg, but not so constant as it is in hip knee & ankle. And it is to these parts that the patient ~~desires~~ desires to draw the attention of the physician.

The patient complains of pain on starting to walk. This pain to some extent subsides under the influence of the exercise but is always more or less present. He says that it never wholly leaves him while moving. While lying in bed the pain in most people is not so severe, however we sometimes find cases in which great pain is experienced. In some we find that during rest in bed the pain is absent, again in others the very circumstance of getting warmed in bed seems to bring on violent

appreciation of the pain, Effectually preventing the sufferer from getting needed rest.

A very marked sign of sciatica which prevents any mistake between this disease & Rheumatism, is that when you ask a patient to point out to you the seat of the pain he indicates it exactly with his finger, & when, as he directs, you place your fingers over the sacro-sciatic foramen where the nerve emerges, just between the Great-trochanter & the ischial tuberosity, you find on pressing firmly that your patient groans & cries out that is the very place - the very spot.

In Rheumatism however, the sufferer on legs his whole hand not over the sacro-sciatic foramen, not between the Great-trochanter & the ischial tuberosity, but over the trochanter itself.

The pain in sciatica, then, to put it shortly, is a definitely localized pain while in rheumatism the pain is more general situated in the hip joint -

The pain of sciatica is more particularly localized in the points already quoted, but it may be as well to point out more particularly those branches of the sciatic nerve in which pain is most

frequently felt.

We find that the superior articular & inferior articular nerves of the knee, are connected with the pain in that region. The posterior cutaneous nerve of the thigh, the posterior cutaneous nerve from the crural, the communicating, peroneal, tibial & plantar nerves, are all implicated to a greater or less degree in the nerve pain & thus we find that once the disease has begun the pain extends to the whole limb even to the plantar surface of the foot.

The pain as I have said is aggravated by movement to such an extent that the sufferer is frequently afraid to change his position in bed. This is more observed in the acute & subacute than in the chronic form of the disease.

Other symptoms are also present, these being of a constitutional character.

The tongue is furred, the skin hot & dry, & there is considerable amount of fever indicated by a rise of temperature, and often great thirst is complained of.

These symptoms indicate some pyrexial condition, & to these I shall hereafter refer. In the chronic form we do not

find these constitutional symptoms present; there being an absence of feverishness & the pain being of a much less severe type -

There is in the chronic form a possible state of the limb, which, if it last for a length of time, will culminate in a loss of flesh & wasting of the limb.

There are cases in which eventually there is slight loss of sensation, though this is a very rare occurrence indeed, so rare is it that I have seen little notice taken of the fact, & were it not that I have seen this state in one or two cases of very long standing sciatica, I should not have

^{mentioned} ~~stated~~ it. In those cases the loss of sensation was very slight, but still between the two limbs there was a decided difference of sensibility.

Bristow says "Anaesthesia again" is not un-frequent in connection with "neuralgia. Sometimes impairment" of tactile sensibility or discrimination goes along with considerable tenderness or hyperaesthesia but absolute loss of sensation in the affected limb and occasionally supervenes after a time"

Niemeyer also indicates that he has observed a condition of anaesthesia & partial paralysis.

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medicine
page 1119-

As to the cause of this anaesthetic condition supervening, especially in very prolonged cases of sciatica I shall have to speak hereafter. In the meantime it is enough to mention the condition as supervening occasionally. The pain is intermittent in character but seldom entirely subsides, returning in paroxysms of greater or less intensity, these being usually increased when the patient gets warm in bed. A derangement of the general health occurs & this naturally acts on the sciatica, assisting to maintain & also increasing it. In this chronic condition the urine is frequently found to be scanty & high coloured, & with it there may be a rather copious deposit of urates. During the interparoxysmal stage the pain is frequently of a tingling, creeping, or burning character these being less absolute cessation, it may be that this tingling or other pain gradually increases up to the paroxysmal state & the paroxysm again subsides into the milder form of pain. Sciatica rarely begins with severity. In those cases in which it does so, the disease is of shorter duration & much more amenable to treatment. It usually develops slowly

and gradually until it attains its maximum in that particular patient. Movement of any kind in the limb is apt to bring on pain, but a severe sneeze or a cough is apt to cause very severe pain in the limb affected. In ~~walking~~ walking the patient waves & plants the limb with great care, as any jerk or sudden movement is apt to bring on a paroxysm of pain which might cause the sufferer to fall to the ground.

Valleix pointed out that in facial neuralgia there are certain spots which are painful to the touch, & these points were called after him the "tender points of Valleix" or "points douloureux". These points are at the emergence of the three divisions each of the fifth pair of cranial nerves. These points are the supra-orbital notch, the supra-orbital foramen, & the mental foramen. Following up this clue Valleix from his anatomical knowledge fixed the painful points for other neuralgiae according to where pressure might be exerted on the nerves affected. Her Fousseau disagreed with him and says that Valleix was more guided by anatomical knowledge than by facts when he pointed out where the tender points of various nerves might be found.

From the beginning Broussieu would seem to find fault with these tender points, for even though he consents to those connected with the trigeminal nerve he still finds two counts on which to found complaints against Valleix -

The first count is that Valleix does not enumerate all the tender points in connection with the fifth pair of cranial nerves, & then proceeds to point out others of his own experience, which however have no interest in this paper.

The second count is a very old one, ^{indeed} ~~it~~ it might be said to be time honoured. There is nothing new under the sun, the Chinese were versed in those things after which our mechanics are striving years before they were even thought of in this country & long before Valleix's time according to Broussieu's statement these tender points which get the name were well known to the medical profession.

However that may be, Valleix must have done much to bring those tender points into the notice of the profession, at least for practical purposes, for notwithstanding the attack by Broussieu the name of Valleix is associated with those "points douloureux" whose position we are considering

The tender points in

connection with the sciatic nerve at the
 sacro-sciatic foramen when the nerve emerges,
 the popliteal space or rather the head of the fibula, or
 close to it, & the region behind the external &
 internal malleoli; in fact, to put it in more
 plain language, those parts on which
 the nerve or its continuations lie most
 superficially & have some resisting point
 against which they may be pressed. This
 would seem to be at the root of the matter.
 Valleix placed his pencil over the part at
 which the nerve could be compressed, that
 most generally being the emergence of a
 nerve from a bone, & finding that his
 pressure caused pain he called the point
 a "tender point" & noted it.rousseau
 placed his pencil over an expansion
 of one of those nerves & found another
 painful point. He pressed a branch of the
 painful nerve & found it also painful, and
 he called this a tender point. Valleix applied
 his pressure over a part of the nerve at
 which there was a resisting surface against
 which to press, &rousseau hit on a branch
 of the same nerve at which there was
 also a point d'appui.rousseau
 however goes farther, & shows that there
 are certain points, which he calls "spurious
 points", pressure on which in neuralgia causes

pain. Lrousseau in the case of sciatica expected to find the spinous points to be over the lumbar enlargement of the spinal cord, but instead he found it to be over the sacrum, and attributes this to the fact that neuralgia of the sciatic nerve only begins in the sacral plexus. Lrousseau brings this out from two cases, both females, whom he attended in 1863. He gives no cause for the sciatica in these cases, though such would be interesting for in a considerable number of cases of sciatica which I have observed since first I read on the subject, in only one have I noticed sacral pain, & even in that case I was doubtful of the existence of such pain as the patient was desirous of declaring on to a sick society in order to stop work for a time, & made the worst of his complaint. Consequently he said I hurt him when pressing over the sacrum.

Another point Lrousseau brings forward is - painful points in the peripheral expansions of nerves, but on this I need not write farther, as I have already treated of it in contrasting the opinions of that writer with those of Valleix. I have not in any way tried to set one of these authorities against the other in order to decry either one or the other,

my endeavours has been to compare the
two, & thus, getting information from both,
to reconcile the statements of the one with
those of the other.

It seems to me
that both writers are sound on the question.
Yallex marks his tender points & Rousseau
his. Rousseau expands the ideas
brought up by the other & indicates a
number of painful points which Yallex
had not noted.

Differential Diagnosis

I. From Disease of the Sacro-iliac Synchondrosis
 This joint disease maybe possibly mistaken for Sciatica, and therefore it will be necessary to point out the difference in symptoms &c between the two diseases -
 In youth Sciatica is rare - it generally appearing between the ages of 30 & 50, while in the disease above named, the age may be taken from 12 to 14 ~~upto~~ 30. Sciatica is a disease of middle life, while Sacro-iliac disease is one of youth or adolescence. The attempt to elicit the spurious points of Trousseau will undoubtedly produce pain in disease of the Sacro-iliac Synchondrosis, and will thus be a source of fallacy. The seat of the pain is different in Sciatica - the Sacro-sciatic foramen is pointed to - while in the other, the pain is situated in the lower part of the back, over the joint affected, and this pain does not shoot

down the limbs, but is entirely confined to the part affected - In Sacro-iliac disease a puffy tumour is early discernable, and this of course is altogether wanting in the neuralgic affection. The limb in the joint disease very early appears longer than the other on account of the position of the patient and the anterior superior spine of the ilium on the affected side is found to be on a distinctly lower level than its neighbour on the opposite side, and it is also more prominent than its neighbour.

II. From Hip joint disease. On account of the close proximity of the pain of Sciatica to the hip joint it is possible that the two might be confounded. Hip joint disease however occurs chiefly in young persons, while Sciatica in such is a rare disease though occasionally it is possible that it may occur at an age when the disease might be taken for Sciatica. Pressure over the hip joint, that is, I should say, over the front of it, in the groin, gives rise to pain, as also does pain arise on pressure over the trochanter. There are certainly symptoms common to both which might cause mistakes - These are - Pain in bed, Pain in the knee and Pain on Sudden

movement. But if we analyse those, especially the first two, we find that the pain in a bed in the case of the sufferer from hip joint disease does not come on as soon as he is to arm in bed, but only just as he is about to fall asleep when the guard which he unvoluntarily keeps over the joint is relaxed and the surfaces are allowed to come together, giving rise to a very severe pain which wakes up the patient.

The pain in the knee in hip joint disease is very puzzling and is apt to cause a wrong diagnosis to be arrived at. The pain is of a neuralgic character and is situated on the inner side of the knee, and the limb at that part is painful to the touch. Why there should be pain at the knee in cases of hip joint disease is very interesting, but with this I have not to deal, I simply point out the fact as a possible cause of error in the diagnosis of sciatica. The examination of the region of the hip with reference not only to the pain, but also note being taken of the condition of the navel fold with the presence or absence of pain on pressure over the sciatic nerve will lead to a correct diagnosis.

From Rheumatism. To differentiate

completely between Sciatica and Rheumatism would be an impossible task, seeing that the one frequently depends on the other. As Rheumatism may be a cause of Sciatica so may the nerve pain be a symptom of the Rheumatic condition. The Rheumatic affection may implicate the sheath of the great Sciatic nerve giving rise to a pain which cannot be called otherwise than Sciatica. Yet it is necessary that to some extent the two conditions and their boundary line should be defined so far as it is possible to do so between two diseases so closely allied. Rheumatism may affect the hip joint itself, giving rise to a rheumatoid arthritis, or it may be a simple rheumatic condition of the joint. Rheumatism may cause a painful condition of the muscles of the thigh, that is, there may be a rheumatic condition of these muscles, giving rise to a myalgia. The rheumatic affection of joint or thigh which frequently affects a joint or the muscles, is however a thing of comparatively sudden onset.

The patient awakes in the morning complaining of pain, but this, as a rule does not increase. It has already gained its maximum and gradually disappears. An example of this form of muscle rheumatism we may take the case of one who may rise in the morning with severe pain in his neck. To move the

head would be agony, and the sufferer, if he desires to look ~~at~~ ^{at} one side of the other, twists his whole body round. This condition, under very slight treatment rapidly disappears frequently all trace being gone in from 24 to 48 hours. How unlike a neuralgic condition such symptoms are. These symptoms occur in the thigh as well as in the neck, but the pain is not a local one. There is a painful condition over the whole of the muscle or muscles affected. There is pain on the slightest movement throughout the muscle but of a shooting character, but a feeling as of straining against a solid mass. Pressure over the Sciatic nerve produces no pain & there is no shooting pain down the leg. In rheumatism of the hip also the pain is dissimilar. It is a pain confined to the joint itself and no pressure on the Sciatic nerve will increase it. Besides, a rheumatic condition of this joint at the onset of the disease is by no means common. Other joints have been affected and this has passed into the hip joint.

Pathology

A paper on the subject of Sciatica would be incomplete without a few words on the changes undergone by the nerve in the progress of the disease. Of course the changes undergone by the sciatic nerve are those undergone by all the nerves of the body in neuralgic disturbance.

Buzzard in Quain's Medical Dictionary, says:—
 "In neuralgia proper no definite lesions are discoverable, at least none that are constant enough to deserve the place of necessary accompaniments or factors of the disease. As a result of neuritis or perineuritis the nerve trunk is sometimes found swollen & hyperaemic, or in a later stage it may be atrophied, and its fibres degenerated."
 Such is the very short account of the anatomical characters found.

D. Fuller says:— "The pain is referable to a cause of irritation, which may either give rise to no perceptible local change or may be ac-

Rheumatism, Gout
 and Sciatica.
 Page 449.

accompanied by lesions of a more or less serious
 nature from simple congestion on the one hand
 to copious effusion of serum, or of a serum mixed
 with lymph within the sheath of the nerve, or to
 thickening of the sheath itself on the other." And
 in a footnote - "The death of a patient during the
 existence of acute sciatica is so extremely rare,
 and the pathological effects of simple irritation
 and congestion pass off so rapidly that there
 are few instances on record in which any
 lesion of the nerve has been discovered after death."
 Such must be my apology for the attempt to try
 and explain the nerve conditions in sciatica
 and other neuralgias without the production
 of microscopic specimens. What I must do
 to very much to follow the lines of the two ob-
 servers above quoted and to enlarge upon the
 ideas emanated by them. -

Let us consider what would be the
 effect of inflammation or congestion of
 the sciatic nerve - There would in the first
 place, be a rapid enlargement of the lymph
 spaces - The lymph spaces being engorged
 will be distended to their utmost limit and
 consequently the nerve fibres will be pressed
 upon and pain will be the result.

The same conditions and circumstances are
 there in which from a blow or other severe
 injury, there is severe pain in the sciatic region.

the difference being that the pressure here is external to the nerve. Blood and serum are effused externally and the nerve is pressed and the result is pain. If the effusion take place in the interior of the nerve due to some cause of acute inflammation an acute sciatica will be the result, from the pressure. There may however be another cause of the excessive tenderness of the nerve in addition. An increased supply of lymph in the spaces will mean an increased amount of pabulum. Tissue changes in inflammation occur rapidly and the pabulum will be taken up rapidly, Effete matter being given off also at increased speed. The rapid supply of new food in their engorgement will cause an increased state of activity of the nerve fibrils. They are fully nourished - too much so in fact. They become irritable and a very slight stimulus, which in the normal condition of the nerve would mean but a simple sensation of feeling will in the altered condition of the nerve cause a feeling of pain. There is increased activity of the nerve due to the increased supply of food, and consequently slight causes will produce exaggerated effects. Thus in the acute stage two sets of matters cause the pain. The first is the pressure from the engorgement of the lymph

vessels pressing on the nerve fibres.

The second is the fully increased supply of pabulum increasing the activity of the nerve tissue. The above might be taken as the condition in the acute form of sciatica.

To follow this process farther for a moment will be necessary in order to define the condition in subacute neuralgia. There is increased supply, and increased tissue change, but there is no special reason for increased powers of removal. There is an irritant setting up the conditions which irritant we may call the "vis a fronte"; the reason for the inflammation. But there is ~~also~~ no special reason for a rapid removal of the effete material and used up lymph, and it becomes engorged in the exit channels, if we may so term them. And now we have what in other tissues is called a venous congestion, which by its pressure gives rise to the median pain neither the sharp pang of the acute, nor the dull pain of the chronic, but the intermediate state of pain which eventually may become chronic if not suitably treated.

But this does not in any way account for those cases of sciatica which have never been acute, but which from the beginning have been chronic, only increasing in the severity of the pain. If we follow the same line of thought

which has pervaded the former lines, we will I think be able to find the condition of the nerve in chronic disease and which maybe presumed in default of microscopic specimens to be a correct possibility.

An irritant, such as chronic structure of the wetura or such as piles or the labours and other unhealthy causes ^{the} in furnacemana causes a chronic inflammatory change to occur. The irritant acts slowly, its action is not manifested at once, but though its action maybe slow, it is sure. There is a slightly increased flow into the lymph spaces and as well as the nerve fibres the connective tissue fibres are also nourished, and also there is an effusion slow and little at first, but still an effusion will take place among those connective tissue cells. This will slowly make its presence felt. At first it will cause simply discomfort, gradually as the process goes on, and more fluid is circulated among the tissues, positive pain will be felt, not very severe at first, but becoming more and more so until the sufferer seeks for relief. In the meantime the connective tissue fibres as before stated have become more highly nourished and they increase in number and proliferate. Slowly the connective tissue increases in amount and this also presses on the nerve

fibre and the pain is increased. Were this increase to go on continuously and uninterruptedly, more and more new tissue would be formed until eventually the pain would die away and be replaced by an anaesthesia due to an interference with the action of the nerve. And are there not cases in which sciatica has been succeeded by partial anaesthesia? Kemmerer says besides a Judication under the head of symptoms - "Occasionally the excitability of the sciatic is unpaired and we have partial anaesthesia and partial paralysis".

vol. II. p. 340.

Take this in combination with the Judication on page 30., and we find that anaesthesia does occur. Disorder of tactile sensibility is frequently observed in cases of long standing sciatica, and this would seem to point to an unusual condition of the nerve and probably to pressure on the sensory nerve fibres. Where the motor nerve fibres are pressed on, there will be found a condition of paresis. These would account for all forms of sciatica and at the same time of other neuralgiae acute, subacute, and chronic.

There may be argued against this, what do I make of neuritis? Do I confound the two diseases? I do not think so. I do not confound, but I amalgamate.

It seems to me that neuritis and neuralgia are simply a question of degree.

Everyone I think recognizes the acute condition of Sciatica as a neuralgia. But it would seem to me to be an acute neuritis. In neuritis there is peripheral pain and in acute Sciatica there is tingling pain to the very foot. There is pain in the Sciatic nerve proper and there is also peripheral pain. The patient with chronic Sciatica has pain at the Sciatic foramen which extends till it becomes peripheral and at any rate to the writer it seems that to differentiate utterly between neuralgia and neuritis is a needless expenditure of labour. In speaking of the treatment it will be found that in my experience, treating patients as for inflammatory changes has met with most undoubted success.

Treatment

Internal

The number of drugs used both internally, and externally, for the treatment of sciatica, gives a very good indication, how little any one of them can be trusted. Bristowe gives a list of 16 drugs which have been found useful, and he is by no means singular in this respect. The whole British Pharmacopoeia seems to have been ransacked by physicians in the attempt, to cure the disease. Every drug that may in some case or another have brought slight relief, seems to have been recorded as useful for the cure of the pain, no note being taken of the special circumstances of the case, and no reason as a rule is prescribed, in the text books, why in any particular set of cases, one remedy should be preferred, above another. But many have gone far beyond the pale of the Pharmacopoeia in searching for remedies and

a whole lot of quack remedies are held out to the unfortunate sufferers from Perry Davis' pain killer to the magnetic belt of later years. Perhaps in this connection I may quote a sentence from P. L. G. Gill:-

"The facility of purchasing at a"
 "vendors a box of specific pills"
 "or a bottle of infallible elixir"
 "that shall instantly relieve every"
 "symptom of disease and even"
 "arrest the soul about to quit its"
 "earthly tenement is an inducement"
 "in favour of quackery ~~for~~ too"
 "irresistible for flesh and blood"
 "to withstand"

It is the sufferer from chronic sciatica, or the sufferer from chronic dyspepsia, who is allured by the advertisements of patent medicines, whose genuineness, is their great feature, and at the end of such advertisements as I have just mentioned, are found, sentences such as, "Be sure that you get it," "Beware of worthless imitations," &c. &c. The quack fails as the physician does, by attempting to drive away a disease, whose cause he has never enquired into, and of whose origin he is entirely ignorant. -

Of these patent medicines, and other
quack preparations, it is utterly unne-
cessary that I should speak seeing that they
are nearly all made up from drugs already
used by medical men, so disguised, as to
be more agreeable to the palate -

In certain cases of Oedema,
we are in no doubt as to the treatment
to be pursued. In those cases which
have a malarial origin, we naturally
fly to Quinine, as a suitable remedy -

In Gout we give colchicum, and in
Rheumatism we give salicin and its
compounds and other alkalies. In syphilis
we give mercury and iodide of potassium.

But having got thus far the
author of a book on practice of medicine
stops this method of recommending
drugs and continues in a manner
such as the following -

"But in a large number of cases no such

"Hints for treatment are afforded us."

"Can then so far as general treat-

"ment is concerned only deal with

"them empirically -

Then follows a list of drugs which may
prove useful. Taking this list of Dr.

Bristow as a guide I intend to take
up each drug of which I wish to speak

Bristow's
Theory & Practice
of Medicine

Page 1122.

in turn and to point out in what particular class of cases that particular drug may be used.

Iron Is the first on Dr. Pariston's list. This drug in its various forms is extremely useful in neuralgic conditions of aemic origin, but, I usually precede the exhibition of this drug in neuralgias, by a course of Iodide of Potassium, of which I intend to speak later. The tincture of the perchloride given

alone may be the method of administration though as a rule as it is the tonic action that is desired the Citrate of Quinine and iron or Ammonia and iron will be found preferable.

The preparation known as Bland's pill with a slight modification will also be found serviceable. The method of prescribing which I usually adopt being the addition of Extract of nux vomica an eighth to a quarter grain in each pill. This has the effect of forcing on the Chemist the necessity of making the pills up fresh. The nux vomica also exerts a tonic action which is very beneficial. It may be given along with the citrate of Quinine and iron in the form of tincture.

how many pills for a case

Arsenic. As well as Quinine may be used in malarial cases and also in those cases of sciatica which occur in

Weakly and badly nourished people. Iron and arsenic as also phosphorus afterwards mentioned by Briston have no special benefit in Sciatica and are simply very excellent tonics and are useful in anaemia.

Every medical man has his own peculiar treatment for sciatica "which ~~almost~~ almost never fails in his hands" but not satisfied with this he would like something that was certain to cure in all cases. These sheet anchors include such drugs as Turpentine Sulphur Iodide of Potassium Arsenic & the Hypophosphites -

Turpentine is one of those drugs that every one seems to me to be used in sciatica. Many a doctor gives Turpentine in Sciatica as a routine treatment and is surprised when this fails. The value of the turpentine administered internally is to be found in those cases in which the pain is due to a loaded condition of the intestines -

There are plenty of medicines as good and better purgatives but turpentine has got the name. It does not seem to me that turpentine has any special action beyond the clearance of the bowels and for the strongly healthy male adult with sciatica depending on this cause I much prefer as being more sure in

its action to give 5 grains of Calomel at bedtime followed in the early morning by a dose of black draught. This combination may seem antiquated and it may be that some do not care to prescribe the remedies which were used in the time of their grandfathers, but for the ordinary loaded bowel I prefer this method. Any good smart-purg that will clear out the whole intestinal tract is quite as efficacious as turpentine.

Sulphur Is of value in case of piles or fissure of the anus which may be given rise to sciatica through communication with the sacral plexus by the inferior haemorrhoidal ~~being~~ a branch of the pudic nerve. But for the same purpose a hazeline suppository or the internal administration of hazeline or the Dr. Hamman's will prove as effectual I believe. Sulphur is very useful in inflammatory conditions of the lower bowel especially of the rectum and this being an occasional cause of sciatica gives to sulphur its name in the treatment of the disease.

Dr. Hamman's 9th V
H. S. S. S.

Arsenic and the Hypophosphites are useful in cases of debility

A certain Dr. Lawson lays great stress on the use of alcohol in sciatica seeing that a large quantity of alcohol may be ingested in such cases not only without damage to

the system but certainly without influencing injuriously the mental faculty of the patient. In one case Dr. Lawson states that he knew a patient who used to drink $\frac{3}{4}$ of a bottle of frog brandy daily without being intoxicated or even muddled and the patient stated that the pain diminished. Such a method of treatment seems worse than the disease. To teach a patient to make of himself a brandy cask to be filled up every day with so much frog spirit is it seems to me most reprehensible. I believe that there are few medical men who would run the risk of causing a patient to become a chronic drunkard as would most inevitably result. To myself should be very far pushed before I should permit any patient of mine to fill himself with such an amount of spirit much less would I recommend him to do so until everything else imaginable had been tried.

It will perhaps have been noticed that up to this time I have avoided more than a passing reference to Iodide of potassium. If the pathological condition be such as I had described in this paper then Iodide of potassium is the proper remedy to be used — and in my hands that drug has proved extremely valuable. I do not in the very least claim to have found out Iodide of Potassium to be a new remedy for sciatica it is indeed a very old me...

To go back on the earliest use of iodide of potassium in sciatica is a useless matter but to quote Dr. Graves in support of a method of treatment is to back up the method as much as it is possible to do.

Dr. Graves after speaking of the advantages of a method of treatment of giving powders containing

Camel's Saline powder & acetate of morphia says:-

"I'll however it is liable to the objection that it must"

"generally be continued until the gums become tender or"

"even the mouth slightly sore. An objection it is true"

"not of very much weight when the disease is acute"

"and the patient necessarily confined to bed; but which"

"under this combination quite inapplicable in subacute"

"or chronic attacks when the sufferer tries to pursue his"

"ordinary avocations and is necessarily exposed to"

"or to the open air; to such person hydriodate of"

"potash will prove most valuable."

Edinburgh Publication

1864. Page 170.

Housseaup passes over this medicament very lightly simply

observing "Iodide of potassium also cures certain neural"

"gas which have evidently nothing to do with syphilis."

It seems to me that there are few cases when

the iodide will not bring benefit more especially

among those of the subacute & chronic types if only it

is given in sufficient quantity & persevered in.

The iodide of potassium may be said to

have two actions one depending very much upon the

other. It reduces the blood pressure very con-

siderably and also it promotes absorption and

your dose must be determined by which result you wish

to obtain. In the administration of large doses frequently the physiological phenomena speedily occur but if small doses are given regularly this is not nearly so readily obtained

In the case of the acute form of sciatica which I believe to be due to an effusion of lymph and engorgement of the channels my desire is to decrease the pressure speedily and at the same time to give something that will cause absorption of the effused material. In a considerable number of cases now I have used the iodide of potassium for this purpose in large doses until I had obtained codisium to a considerable extent. In one case which I shall afterwards record I combined the Iodide of potassium with the Spirit Aethenis Nitrosi the result of course being that I gave Iodine & the Nitrate of Potash and within 24 Hours from the first dose there was extreme codisium. In subacute cases I think it advisable to codisium the patient rapidly and I have invariably gained benefit from this - In every case in which I have attempted this in subacute Sciatica the pain has been entirely relieved

After the patient has been fully codisium I abstain from the exhibition of any drug for from 24 to 48 hours & then I begin a tonic treatment with Quinine iron and Sux Vomica & allow the patient should he care for it a glass of beer or porter at dinner -

Before commencing this course of treatment I prefer to have my patient resting in bed for a day or two so that the limb may be at absolute rest during the treatment.

The treatment of the chronic form with any remedy is very unsatisfactory for if, and I believe it to be the case, there is a formation of new connective tissue material which presses on the nerve it will be difficult to remove this.

Iodide of potassium may however here do some good not however given as in the case of the subacute form.

Here I begin with small doses given 3 or 4 times a day and the amount gradually increased as a tolerance of the drug is established. Beginning with five grain doses I raise it until the patient is taking 10 or 15 grains in each dose. I have on a few occasions placed the patient eventually in the position of 20 grain doses but such is rarely necessary and 10 to 15 grains will be found quite sufficient.

In chronic cases of Plestia the iodide of potassium is not sufficient & we must as well have recourse to external remedies which shall be taken up in due order.

The great mistake we are apt to make is to give up a remedy too soon and to fear if it does not immediately

act that it is of no avail. With the iodide of potassium I have found that a steady persistence in the use of the drug in chronic cases with the use of external applications and with careful attention to the bowels of the patient & to his general surroundings of great good can be done.

Of narcotics as Morphia Opium Bromide of Potassium and Chloral hydrate my own experience is that though for the time they may relieve pain when internally administered and for this purpose they are useful yet they cannot be looked upon in the light of curative agents. They temporarily relieve the patient of his pain and allow him to rest and sleep and thus to gain strength to throw off his disease - For this purpose I have occasionally used paraldehyde which is said to leave less unpleasant sensations in the morning. This it no doubt does though even with this there is still left the feeling of wretchedness so much observed in those who make use of hypnotics -

They speak of the internal use of these drugs.

There is always in the morning after waking from a sleep produced from the use of drugs a feeling of languor not to be found after sleep produced naturally.

One drug further I would desire to mention - Ergot, in infantile paralysis has been found to be peculiarly serviceable.

Dr. Althaus recommends the hypodermic injection of Ergotin on account of its better action than the liquid extract given internally. The drug is given to act on the arterioles, small veins and capillaries which are excessively distended in infantile paralysis. This method of treatment would seem to be more serviceable in cases of acute and subacute than in the more chronic forms of Sciatica.

Althaus on Infantile Paralysis page 57.

In the case of a patient suffering from an acute attack it is advisable to give a good purge, preferably I think, saline, to bring about a watery dejection, or we may give a dose of rhubarb and grey powder. Put the patient on a low and nonstimulating diet, remove all alcoholic stimulants and keep the patient in bed. Apply mustard leaves or mustard poultices or turpentine stupes over the region of the nerve affected and by these means it will be found that a case of acute sciatica may be cut short.

External

The practice of cupping, leeching, and blistering was introduced by Cotunnus, a celebrated Neapolitan physician, under the idea of evacuating an acrid humour from the sheath of the nerve. All these three methods of treatment are useful, especially when combined with internal treatment.

Cotunnus de
Rehade nervo
Commun. fascis
Vidua 1770

Cupping, both wet and dry, is of value in the acute form, as also is Leeching and Blistering, whether by means of Leeches or Heat applied by Corrigan's button, in the Subacute form of the disease, is frequently practiced. Like all other methods of treatment, these fell into disuetude, due to the use of these being overdone; and as they were frequently employed in unsuitable cases, many threw them aside as of no avail, though there's no doubt that they are most valuable, were the proper cases for their administration only recognized. The Germans introduced a method of cupping with very small glasses down the course of the nerve where pain was felt - a plan most admirable as the benefits of the cupping would be much greater when thus performed than if simply one or two ordinary sized cupping glasses are applied.

The Blister should be applied in the same manner as the German method with the cupping glasses, that is, in narrow strips down the course of the nerve, or in small circular patches down the nerve course -

Menthol has been recommended for external application as a counterirritant and is occasionally serviceable. It acts not only as a counterirritant but as an anaesthetic. For this purpose the liniment of Camphor & Chloral is also used, as also the Veratria ointment as a counterirritant.

I have mentioned all these substances (Menthol, Camphor, Chloral, & Veratria) for the reason that of late I have combined them in a liniment

- R. Camphorae
- Chloral: Hydr:
- Menthol aa ʒi
- Veratriae ʒi
- Spt: Vin: Meth: ʒ: ʒ: What a the strength?

Dissolve the Veratria in the Spirit, Rub the Camphor, Chloral & Menthol together in a warmed mortar; After a liquid has been formed, mix in the Veratria Solution, when a Syrupy liniment will be formed, having a nut brown colour.

This liniment I rub on the limb over the parts affected, with the effect of temporarily relieving the patient of his pain. For trifacial neuralgia

Make use of the same liniment, diluted with vaseline to form an ointment.

R. Liniment: ʒii
Vaseline: ʒi

Warm the vaseline to ^{above} melting point and add the liniment.

A very little of this ointment is rubbed over the painful part with the effect, in every case in which I have employed it, of relieving pain. I have now employed this ointment in some thirty ~~or~~ forty cases with great success of the doloureux, and once in a case of cervical neuralgia. This application is simply anaesthetic in its action and is by no means curative. Still by its anaesthetic action it frequently relieves a patient of his pain so that he may get his night's rest. This ointment usually acts within 5 minutes, dulling and eventually relieving the pain temporarily, but it is in the least useful as a permanent cure.

Baths, both simple and medicated are of value when combined with other treatment especially if the sciatica has arthritic origin. The sulphur bath is a great favourite and is much believed in. The baths which have been more especially recommended are those of Buxton, Wiesbaden, Royat, and Gastein. Hot air and vapour baths have also been used.

Massage, or as the more ordinary
 term is - Shampooing - has been much resorted
 to in the treatment of Sciatica - but this like
 all other external treatment, must only be
 used to supplement the tonic and other treat-
 ment already spoken of - The process consists
 in kneading, beating and rubbing the limb,
 a performance to the operator exceeding tiring
 and to the patient frequently very painful -
 As an adjunct to the internal use of Iodide
 of Potassium in subacute and chronic cases
 of Sciatica, it may prove beneficial, especial-
 ly in the latter case, when it may be employed
 with great efficacy. In those cases also may
 be used the Douche, which maybe looked
 upon as a combination of massage and bath.
 The water should be applied to the affected limb
 with some force and for a considerable period
 of time daily, and great benefit in many cases
 arises from this -

Acupuncture is of singular efficacy in
 the treatment of Sciatica having rheumatic origin
 and for this purpose it is recommended by
 Dr. Fuller. "Its virtue is supposed to depend
 on the mechanical assistance it affords to-
 wards the evacuation of fluid from the sheath
 of the nerve". In a footnote on the page above
 quoted he says "In this statement I am borne
 out by Dr. Elliot who says 'I have never seen

it beneficial in any inflammation or inflammatory pain."

Acupuncture has fallen into disrepute with some practitioners for 4 reasons:-

1. They do not pick the cases where acupuncture is of service and frequently indeed insert the needles in cases of chronic Sciatica not of rheumatic origin. In such cases acupuncture is of no avail and the practitioner loses faith.
2. The needles are not pushed in the proper direction from want of accurate knowledge of anatomy.
3. The needles are not plunged in sharply and ~~the disadvantage~~ of putting in the needle slowly is that the nerve may rotate on pressure of the needle and the needle pass to one side of it.
4. The needles are not sufficiently sharp and consequently the nerve slips from under them. In the three latter cases, of course, acupuncture is not performed.

For the beneficial performance of acupuncture it is necessary that the case should be a suitable one for this method of treatment, that the operator should have an accurate knowledge of anatomy, that the needles should be sharp and that they should be firmly and quickly plunged up to the hilt.

Nerve Stretching is an operation occasionally performed in cases of obstinate

adhesion
of sheath

sciatica and benefit is occasionally derived from the procedure. The rationale of this performance is difficult to understand but possibly it may be that the forcible tugging on the nerve which is necessary causes some change in the relation of the nerve fibres

In 1858 Dr. Alexander Wood proposed a method of treatment by hypodermic injection of morphia. And this occasionally cures the pain. At any rate it relieves pain temporarily and it may be gives the patient much needed rest, and thereby improves his general health. It is doubtful if, in many cases the morphia really reaches the Sciatic nerves as want of anatomical skill on the part of the operator or of length or sharpness on the part of the needle, may prevent the attainment of the desired end. The morphia of course when hypodermically injected will relieve pain, and benefit will thus be experienced, even though the nerve be untouched by the needle.

Electricity. Duchenne Says: "A severe and instantaneous pain produced on some part of the skin may modify and even cure neuralgia". He also says that he has been especially successful in the application of the faradic current in cases of

Sciatica. He further recommends that the skin should be first powdered to prevent the penetration of the current.

Bristow and others recommend the continuous current in preference, saying that this is more efficacious. Of neither can I speak personally as I have not had the opportunity of comparing them. Some recommend that the application of the Electric current for the cure of neuralgia should be performed under water. One application would not seem to be sufficient, but the daily use of the current is recommended

Clinical Cases

Case 1. A.B. A strong and healthy man, while at his work as a Quarry labourer, received a sharp blow between the tuber ischii and the trochanter major on the right side from a stone which was being raised by means of a crane. The pain was severe at the moment, but subsided, and the man resumed his work. In the evening however the pain was again very severe, there being shooting pain darting down to the knee along the course of the nerve, and reaching even to the foot. At 10 P.M. I was sent for.

Superficial touching over the part on which the blow was received did not produce pain, but as soon as I pressed at all firmly pain was severe, passing down to the foot and of a tingling character. Pain was very severe on movement, but there seemed to be no pain connected directly with any of the muscles of the thigh.

By means of a mustard poultice over the part and the administration of a Sweet purge, the pain was rapidly removed and in two days the patient was back to work with only occasional return of the shooting pain which was quite subdued within a week.

Case 2. C.D. Oct. 5. Complained of pain over the course of the left Sciatic nerve. A purge had no effect and the acupuncture needles were used repeatedly without any result so far as decreased pain was concerned. On strict enquiry it was found that the patient had some difficulty in passing his water though this fact he desired to conceal. A number 8 catheter was passed through a well marked stricture situated just in front of the triangular ligament. From day to day larger instruments were used until on the 20th day a number 12 catheter could be put through the stricture. During this treatment the Sciatic pain slowly decreased, and on continuation of passing the number 12 catheter, until the 30th day, a beneficial result was found, in that the Sciatica was altogether gone and did not return -

Case 3. E.F. Another case very similar to that of C.D. except that in this case only a number 2 catheter could be passed at first. On dilatation of the stricture, the Sciatic pain disappeared.

Case 4. G.H. A gentleman residing in the North of England suffered from a chronic gonorrhoea and spasmodic stricture; the

Case 8. O.P. Married 6 months previously
 This application for relief. He had never
 had any venereal taint and lived in a
 fairly remote country district. For a few
 weeks previous to application the patient
 felt pain in both Sciatic nerves, & for some
 reason or another it occurred to the medi-
 cal man to introduce a catheter which was
 arrested by a well marked structure.

It was found on Enquiry that the
 man had very frequent (too) intercourse
 with his wife and had only noticed the
 decrease in the size of his stream of urine
 in the last 3 months. On the recommenda-
 tion of the medical man, the patient lived
 apart from his wife for a few weeks, during
 which time he became quite restored to health.

Case 9. R.S. Suffered from a subacute at-
 tack of Sciatica - This is the case mentioned
 on page 57. as an example of the beneficial
 use of Iodine. For this patient was pre-
 scribed a mixture containing ℥iii of Iodide
 of Potassium and ℥ij of Spt: Aeth: Nitros:
 in a ℥vi mixture - of table spoonful doses.
 (The double decomposition which takes place
 is noted on page 57.) Before this was ad-
 ministered the patient was unable to rise
 from or move in his bed on account of the

pain. In 24 hours he was completely in-
digned (4 doses) and rose and washed him-
self. The medicine was now stopped and
in two days I began the administration
of Quinine, Iron, & Lux Vomica. In ten
days the patient was perfectly recovered.