Graduation Thesis.
Syphilitic Disease of the Spinal Cord.

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Wills.
Lymphatic Diseases of the Spinal Cord
Syphilitic Diseases
of the Spinal Cord

Although syphilitic diseases of the spinal cord have attracted some considerable amount of attention of late years, yet they have been much less studied than the correspoding affection of the brain, and accordingly the considerable

vi the dark concerning them and

especially with regard to their frequency a great diversity of opinion exists.
While for instance some observers looked upon all or nearly all cases of locomotor ataxia as being specific.

Specific in their nature, others while admitting the very frequent and remarkable occurrence of syphilis with locomotor

ataxia, hold that there is no further real essential connection between them.

And so again many observers deny the occurrence of acute myelitis as a result of syphilis, while other
believe it to be of no very unrequent occurrence.

But still the tendency is no doubt towards describing an increasingly important part to syphilis in producing mental lesion. The difficulties that still remain in studying this subject are partly in no small part due to its difficulty in obtaining a sufficient number of post mortems, as those affected are rarely mortal, at least in their early stage, and to the chronic case, it is by no means easy to find generally impossible to distinguish a lesion due to syphilis from a lesion due to some other cause.

Etiology:
The frequency of syphilitic affections of the nervous system is great. This applies to the spinal cord as well as to the brain. It is probable that in most cases there is a special personal tendency, which determines this particular manifestation of the disease, in preference to any other. So, for instance, hereditary predisposition to nervous disease and injuries to the spinal cord will be a direct nature or from, excursions etc. & none that act in a less direct, or at least in a less clearly understood manner such as sexual coitus etc.
There nervous manifestations of syphilis mostly occur in the tertiary stage, as many as thirty or possibly even more years may have elapsed since the primary one was contracted, and during all this time the poison infecting the patient may have given no sign, he may have congratulated himself that he was not cured, when suddenly some slight sweating occurs which may have been so slight as to be lost in the current, supplies to bring the latent mischief into action.

But the tertiary stage is not the only one during which nervous symptoms occur. They certainly do occur in the secondary stage although for more rarely. Fournier who has given some official attention to the subject, points out the very great tendency in the female sex particularly to nervous affection not all of them functional during the secondary period. He mentions particularly cases of syphilitic epilepsy occurring during the secondary stage. It seems to be syphilis of the total paralysis of all ordinary senses and the immediate and lasting success of the antisyphilitic treatment, and the coincidince in the same individual of syphilis cutaneous eruptions.

(1) Fournier. Leçons cliniques sur la syphilis. page 676
the patient having been perfectly free from any
other nervous trouble prior to having contracted
the primary one. This passing - on a case of
potentially curable mischief has occurred, it may be remarked,
probably no closer relation to true epilepsy than
that, to present the same appearance of symptoms
as a further proof that early onphile may occur,
all came under nervous affection a case of
Zeissl’s may be quoted. A worker in metal
aged 20 who had three weeks previously entered
a chamber at the presence, was soon afterwards
affected with a circular eruption, which
gradually spread over the whole body. On morning
of awakening, he found the lower half of the body
to be paralysed, a tell - pain in the lower part
of the back. He suffered from retention of urine
and incontinence of feces. He was continually
shaken with fitful movements of reaction, as there was
an almost complete restoration of power, the unusual
syphilis disappearing after some three weeks
employment of the iodide of potassium.
Viechow* believes that so called lasting
accidents are frequently those themselves
in the early period of disease.

Of course this is in the lasting stage that

W. Zeissl “Lehrbuch der Syphilis” Th. 2. p. 290
Erlangen 1882

Viechow “Die Krankhaften Geschwülste.”
Bd. II. p. 394.
we look for an exact definition for the greater part of number of instances of syphilitic nervous affection. In these cases the sex and age of the patient do not appear to have much influence as a predisposing cause. The mildness of the secondary syphilis in any given case is no guarantee against the recurrence of severe nervous troubles. In fact experience seems to show that it is just in these cases in which the secondary symptoms have been mild, transient that they are most likely to recur.

Pathology.
The ways in which syphilis may affect the spinal cord are various.

1. Syphilitic growths springing from the connective tissue, the meninges, or the bone may invade the cord.

2. By chronic meningitis with thickening and pressure on the nerves - sometimes on the cord also. In these cases both the motor and sensory nerves are damaged.

3. Syphilitic dis ease of the vessel may probably lead to acute atrophying himbria to that of the brain. Syphilitic subjects may become suddenly paraplegic as this finally occurs by the mechanism.

4. Green, Diseases of the Nervous System. p. 70.

1882.
But it is now generally admitted that diseases, which originate in the nerve elements and nervous tissue may be an effect of Syphilis. This occurs in the form of a myelitis ending vi a gummatus or sclerosis change.
This develops itself by preference near the circumference of the cord, the meninges may be said to be almost invariably affected and generally fluid together.
Very generally is the gumma situated here, that almost the only known exception is the case cited by Lacereaux (1) in which it was situated centrally.
These gummas may appear under one of two different forms:
1) a reddish gray or reddish white substance of a firm gelatinous consistence rather transparent changing gradually into the surrounding healthy tissue.
This mass is composed of round cells with a few spindle shaped or stellate cells. The original tumor forming the intercellular substance, with a few enlarged capillaries. These embryonic cells are probably migrating from the blood vessel while the fibrin elements.

(1) Lacereaux, "De affectiones nervous syphilitiques," Paris 1861.
are derived from the neighboring connective
tissue. As the progress of further ulceration
can be seen from the cellular infiltration
to the healthy tissue.

(2) As a substance of a firmer consistence
of a white colour, drier and more car.

eous than the first, and presenting
in section a homogenous appearance, with
a sharply defined. These are formed by a granu-
lar and fatty degeneration of cells, succeeded
by an active proliferation of connective
tissue.

Syphilitic ulcers occur under the form
of patches of connective indurated connective
tissue, which may in all probability be
looked upon as cicatrix de coopertata.

(3) Virchow describes a case in which a
large patch invaded the spinal cord in
the meninges in the cervical region.

(4) Charcot has a case of diffused partial

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1. Lanneuville. "Traité histologique et
pratique de la syphilis." 2nd Ed. 1873.

and R. Laisnéres. "De myélite syphilitique."

Th. Montel. 1870.


myelitis with velo-The patches disseminate over the whole spinal cord.
Diffuse inflammation of the spinal cord may occur secondarily as a result of syphilitic causes of the bones. In this case and similar cases we cannot of course look upon the inflammation of the cord itself as being in any sense syphilitic, although undoubtedly a result of syphilis.
Simple softening of the spinal cord as a result of syphilis has been observed by Lancereaux.
Syphilis may in fact produce almost any variety of diffuse myelitis, ending in some cases in sclerosis in others in softening.
Mollie mentions a case of hypertrophy of the cord ending in softening in a middle-aged man, which he took up as undoubtedly the result of syphilis.
And the same with respect to a case of diffuse cortical myelitis observed by Amolle.

(1) Lancereaux. Opus. cit.
(2) Mollie. "Annales de dermatologie."
Vol. IV. 1878.
Broadchalke
in Salisbury
April 25th 1884

Dear Sir,

I send up my thesis and certificate
for the J. D.
I shall be much obliged if you will let me know if you have received them safely, if the certificate
are correct or whether.
there are any forms to be filled up.

I am

for

T. Francis Jones

T. Gilbert Eng.
and know one of disseminated centres of myelitis. Westphal also mentions a case in which many patches of myelitis were to be found throughout the cord.

A case was observed by Gowers of a syphilitic woman in whom disseminated patches of chronic myelitis were found affecting chiefly the periphery of the cord throughout the cervical region. He is of opinion that this form of myelitis is usually syphilitic.

Symptomaticology.

The symptoms produced by such a syphilitic growth in the meninges or other structures outside the cord itself will vary with the position and extent of the growth. They are similar to those produced by other limited lesions. For instance, D'Herme (3) mentions a case of granulomatous growth proceeding from the 11th to 12th dorsal vertebra and involving the anterior columns of the spinal cord with the meningeal and medullary and producing severe reflex and automatic movements and motor paralysis.

(1) Moor, Guy's Hospital Reports, 1871, 217
(2) Westphal, Charite Annalen, 1876, 462
(3) D'Herme. Syphilis of Brain and Spinal cord, p. 20.
In cases of chronic syphilitic myelitis meningitis the symptoms will chiefly be those depending on damage to the nerves and the cutting off of the muscles. Peripheral nerves from the cells in the anterior corona thus causing atrophy. There will also of course be abolition of reflex action in the part. In some cases increased reflex action results. In the cases of syphilis there are first all the ordinary symptoms of diffuse myelitis varying with the seat of that lesion. Then I usually find a period of excitement with pain varying in nature and severity with various abnormal sensations such as formication, tingling, numbness, etc. Also stiffness, spasms, or contractions in various groups of muscles. These symptoms of course point to the implication of the Meninges which as has already been mentioned rarely fail to be affected. They may last for weeks or months, then become overlapped by and mingled with the symptoms of the second stage, in which paralytic hemiplegia predominates. This paralysis is usually progressive and may be a complete paralysis or may be more limited. It is probable that we may find a syphilitic variety of all the different types of myelitis acute, chronic.
Some have tried to throw doubt upon the possibility of syphilis causing acute myelitis. But the number of well authenticated cases which have now been described seem no longer to leave this in doubt. Embazo syphilis can unquestionably cause acute myelitis, both as a specific syphilitic process and as a presiding cause and again. Myelitis, running a rapid course is observed with unusual frequency among syphilitic patients. (1)

Rollet and Phillips have seen a case of acute diffuse myelitis of an undoubtedly syphilitic nature occurring in the lumbar region.

(2) Corrot has a case of retro lumbar myelitis.

(3) Another one of acute dorsal myelitis.

(4) Valdemar & Lenzbuscher cases of acute cervical myelitis, all syphilitic.

With regard to their limitation to a trauma were recent. Valdemar, Sauerbruch, Chauret have seen cases of monoplegia.

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(3) Lenzbuscher Gazelle. Helleman. 1864.
(4) Sauerbruch, Gazelle. Helleman. 1864.
(5) Sauerbruch, Gazelle. Helleman. 1864.
(6) Chauret in Archivio de Ospedale. 1878.
Foley's case of hemiplegia with hemianesthesia of the other side. Philipsen's in the mental cases of syphilitic central myelitis. Said ped. (3)
(4) W. More's case of deep central myelitis.
(Bagari's) Chevalier's case of continuous ascending myelitis.

There is a variety of acute ascending paralysis mentioned by Baeusens (5) with rapid march without appreciable for minimal change. This disease usually develops itself during an early stage of the syphilitic affections. Usually before the syphilitic is two years old.ICKiously with the secondary cutaneous eruptions. It often comes on rather suddenly and without the meningial symptoms of the other varieties. In some few cases the paralysis is preceded by vague pains in various parts of the trunk and of the extremities. The onset of the disease is usually paraplegia, frequently with hemiplegia in some few cases a monoparaplegia, accom.

(2) W. More. Loc. cir.
(3) Baeusens. loc. cir.
5- Bagari. Amer. Medical 1865, 37.
7- Baeusens. De Myelitis Syphiliticas.
Has annoyed by formication felt in the affected members without other alteration of sensibility. In some cases there may be vesicular tremble; usually slight. The palsy usually spread rapidly up and down, and soon become complete. As a rule it is not long before it affects the muscles of inspiration. In many cases known death is hastened by the spreading before. Still in some few cases under energetic antisyphilitic treatment recovery has followed.

Syphilitic myelitis. The occurrence of chronic myelitis as a sequel of syphilis has been still more certainly demonstrated than the occurrence of the acute variety. Erb says that he himself has met with at least a dozen unequivocal cases. 3. I have seen a case of hemiplegia, with coronary hemianopia, 4. Madagascar a case of monoparaplegia, and 5. Other cases somewhat similar. 6. Holloway 5) 7. Bjugardt have seen cases of superficial arteriol chronic myelitis. 8. M. Charcot de deep central myelitis recently was

(2) Charcot. Arch. de Physiologie. 1873.
(3) Saypedale. Guy's hospital Reports XVII.
(4) The Cas. 1893.
(5) Holloway. Proc. 64.
(6) Bjugardt. Clinical Cbest of Syphilis Venere affected
Laennec has described a case of deep central nuchal rotatory posterior.
As to the past played by syphilis in the various circumstances leading to locomotor ataxia of the cord and co locomotor atonia its number diversity of this exists.
With regard to locomotor ataxia more diverse believe that syphilis has an important connection with it. The very great frequency with which an antecedent of syphilis has been admitted as cause to exist is too great to be the result of chance. In the only case with which the writer of this has come in contact, since he has started to practice, the patient a medical man admitted having had syphilis. Nevertheless the majority of ataxics have suffered from syphilis or some previous time. For none is able to prove the existence of syphilis in 24 out of 30 cases of locomotor ataxia.
He attributes the unsucess of antisyphilitic treatment in these cases to its having a rule been begun too late, and points to the successful results which have followed in some few cases in which the diagnosis was made and the treatment begun early. Already in 1868

Incheune had drawn attention to the frequency of syphilis in cases of locomotor atonia. Grey had noted a case cured by antisyphilitic treatment.

In another case which yielded to the iodide of potassium, Taisorges has recently published three cases of syphilitique locomotor atonia. In one case the motor is another the sensory function was more prominently affected.

The posterior column may also be affected secondarily. Taisorges has also seen a case in which the band of Golf was more prominently affected. Lanneaume among others has seen a case in which the motor cells of the anterior columns were affected in some primarily and in others secondarily. In an attack of diffuse myelitis, Ranville (1) has described a case of atrophy of the lower limbs complicating central lesion.

Hinder has published a case of a man who had contracted a chronic fourteen years ago who complained of sensory troubles and slight motor incoordination, probably an abortive case of locomotor atonia. He was cured by antisyphilitic treatment. Well defined cases

(3) Havertrin. 133.
(4) Good. Lanneaume. An effective revenge.

3.17.1850.
Treatment
is which the antivascular columns are prin-

cipally affected have not yet been discussed, but

enough has been said to show that all varieties

of miliary diffuse or circumcorted, and

or chronic may probably he caused by syphilis.

only most of these differ; it must be remembered

only read a lone, for an ususal associated

vicious ways. So that the devise to di-

tection alone decided us of experts pathological

this clinical importance. For though the lesions

may be well defined the symptoms very many

clearly correspond to them (1) clearly but on more

or less mixed up with others. To show the syphilitic

varieties of most of these maladies is to found to

be more or less atypical.

With regard to the treatment, the ordinary anti-

syphilitic will of course be employed. Some (2)

recommends large doses of the Iodide of Oraum,

in the more chronic cases; giving as much as 90 grs

per three times a day, from the method of

treatment he states that he obtained results

which did not appear with the exhibition of more

moderate doses. He further thinks and forbids

that large doses are less likely to

5. Ramsdell, Am. de. Syphilis, T. T.
produce iodism that male monkeys continued for a longer period. The late Dr. Elliotson used to give 120 grs. three times a day with remarkably good results. It is the treatment with mercury, the subcutaneous injection of mercury under the skin or other seems a very favorable method of treating these forms of affections. It is at all events a method that deserves further trial in this country, as its action is probably more rapid and smaller doses can be used with effect. The chlor-albuminate was first used by Stéphane of Paris, and in some cases the use of this preparation was followed by great pain at the seat of puncture, and a hard swelling which however did not go on to suppuration. Professor Cavenio of Paris used it in 1864. The pain of calomel in tincture of ammonia, without indifferent in satisfactory results. Vainly the preparations have been tried. In instance arsenic sublimated in very dilute solution. The ferriiodide in conjunction with morphia. Lately this method has been largely employed by Bastian of the Durinci, he uses a preparation which he calls "phosphate mercurieux ammoniac." This is composed of phosphate of mercury 10 grms., dried phosphate of thiosulphate of an ammonium of each 15 grms. 40 c. grms. of tincture, with 36 grms. of phosphoric spirit. The classic for this preparation that it causes no injury which
The effects are more quickly produced than by any other method. In other respects the treatment by salt, electricity etc. will of course be the same as in similar affections due to causes other than syphilis; the same precautions with regard to them will have to be observed.


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