

SOME DISORDERS OF THE NERVOUS SYSTEM

ASSOCIATED WITH

GESTATION AND THE PUERPERIUM.

by

JAMES HARVEY, M.B., C.M., Edin., 1889.

-----ooOoo-----

SOME DISORDERS OF THE NERVOUS SYSTEM
ASSOCIATED WITH GESTATION AND THE PUERPERIUM.

Consequent upon the attendance and the observation of over twelve hundred midwifery cases, I have been impressed with the occurrence of certain conditions of the nervous system associated with gestation and the puerperium, and it is my purpose to show how far the nervous system is related and influenced thereby.

Before proceeding to describe these conditions, a study of the distribution of the nerve supply to the pelvic organs is essential, so that a basis is established towards understanding these clinical appearances, for there is no doubt that the reproductive process must be intimately related to the higher nerve centres, through which it has a far-reaching influence upon other systems of the body.

The immediate source of innervation to the uterus and its appendages is the inferior hypogastric plexus of the sympathetic. The branches pass into the broad ligament along with the vessels, and/

and are partly medullated and non-medullated fibres. Between the pelvic plexus and cerebro-spinal system there is a connection through the branches of the second and third sacral nerves and also the upper lumbar. There are also branches sent to the bladder, rectum, and vulvar structures. This nerve supply is generally acknowledged, although the intrinsic innervation of the uterus is indefinite. Foster describes ganglia on the plexuses, and ganglia on the nerves passing into the substance of the uterus. ^(a) Jacub has shown that the uterus of the rabbit when isolated retains for a long time its power of contracting regularly and rhythmically without any perceptible stimulation; he also showed that the movements of the uterus are influenced by central innervation. Further by electrical stimulation, he demonstrated that an excitatory centre exists in the lumbar cord, and an inhibitory in the medulla.

Dr. A.T. Helme, by his experiments on the sheep's uterus and its movements, confirmed these observations, but how far these are due to local nerve/

(a) Arch. F. Anat. und Phys. 1893.

nerve influence is uncertain, he thinks it a greater probability that the movements are due to a primary inherent function of the uterine muscular tissue itself.

Judging from a clinical standpoint, of the nature of effects produced by pregnancy as a stimulating factor, the evidence would lead one to say that nerve impulses start in the uterus, and travel along definite channels.

During pregnancy the various systems are in a specially active state of change. The process going on in the uterus has two aspects,- the mother is not alone in the plan, but an extra requirement is created through the growth and development of the foetus. In order to support this arrangement through its successive stages there is an alteration of the functional activities of the whole body, and probably in this process concerned, there is a proliferation of cellular elements, of a compensatory nature. There is also owing to these increased activities an increase of nutrition, and in proportion a greater amount of tissue waste. In determining the/
the/

the main factor in these tissues changes, I am of opinion that the central nervous system initiates them as a result of stimulation produced by the pregnancy.

To maintain this reaction the power of work in nerve cell and fibre must necessarily be increased so that the normal processes of the body may be regulated, for while pregnancy is a physiological condition the general changes in the maternal organism reflect most upon the nervous system.

In the study of these cases modified by the gravid condition, it is only the clinical method of investigation which is available, other methods at that time being out of the question.

As the occurrence of these nervous symptoms are extremely common, I have tabulated a classification to express the subject, and at the same time to make it more distinct.

A. Direct Pressure Cases.

B. Functional Nerve Disorders.

(1) Referred Pains.

(2)/

- (2) Alimentary.
- (3) Respiratory.
- (4) Circulatory.
- (5) Cerebral, and Special senses.

C. Toxic.

- (1) Neuritis.
- (2) Skin Lesions.
- (3) Eclampsia.

D. Effects upon various conditions.

DIRECT PRESSURE SYMPTOMS.

These cases are prominent by the symptom of pain, and although referred to nerves, it is not easy to distinguish them from neuralgia as applied to peripheral causes. Most of them are due to pressure upon nerve trunks, giving rise to severe discomfort in the lower part of the abdomen, and lower extremities, because the pelvic nerves have a close connexion to the expanding uterus, so that pain is easily reflected downwards by virtue of its position, distension, and pressure.

Several nerves, or nerve roots may be affected at one time, such for example as pain in the locality of the hip-joint, supplied by the cutaneous branches of the third and fourth lumbar, besides branches from the obturator and anterior crural. This peripheral and articular supply explains the acute suffering in cases.

Another situation of pain is above the iliac crests, depending upon irritation of the posterior branches of the 2nd. lumbar; while pain above the groin/

groin corresponds to the inguinal branches of the ileo-inguinal.

The area of pain and hyperæsthesia on the posterior aspect of the thigh and running downwards to the outer side of the ankle, occurs in many instances of pregnancy, this area is the cutaneous distribution of the small Sciatic, which arises from the third and fourth sacral. In the same region some patients suffer from Sciatica, accompanied with numbness and anaesthesia. Other instances of cramp and twitching of muscles are complained of, due to individual branches of the great Sciatic, being under a condition of pressure and irritation. In a similar way the sacral and coccygeal pains experienced by pregnant women are explained through the posterior branches of the sacral and coccygeal nerves.

In the foregoing class of case, localised to the extremities, there is no loss of reflexes, and no wasting of muscle, while absence of sensibility is not marked beyond a slight blunting. The pain is intermittent in character, and as a rule worse through the day when moving about, than at night.

REFERRED PAINS.

Pregnancy by its mode of action gives rise to a considerable amount of sensory disturbance, diverse pains being described according to patients as gnawing, tearing, or shooting in character. There are also degrees of pain, some attacks are spasmodic or periodic in manner such as the neuralgias while others are present during the whole period. Many of the nerve phenomena are limited to definite areas; anaesthesia, hyperaesthesia, distal pain and irritation being conducted along the spinal and sympathetic systems, the distribution and arrangement of the nerves affording an explanation of the cause.

Not the least frequent area of pain complained of is in the epigastric region described as of a tearing nature, with tenderness on pressure and radiating to the interspaces, and which corresponds to the distribution of the fourth and fifth dorsal nerves, these again having an important connexion in the formation of the great splanchnic nerve to the stomach where the irritation is conducted to the/

the posterior nerve roots, and ultimately diffused in the area affected. I have seen hypercesthesia also complained of in the same territory, sometimes limited to a tender spot, but oftener a definite band extending round the ribs.

Another class of case having a similar relationship, is where patients have severe intercostal pain, the symptoms resembling an acute pleurisy, but having no physical signs of it. It would appear the fourth and fifth dorsal are further implicated, these lateral branches transmitting the pain and irritation.

A severe and common type of case is that occurring about the full-time of pregnancy, and which is frequently taken to be false labor but in most cases I consider it to be of a neurotic nature. The pain is sudden, sharp, and rather constant than periodic, situated in the middle of the back, and shoots upwards, and forwards to the umbilicus, the patient is restless, tosses about, and from appearance an early labor suggests itself, but with no definite result. The explanation of this attack agrees/

agrees with the area of supply of the posterior branches of eleventh and twelfth dorsal, the splanchnic branches of which are connected with the inferior mesenteric plexus. These cases are accompanied with vomiting and constipation, and probably originate from intestinal pain being reflected along the splanchnics.

ALIMENTARY.

In the widely-diffused nerve phenomena which occurs during the process of gestation the relationship between sensory pain and visceral irritation is well-marked. The nervous mechanism of the sympathetic and cerebro-spinal system has been ably investigated by Gaskell, and in regard to the pelvic supply he states that the sacral group of splanchnic nerves emerge from the spinal cord along the roots of the second and third sacral nerves, and pass directly to the hypogastric plexus, whence they send branches up to the inferior mesenteric plexus/

plexus, and down to the bladder, rectum, and generative organs. He has also demonstrated a definite connexion between the posterior root ganglia, to the corresponding sympathetic ganglia. This path leads the way through which abdominal viscera can be sympathetically affected from the pregnant uterus, and which affords a ready explanation of the gastric symptoms occasioned during its development. The splanchnic branches of the sympathetic join with branches of the vagus whereby conduction is established through the cerebro-spinal axis. Conception, or a very early stage of pregnancy stimulates the pelvic plexus, which sends afferent impulses through these channels which again pass to the medulla by the vagus. The onset of morning sickness and vomiting is one of the earliest reflex acts in pregnancy, and in the majority of cases where early revealed is of a reflex nature, for at this stage it would be difficult to support the toxic theory as a cause. A severe form of vomiting with pregnancy has been observed in relation to puerperal polyneuritis, and some/

some writers accept it as a cause of the latter.

(a)

Eulenberg believes that auto-intoxication arises from the disturbed gastro-intestinal functions, giving rise to the neuritis. Still many severe cases of vomiting in the gravid state, never developed neuritis at that time, nor during the puerperium. In some cases of sickness and vomiting I have observed a severe form, and in the after-history of these cases I have found they have developed ovarian disease for which operation was necessary and I have come to think that in the graver forms of sickness during pregnancy there is also pelvic disease intensifying the reflex irritation.

Some patients again take periodic attacks of vomiting with occipital headache, and visual disturbances, in these cases from the regularity of the attack I am certain they correspond to a menstrual epoch.

Another gastric effect is that of the hepatic system,- the biliary secretion being superabundant, direct nervous influence probably causing increased activity/

activity in the gland. The vomiting of large quantities of bile, points to a method of elimination, and it might be that this extra activity in the liver is the primary cause in some cases of the gastric disturbance.

Nausea is a sensation frequently complained of, and often associated with gastric irritation, and occasionally with disagreeable impressions of taste smell and sight, responding to afferent impulses.

RESPIRATORY.

The respiratory system occasionally manifests nervous symptoms. *Dyspnaea* shows itself in the last weeks of pregnancy consisting of short attacks of breathlessness and excited breathing, they pass over quickly, and are not purely mechanical, owing to diminished depth of the thoracic cavity, but are likely due to central causes.

Another factor not to be forgotten in the production of *dyspnaea* is any affection of the phrenic/

phrenic nerve, which would cause pain and spasm of the diaphragm. This is a probable cause of some indeterminate cases, which are considered to be pleuritic or hepatic in origin.

Many patients suffer from a paroxysmal cough, not unlike pertussis in character, but sufficient to assume that the pulmonary terminals of the afferent fibres of the pneumogastric are in a state of irritation.

In alluding to the circulatory system the evidence of neurotic conditions is not so pronounced as might be expected. The salutary effects of hypertrophy in the heart muscle, and probably of its innervation, keep up a stability of function appropriate to the uterine demands.

Palpitation, and discomfort in the region of heart is complained of in some instances, but I have never met with distinct anginous attacks.

CEREBRAL AND SPECIAL SENSES.

It/

It would be surprising if there was no nervous interpretations with pregnancy, when one considers the susceptibilities which exist in health between the generative organs and the nervous system.

Pregnancy in some women, acts upon their mental and physical organisation. It is important in these cases to have accurate data of a woman's physical condition and temperament previous to her gestation, for a profound change frequently takes place in her mental and sensory areas under its influence. In this category there are two classes of cases to be regarded, one, where from the beginning there is a stimulation or activity, the effects of which are in evidence by a hopeful prospect and healthy excitement, the other type of case is where there is a diminished capacity or desire to look with favor upon the coming event, - the process causing a morbid condition. This is an unfavourable class of case, especially if a neurotic history accompanies it, for there is every chance of it terminating in mania or melancholia. In primiparæ in the early months I have witnessed acute mania with violent symptoms, the/

the reproductive process giving effects, characterised by a noisy and incoherent demeanour, a changed aspect towards near friends, especially aversion, and false accusations against the husband. It would appear the mental areas of the cerebrum undergo a temporary perversion of function, but how this deviation is brought about is not easily determined, authorities have associated albuminuria as a factor, but this is probably a coincidence, as it is frequently present in mental conditions. In these cases it is probable the pregnancy may exert a reflex excitability of the cortex following upon the absorption of toxic products from the blood.

Of rarer lesions to the controlling centres which happen during gestation, there is aphasia and hemiplegic forms of paresis, but these as a rule are secondary to endocarditis, or from a blood cause, which at that time favors the formation of emboli.

Allied to the subject of mental disease is the common, but important symptom of Insomnia, illustrating a condition of unrest of the higher nerve centres, due to stimuli of afferent nerves. This distressing symptom/

symptom is a valuable aid for diagnosis and prognosis for where it develops and persists about the third month, accompanied with an alteration in character and temper, it may be taken as a positive sign of approaching mental disease. As a purely functional disorder it is manifested in the later months, no evil effects being observed; the sleeplessness would appear to be bounded by the woman's susceptibilities at that time for the nerve forces do not appear to be exhausted, current opinion, and every day work is not interfered with.

The management of insomnia in pregnant women demands a passing word. No class of remedies at such a time, requires greater caution than hypnotics. The undue excitability gives rise to a loss of control, and I have frequently met with the history of cases where alcoholic excesses were indulged in under the influence of pregnancy. Other instances I have seen, where the habit and toleration for opiates became excessive. Some patients in their misery go on gradually increasing their doses without any consideration for the result. The most useful and safe/

safe drugs are the bromides with hyoscyamus and camphor.

In pursuit of the subject I have found the special senses present symptoms, which illustrate the ready influence of pregnancy as a stimulating factor. The sense of taste is most erratic. Many patients complain of a constant metallic flavour in the mouth, while others cannot find pleasure in anything they partake of. Sometimes the chewing of some abnormal article will give satisfaction. Throughout the day apart from their usual diets, patients commonly indulged in dry rice and oatmeal. But I knew a woman who through her pregnancies chewed matchwood and cinders. This perversion of taste or appetite is worse in the early months, and in some cases persists throughout. It is a state of craving without real hunger which I think is due to a peripheral irritation in the buccal glands and mucous membrane. There is also probably an alteration in the salivary secretion, caused by an unusual activity in the glands through afferent impulses. The fact that/

that impulses can take origin from three nerve trunks may explain the intricate manifestations under altered conditions. The glossopharyngeal branches to the posterior surface; the lingual branches of the fifth and the chorda tympani fibres from the seventh supplying the nervous influence. The terminal endings in the tongue would appear to be disturbed in their function, thus producing a confused sense of taste.

In a similar way is the sense of smell affected, the appreciation of odors being intensified during pregnancy. The nerve terminals of the olfactory are easily excited; certain vapors giving rise to irritation and sneezing. I know a case where the patient could not bear the fumes of tobacco smoke during her pregnancies, and yet at other times was quite tolerant to it. Some patients get mixed up between taste and smell, the one sense doing the reverse of the other. This blended perversion of function is accounted for, by branches of the fifth supplying both these senses.

Functional disorders of vision I have not met with/

(a)
with. A case of recurring reflex Amblyopia is recorded without any change in the disc or fundus, and where the sight got rapidly worse, that abortion had to be procured, after which improvement in the vision set in.

Deafness is another condition I have met with, but whether due to a lesion in the tympanum or auditory nerve; or caused by an alteration in the blood during pregnancy it is difficult to determine. In three cases none of them had any pain of acute disease, but a gradual loss of hearing power, and which in two of them only partially recovered.

Degrees of aphonia are sometimes met with, in two cases I noted, it came on gradually about the seventh month, and lasted until full time; and after the puerperium the normal tone of voice returned.

Peripheral irritation sent through the recurrent laryngeal nerve to its higher centre, explains this symptom, as on examination of the larynx no abnormal appearances were present.

The balance of health during pregnancy in many patients/

patients is easily disturbed, the character and extent of the disorders of function being more or less marked, and probably depending upon systemic peculiarities in the individual. At the present time the doctrine of toxic action finds its way to explain the origin of these symptoms. There is no doubt that the metabolism during pregnancy favors the formation of certain substances of a chemical nature, which have a predilection to act upon nerve structures, and afterwards other functions. To formulate the doctrine of toxæmia to explain all the disorders associated with the gravid state is a large suggestion. Although reflex causation has been relegated to the background its activity in the production of nerve phenomena cannot be resisted. The following conditions appear to have a greater claim to the toxic theory, and it is interesting to note they approach more towards a pathological state, than the previous group.

POLYNEURITIS.

It is only of recent years that a form of Neuritis associated with pregnancy has received attention.

(a) Mobius in 1887 first drew attention to the subject, and published a series of cases describing the disease as specially affecting the terminals of the ulnar and median nerves. In 1889 Whitfield published the first case recorded in England in the Lancet of 1889, and Handford gave a case in the British Medical Journal 1891. Since that time various observers have recorded cases. Owing to a knowledge of its existence being expressed by writers further observation has been quickened, to recognise it in the practice of obstetrics as a disorder of pregnancy and the puerperium, and one of no infrequent occurrence. Puerperal Neuritis has been divided into groups.

(1) Generalised which is rare, (2) Localised which is the commonest form, and (3) Neuritis affecting a single nerve. Mobius has related cases where one or other of the ulnar nerves were attacked.

Judging/

(a) Munch Med. Woch. 1887. No. 9.

Judging from the local nerve symptoms, which concern patients I should regard varying degrees of neuritis as common during pregnancy. It is only by minute inquiry that the character of these nerve lesions are illustrated for many patients at that time take their discomforts as normal, and never seek advice. The symptoms of neuritis I have met with are burning, boring and tingling pains, chiefly in feet and hands, numbness, and vaso-motor spasms, and tenderness on pressure. I have not seen paralysis, but a weakness of muscular power. Hypaesthesia as a rule, is more marked than anaesthesia.

I append the following as a case of peripheral neuritis occurring in successive pregnancies.

Mrs. T. aet. 33, married and has four children, all her confinements, being easy and natural. During every pregnancy she has suffered from lancinating pain in her fingers and hands, especially localised in the pulps. She describes the pain as tingling, aggravated through the daytime, and when irritated or excited. There is tenderness on pressure and the/

the finger pulps throb, and are redder than the rest of her hand. She had no actual loss of power, but at times she was not able to hold on to small things as she used to do, and occasionally dropped articles, in the later months she found she was unable to sew, or thread her needle.

The tingling and throbbing start early in her pregnancy, so much so that she now depends upon it as a sure indication of her condition, apart from her morning sickness, which is not unusually severe. She has never suffered from neuralgia, while alcohol and syphilis can be safely eliminated from the patient's history.

The condition lasts during her puerperium, but gradually disappears in a few weeks.

I relate the following case of Facial Paralysis as one of peripheral neuritis occurring in two successive pregnancies.

Mrs. L. aet. 28, married came under my observation Oct., 1896 at the seventh month of her second pregnancy, suffering from facial neuralgia, and numbness on one side of the face.

One/

One afternoon when sitting at tea she found she was unable to masticate her food, or taste it properly. She had pain on the affected side, and the usual symptoms of facial paralysis were conspicuous, - immobile and featureless expression, while she could not voluntarily move wrinkles, whistle, or close one eye. Her case was of further interest, for accompanying the facial paralysis she had oedema of the feet and legs, and on examination of the urine, it contained albumen. She had no cardiac lesion, and no neurotic family history. Her labor passed off naturally and easily at full time, there being no symptoms of eclampsia, while the albuminuria and oedema disappeared during the puerperium. The facial condition also recovered itself but much later. The presence of albuminuria was a coincidence in the pregnancy, although it suggested renal disease, and the paralysis due to a central cause, but there is little doubt of it being a local condition. In April 1898 she again consulted me about her face, the two sides being unequal with numb sensation on the one. The symptoms were not so expressive as the first/

first occasion. Her general condition of health was stronger, and the condition some days did not appear so bad as on others. After her confinement in June she gradually recovered her normal features.

I am inclined to consider these two cases of a mild peripheral neuritis and judging from the recurrency feature, the gravid state would appear to be the exciting origin, while after its termination recovery took place. Any of the usual specific causes of neuritis could not be detected. It's not easy to reconcile the facial case as a peripheral neuritis; but Mobius says single nerves may be involved, and records cases of the ulnar nerve being solely affected, while Gowers saw a lady who had also neuritis of the ulnar, in two successive pregnancies.

The views on the etiology of neuritis during pregnancy have been explained upon the theory of auto-intoxication but as to the exact nature of the toxic substance it is impossible to say. ^(a) Bouchard who has ably experimented on the subject, takes his standpoint regarding its origin, upon conclusions drawn from the toxicity of the urine. During pregnancy there/

(a) "On Auto-Intoxication."

there is an unusual amount of activity in the secretory, and excretory processes whereby substances are developed, which must be eliminated from the body if life has to be maintained.

(a) Tarnier and Chambrelent in their experiments furnished the fact, that the increased toxicity of the serum, corresponds to a diminished toxicity of the urine. These observations give clear evidence of some poison, the results of which have a close connexion with pregnancy.

The most important complication from an obstetrical aspect, associated with the nervous system is eclampsia. Some of the disorders already described, bear evidence of a paroxysmal character, and do not exclude the probability of eclampsia being a distinct neurosis, for there is an easy transition between some of them and a convulsive seizure.

The relation of albuminuria and pregnancy is capable of being interpreted as the alpha and omega of epileptiform seizures, but in my experience the value of albumen as a diagnostic has been negative towards/

(a) Annales de Gynecologie, Nov. 1892.

towards such a conclusion. In cases with considerable oedema, and albumen and where this alarming complication was to be expected, it never happened. While in other instances where least expected, and with no distinct prodromata, convulsive seizures would suddenly develop during a severe labor. In whatever manner it is produced during pregnancy, it does not necessarily mean more than a signal to be on one's guard.

There are I consider a number of causes at issue in the production of eclampsia, judging from the character or types of cases one meets with, whether in pregnancy, during labor, or after it. The emotional part of a woman's nature at that time is surcharged with nerve energy, and it is easy to assume, how this force can be reflected upon higher centres, culminating in convulsive seizures. This class of case occurs during a "hard" labor oftener in primiparæ, where the uterine contractions are strong and severe, but no advancement of the passenger; until forceps terminates labor.

Another factor and from the standpoint that they sometimes/

sometimes are of a nervous reflex origin, excited through cerebro-spinal activity and associated with the renal function. I would point out that the Kidneys are entirely innervated from the sympathetic system, and that it has a connecting arrangement with the cerebro-spinal axis, through the splanchnic and pneumogastric nerves. Further, that anastomoses take place between the renal and pelvic plexuses so that a path is formed whereby impulses can travel from the uterus to the Kidneys.

This bypath gives easy access not only for toxic agents, but reflex stimulation, to act upon the vaso-motor and secretory nerve fibres of the kidney. In eclamptic states it has been noted that the toxicity of the urine falls, while that of serum increases. In oedematous cases one would expect accordingly, convulsive seizures to occur, but experience goes to prove they do not. To differentiate the varying factors, which apply to individual cases, must at any time be artificial, and I here append three cases to exemplify the types.

CASE OF ECLAMPSIA (TOXIC TYPE) AT 7th. MONTH.

Mrs. M. aet. 23 II paræ, married. Family history unimportant. The patient was a stout well-nourished woman, and had suffered from chlorosis for some years, always improving under treatment for a time, and then relapsing. She had manifestations of syphilis which was contracted from her husband. She had one miscarriage at the second month with her first confinement, the child was dead. She was seven months pregnant again when I saw her, and at that time she was suddenly seized with headache, vertigo and violent vomiting. She had passed less urine than usual that day, and her feet and legs were slightly oedematous. Fearing the prodromata I put her upon Bromide and Chloral, and left her, but was shortly summoned again to find her in a half unconscious condition. She had several violent convulsive seizures which impressed me more as to the immediate management of the case, than its etiology. Chloroform was administered to control the seizures, and they never returned. On examination the os was the size/

size of half-a-crown, and contractions came on regularly. To expedite matters I dilated with Barnes' bags, and delivered with forceps. The third stage was easily completed, but she had considerable haemorrhage. The patient lay in a comatose state for 9 hours, during **this** time a $\frac{1}{4}$ grain of pilocarpin was injected which reacted. Her pulse was rapid and intermittent. She became conscious about twelve hours after the onset of the attack, and improved gradually, making an ultimate recovery. The urine was bloody and albuminous, both constituent disappearing within a week, under the free administration of magnesium sulphate, and fit dietary.

CASE OF ECLAMPSIA AT $3\frac{1}{2}$ MONTHS,

PREGNANCY GOING ON TO FULL TIME.. (REFLEX TYPE)

last
Mrs. G. aet. 21, primiparae. The patient ^{last} menstruated about the middle of July 1896, and during the first three months of her pregnancy enjoyed good health, having little discomfort or anxiety about her condition/

tion. In the first week of November, she became very nervous and excited, and was frightened to be left alone, owing as she expressed it, to a "peculiar wandering sensation in her abdomen." On the fifth she had headaches, and went about in a "dazed" condition most of the day; and at night she fell on the floor in a convulsive seizure, which lasted a few minutes, a second one following after a short interval.

I saw the patient soon after these seizures. She was quite conscious, and the only evidence existing that the attacks were epileptic, was the presence of blood in her mouth, coming from an injury to the tongue. The seizures never returned. The urine was examined, it was half albumen, but no casts were present. It was copious in quantity and quite clear. She had oedema round her ankles, which after free purgation disappeared in a few days, along with the albumen. During the remaining months, she went about her household duties. At intervals the urine was examined, but no albumen returned. Her labor passed off naturally at full time on April 13th 1897.

CASE OF ECLAMPSIA AT 7TH MONTH,
WITH ALBUMINURIC RETINITIS. (RENAL TYPE.)

Mrs. H. age 38 was seen Feb. 1899, when she was seven months pregnant, and in labor. She complained of a gradual loss of vision, and pain in the right half of her head, besides extreme sickness and vomiting along with epigastric pain. The urine on testing was loaded with albumen. Her pains came regularly, and a premature birth took place without any difficulty. She had no marked convulsive seizures, beyond some spasmodic twitching in the muscles of the face, - towards the angle of the mouth, accompanied with extreme pallor, and an anxious appearance, this feature happening shortly after the birth.

The patient has had five children and no previous illness or difficulty attending them. For some weeks previous to her present illness she got confused on the street, and could not discern objects so distinctly as usual, and always put up her hand to her eyes, thinking she could clear away some "film". At home she could not see to sew, and she was always worse on dull/

dull days. Since the confinement she has improved.

Dr. Geo. Mackay kindly examined her eyes, and described the fundus as having the typical appearances of albuminuric retinitis, occurring with renal disease.

Disorders of the integumentary system exist in a variety of forms, during pregnancy and the puerperium, its structure and function being liable to undergo alterations. The cutaneous eruptions met with are frequently, erythematous, urticarial, and eczematous. They occur as a rule late in pregnancy, and oftener during the puerperium, when the absorption of toxic products is more liable to take place; these probably act upon the vaso-motor and trophic nerves, which control the vascularity and nutrition of the skin. I have met with a number of local manifestations, one patient a few weeks before her confinements, considers she has an attack of measles. She displays a papular rash of rose-coloured spots on her face, neck and arms, accompanied with itching and irritation, and passing away in a few days without further development, or discomfort. I have also met with acute oedema, occurring/

occurring in circumscribed patches, on one cheek, or one eyelid, also in the vicinity of a joint. I have only seen one case of Herpes associated with pregnancy.

This skin lesion has been described by authors as "Herpes Gestationes." Numerous cases have been reported of the vesicular and bullous varieties;

(a) ^{B.} Duhring, ^{C.} Bulkley and Liveing being the chief contributors. Perrin considers it is not a distinct affection, but thinks the pregnancy pre-disposes to it, because of its interference with the renal function, the disease being due to a toxin in the blood, the nervous system being first affected and afterwards the skin.

A CASE OF EXFOLIATIVE DERMATITIS,
OCCURRING IN SEVEN SUCCESSIVE PREGNANCIES.

Mrs. M. aet. 36, married, healthy and well-nourished, has had seven children, and on every occasion has freely desquamated during her puerperium. The onset starts on the third day, when she becomes restless, with burning sensations all over her body, and/

- (a) Med. News 1884.
(b) Amer. Jour. of Obstet., 1874.
(c) Lancet June. 1873.

and a swollen feeling in her hands and around the ears, accompanied with thirst and slight rise of temperature. There is distinct redness of the skin, but no secretion. This attack of subjective phenomena terminates in twelve hours, when *desquamation* starts in the hands, feet and neck, and is chiefly limited to these parts. It is not a fine efflorescent shedding of skin, but large pieces can be torn off readily; indeed so distinct is the process, that a complete finger-stall might be easily separated off. The hair and nails are not affected.

The first appearance of this condition would lead one to suspect *puerperal scarlatina*, but having witnessed it on four occasions I have come to regard it as of a toxic nature. In this patient, it probably has a salutary effect, being a part of the *depurative* process of the *puerperium*. She has made a good recovery on all occasions.

The first thing to determine is whither the condition is at all related to the pregnancy, or a mere co-incidence. Its regularity of appearance puts this at an end of contention, and as far as one can judge/

judge, no other cause can be found than the result of the gravid state and the puerperium. After the birth of the child, there is a process of disintegration, after all the general changes wrought out by the pregnancy, so that there is existing during the puerperium a large amount of toxic products to be eliminated, which is sufficient to explain the cause of cutaneous affections as well as many of the other nerve phenomena.

Cases of skin lesions associated with pregnancy are little referred to in obstetrical works, while writers on diseases of the skin allude to gestation, and uterine disease as one of a variety of causes.

It is chiefly from French dermatologists we learn of this form of dermatitis under the title of Erythema Scarlatinoides, and which has received careful study from Besnier. ^(a) It has no specific cause, and is not contagious. Cases are connected with gastric and intestinal disturbances, and many are due to infection, especially in the puerperal state, and septicemia. Constitutional disturbance is slight, the rash is a diffused erythema sometimes patchy, and accompanied/

(a) Path. des Erythemes. 1890.

accompanied with slight burning and itching. It is of short duration, becoming pale in a few days and passing off with desquamation.

(a)

Jamieson describes a general exfoliative dermatitis supervening upon other skin lesions. The case I record is probably one of the primary, the true nature of its pathology being obscure, though Hebra and Hutchinson regard the nervous system as at fault; the latter considering the spinal cord, and the former suspecting disturbed nutrition through vaso-motor nerves.

Of practical importance is Pruritus Vulvae, - a condition of intense itchiness of the pudenda, and frequently present during pregnancy. The irritation is chiefly limited to the mons veneris, and labia, but I am inclined to think it is not so severe or persistent a form as that due to uterine disease and other causes. The long pudendal of the small sciatic nerve supplies the labia while the internal pudic ends in the corpuscles of the clitoris. During pregnancy a reflex excitability of their peripheral fibres leads to excessive itching, and this again increases the hyperaesthesia./

(a) Edin. Med. Journal, 1880. p. 879.

hyperaesthesia.

Of other skin manifestations, Chloasura demands notice, being of practical value as an aid to the early diagnosis of pregnancy, as well as being an indication of it at some antecedent time. It is very constant on the abdomen and mammae; and least often on the face, in which situation it occurs in the later months, consisting of defined brown maculae about the forehead and eyelids. The clearer the complexion the more it is pronounced. The explanation of this anomaly is sympathetic or toxic. There is no reason against the supra-renal bodies being influenced by pregnancy, as well as the other glandular structures of the body. It is probable that the supra-renal plexus is irritated from the pelvic condition, whereby the function of the supra-renal bodies is increased, resulting in an excess of pigmentation.

ON VARIOUS CONDITIONS.

If pregnancy possesses such a power through the nervous system, in the development of complications, there/

there is also on the other hand some evidence to show, that it has a modifying effect upon disease. At times pregnancy would appear to be a power for good, for I have come to know patients, who always ailing and complaining, never had better health until pregnant. That it improves or alters the general nutrition in some constitutions I have seen; and as a therapeutic agent it appears at times to arrest disease. I attend a woman with chronic phthisis, and she is never better in health than in her pregnancies, her cough, and other symptoms subsiding at that time. I have also witnessed improvement in Exophthalmic Goitre, the prominent eyeballs becoming less, and the excitability of the patient also subsiding, while after the puerperium, they returned. In contrast to this it is peculiar to note that enlargement of the thyroid is not uncommon during gestation, and Mader refers to the condition as another proof of the toxicity at that period. In regard to infectious diseases I am inclined to think they are extremely rare. Immunity in my experience displays itself in their development. Syphilitic manifestations are frequently masked, but in/

in some it appears to waken up its diverse lesions. Surgical operations upon pregnant patients as a rule are tolerated. Emaciation is sometimes marked, the vomiting and inability to digest food does not suggest a cause, for it occurs in cases where nourishment is taken freely and assimilated. There is likely a disturbance in the trophic nerve centres. On the other hand, obesity is sometimes noted, some thin women get fat and "plump", under its influence, a vasomotor effect producing a plethoric condition of the tissues.

Obstetrics is more practical, and less theoretical, than other sections in medicine, and while there is of necessity a common experience in a multitude of midwifery cases, still it is only out of a large number, that a ratio of abnormal states can be met with. The experience and the observation of these clinical records has led me to say that the process of gestation has a modifying effect upon the entire nervous system. I do not mean that organic changes take place, but that there is a temporary increase of function in nerve cell and fibre, the histological change being of a compensatory nature, producing significant/

significant changes upon the other systems of the body.

The frequency of the symptoms, their similarity in different patients, and their recurrence in the same patient, demonstrate that the effects agree with clinical experience, and that the nervous mechanism in pregnancy, should not be disregarded in the study of the principles and practice of the art of Obstetrics.

BIBLIOGRAPHY.

On the Segmental Distribution of Sensory Disorders,
(Ross, "Brain" 1887.)

On the Distribution & Function of Visceral Nerves,
(Gaskell, "Journal of Phys.," Vol. VII.)

"Physiology of the Uterus,"
(By Helme, Laboratory Reports of R.C. of)
(Physicians, Vol. III.)

"Diagrams of Nerves of Nerves of the Human Body,"
(Flower.)

"Polyneuritis in Relation to Pregnancy & the
Puerperium," (St. Thomas' Hospital, 1896,
(Vol. XXV.) *Reports*)

"Cutaneous Medicine,"
(Durhing, 1898.)
