VI.—FOURNIER : CEREBRAL SYPHILIS.

LA SYPHILIS DU CERVEAU. Par Alfred Fournier. Leçons cliniques. Paris, G. Masson, 1879. (*Syphilis of the brain. Clinical lectures.*)

In a bulky volume of some 600 pages Fournier describes—of course in detail—the manifestations of syphilitic lesions of the brain. His style is both plain and attractive so as to make it a pleasant task to digest the book. He is essentially a clinician himself and writes for clinicians. The pathological anatomy is only given in broad sketches and the microscopic details are not discussed.

Fournier commences the first chapter with the statement, that syphilitic lesions of the brain are very rarely referred to by older authors. It is only some thirty years that they have been generally recognized. Nevertheless they are at present of great frequency; in such affections as hemiplegia of infancy, sudden epilepsy in middle age, and paralyzes of ocular muscles, syphilis is the most frequent cause.

Cerebral troubles may occur early or late, after syphilitic infection, perhaps oftentimes from 3 to 18 years after the initial ulcer. Syphilis like most morbid diatheses localizes itself generally in the organ “offering least resistance;” at any rate over-use of the brain, worry or excesses are about the only tangible predisposing causes for its occurrence in the brain.

Specific changes in the brain are of two varieties: 1, the syphilitic lesions proper, and 2, the secondary consequences, such as may follow any ordinary morbid process. The first class comprises *sclerosis* and *gumma*, which may choose as seat either the meninges, the vessels or the brain substance. As characteristic of Fournier's peculiar categorical style, which, while it has its attractions, leads him now and then into rather schematic descriptions, we can refer to his definitions of these lesions: *sclerosis*, energetic hyperplasia with tendency to permanent fibrous organization; and *gumma*, degenerative hyperplasia, disorganizing from its very beginning, and ending with caseous degeneration.

The author enters thereupon into a detailed description of the essential syphilitic brain changes. We cannot but notice, however, that much of this description is rather schematic. The histological details are barely referred to. While supporting his views by extensive literary quotations, it seems remarkable that the author does not mention any of the late German researches on this topic, especially the affections of the vessels described by Heubner, Baumgarten and others.

The specific lesions set up a train of secondary consequences in their vicinity: thus a gumma or a sclerotic foyer is generally surrounded by a zone of inflammation; an obstructive lesion of

a vessel is followed by white or red softening in the territory of this vessel, &c. These secondary changes have nothing specific about them and are therefore *not influenced by specific medication*, a point especially insisted upon by Fournier. He claims altogether, that patients die very rarely from the specific lesions directly, but only in consequence of the secondary change caused by the specific process. The syphilitic lesions themselves are quite amenable to treatment. Post-mortems show not infrequently traces of specific lesions, which according to the clinical history had existed in previous years, and vanished completely as far as symptoms were concerned. But if the treatment is commenced only after secondary—non-specific—changes have set in, it is of little avail. The anti-syphilitic medication can remove the gumma, but *not* the inflammation to which it has given rise.

The manifestations of syphilitic changes in the brain are characterized by their diversity and multiplicity. In order to render their description more intelligible Fournier ranges the various symptoms under the following general headings: 1, the cephalalgic; 2, congestive; 3, convulsive or epileptic; 4, aphasic; 5, mental, and 6, paralytic group.

The various combinations of symptoms are sufficiently typical to justify this classification, although various stages may succeed each other or even intermingle.

1. The headache is of course the main symptom of the cephalalgic group. It is always deep-seated and is described either as steady pressure, or as intermitting pangs, like the blows of a hammer. It may be of small extent or diffuse. Although not pathognomonic, the following traits of the pain help to form a diagnosis, viz.: the extraordinary intensity, the nocturnal exacerbations and the long duration. The headache is often a premonitory symptom of more serious mischief.

2. The group of symptoms called by Fournier the congestive form is quite frequent in occurrence. The author divides it again into the transitory and the more permanent varieties.

The former is characterized by vertigo and dullness, temporary troubles in the sphere of the special senses, momentary impairment of various movements and of the intellect. Later on the symptoms become more persistent, and may then be described as the permanent form of the congestive group. If this state continues, new symptoms usually appear, which the author describes as *abortive paralyses* and *congestive attacks*. The muscular palsies receive their name "abortive" from their usual nature, being mostly circumscribed in extent, very slight in intensity, amounting only to a paresis, and of but temporary character. The congestive attacks consist either in sudden and momentary failure of muscles, without loss of consciousness, or in apoplectic fits, disappearing however often without consequences. These congestive attacks are usually of grave importance, and are sometimes followed by permanent paralyses, leading thus into the paralytic stage.

In some cases syphilis of the brain betrays itself for the first time by an apoplectiform attack. These cases seem sufficiently frequent to induce Fournier to describe them as a separate group with the heading *malignant* form. After some slight symptoms, a sudden deep coma may set in, leading either to death or recovery. In view of such instances Fournier advises us to think of syphilis in every case of sudden unaccountable coma.

3. The epileptic group of symptoms is of considerable importance, since almost every case of epilepsy *commencing after the age of 20 years*, is due to a specific cause. Spontaneous epilepsy commences rarely after youth, and other causes are also quite rare. At any rate epilepsy is a frequent symptom of syphilitic brain disease. Fournier attributes this fact to the prevalence of specific lesions in the cortex cerebri, from irritation of which parts epileptic seizures can be induced, according to the recent physiological researches.

By the clinical aspect alone syphilitic epilepsy cannot be distinguished from ordinary or true epilepsy. The appearances are identical in both. There may be either *grand mal* or *petit mal*.

It may be complicated or not with other brain symptoms; it can occur early or late after infection. Very frequently it is preceded by the premonitory headache. In such cases energetic treatment can probably prevent its occurrence. Anti-syphilitic measures, however, not persistently applied or with insufficient vigor, will only relieve the cephalalgia without preventing the epilepsy.

Nearly 100 pages are devoted to a detailed consideration of the symptoms and complications of syphilitic epilepsy. It would lengthen this review unduly were we to follow the author throughout. As an interesting point he describes some variations occurring in certain non-typical cases. They consist in complete or partial preservation of consciousness during the attack, and secondly, in circumscribed attacks affecting only a group of muscles or one-half of the body. These forms are sometimes preceded by or even intermingled with typical attacks. When the consciousness is preserved the attack is sometimes accompanied by pain, moderate or even intense, in the convulsed muscles.

As a practical remark, in which by the way the book is very rich, the author points out the occasional occurrence of epileptic seizures during the night, when they may pass off unnoticed by the patient, who complains perhaps only of lassitude in the morning.

The chapter concludes with the decided advice to institute energetic anti-syphilitic treatment in all cases of epilepsy commencing in adult life, which are not traceable to another cause. This is to be done no matter whether a specific history exists or not.

4. The syphilitic aphasia is next described in detail. Some of the more important points can be mentioned in a few words.

Although not differing in its clinical aspect from aphasia due to any other cause, syphilitic aphasia can be proven as a specific form both by the influence of anti-syphilitic treatment and by the autopsy. It occurs sometimes early, sometimes late in the history of syphilis. It may be the only symptom of brain disease, or be accompanied by other troubles, especially hemiplegia of the *right* side or paresis of the tongue. According to the lesion causing it, it is either temporary or more or less permanent.

5. Mental disturbances are a very frequent sign of brain syphilis. Fournier recognizes two types, the chronic form, so to speak, and the acute states of exaltation. The latter are not universally recognized, the former are more generally known. The slow forms of mental disturbance manifest themselves as gradual impairment of the intellect, mostly with failure of memory, combined in some cases with more or less incoherence of thought and action.

The more acute form of syphilitic insanity, the "*folie syphilitique*," is quite rapid in its onset, and comprises the phenomena of exaltation, delirium and mania. As a separate form of insanity, it is, however, admitted by but few alienists. In this case, also, there is nothing characteristic in the symptomatology; on the contrary, the state can simulate any acute mental disorder. The clue is only in the history; when properly treated, the disorder yields usually with astonishing rapidity. Much has been said by various authors about the relation of syphilis to general paralysis. According to Fournier, there is no etiological relationship; a syphilitic person may also suffer from general paralysis, but he is not more exposed to this disease than others by reason of his syphilis. He describes, however, a somewhat similar, but decidedly specific, affection—*general pseudo-paralysis of syphilitic origin*. This mental disorder the author compares with the previously mentioned non-specific disease, describing first their great resemblance. Hereupon, however, on analyzing the symptoms, he discovers numerous aberrations from the regular course of general paralysis. But it seems to us that these differences, striking as they may appear by a comparison of numerous cases of both disorders, will not enable the clinician to form a diagnosis in any given case. Similarly the anatomical lesions. At first sight they appear identical; but in reality general paralysis is due to an encephalitis of the grey cortex, the syphilitic disorder to a sclerotic meningitis. But at the post-mortem it is certainly not as easy a task to distinguish between the two lesions with the unaided eye as Fournier would have us believe. The real deciding test is the microscopic appearance, which the author does not describe at all. At least Meynert, after thorough researches, claims in his oral lectures that the syphilitic lesions can be easily recognized as such with the microscope. The chief clinical differences between the two forms of insanity are, on the one hand, the history—a point not sufficiently insisted upon by Fournier; on the

other hand, the curability of the syphilitic affection, and the absolute resistance of real general paralysis to all medication.

6. The paralytic form of brain syphilis is of common occurrence. In most cases the headache, congestive and other symptoms, lead finally to various paralyses. In less numerous instances the paralytic symptoms are the first manifestation of brain syphilis. The cranial nerves are attacked in the following order of frequency: The nerve most frequently implicated is the III., next in frequency are the VII., XII., VIII., II., I., and V., while the IX., X. and XI. are but very rarely involved.

The motor oculi is very frequently paralyzed by brain syphilis, the abducens nerve less often, and the trochlearis least of all ocular nerves. Perhaps, as Fournier himself admits, paralysis of the latter is often overlooked on account of the difficult diagnosis. The anatomical reason for this predilection is the long course of these nerves, exposing them to all morbid processes starting in the basal meninges or bones. In the detailed description of the ocular palsies we find nothing new; but the advice at the end of the chapter is worth repeating: "Ocular paralyses point towards syphilis, and if of syphilitic origin, indicate usually a threatening danger from some intra-cranial process."

The description of paralysis of auditory and optic nerves contains no new points, but is written in a practical way. Stress is laid, and very justly, upon the necessity of examining the fundus of the eye in all cases of brain syphilis, *even if there are no symptoms on the part of the eye*. According to Hughlings Jackson, an optic neuritis (choked disc) may exist without impairment of vision! Such a discovery in a given case can often correct both diagnosis and treatment.

Nothing further can be said of Fournier's account of paralyses of other cranial nerves and monoplegias, but that it is short, practical, as far as it goes, but entirely free from any description of finer modes of investigation, as electricity, etc.

Hemiplegia is a very frequent symptom of brain syphilis. As regards its prognosis, Fournier distinguishes two varieties, viz.: (1) hemiplegia due directly to syphilitic lesions, and (2) hemiplegia due to non-specific brain changes caused, of course, by a specific lesion in another spot. Although it is hardly possible to recognize the real condition of the brain before the therapeutic experiment, Fournier's ingenious distinction is certainly to be admired. Thus it is a serious difference to the patient whether his hemiplegia is caused by compression of a motor tract by a gumma, which can be removed, or whether the cause is a want of nutrition of a motor part by reason of obliteration of the vessels from distant syphilitic lesions.

Hemiplegia is usually preceded by syphilitic headache, and the various symptoms of the congestive group, including affection of motor and sensory nerves. Occasionally a few attacks

of temporary, incomplete hemiplegia precede the regular, more or less permanent state. Syphilitic hemiplegia is usually incomplete both in intensity and extent. The sensibility is usually intact, but sometimes, though rarely, more or less impaired, and now and then perverted. Intellectual disturbances occur also in some cases. No characteristic difference can be found between an ordinary hemiplegia and one of syphilitic origin. Here also the clue is in the history. But suspicion as to the cause ought to be aroused by a combination of symptoms, especially the co-existence of paralysis of any ocular muscles. The age is also a guide, the specific form occurring most frequently before the forty-fifth year. The probability of a syphilitic origin is, however, positively confirmed or refuted by the results of treatment.

It is somewhat exceptional to find cases presenting for any length of time only those symptoms which the author ranges in a given group. The different forms succeed each other, and very frequently intermingle. Again, a class of patients exists in whom brain syphilis produces for quite a time but very vague symptoms, especially mental dullness and muscular feebleness or even prostration. Under such circumstances, a diagnosis is possible only from simultaneous specific troubles, such as exostoses, etc. But a correct diagnosis once formed, everything is gained. Another form might be called mixed. Besides many of the symptoms common in brain syphilis, there is hardly a sign of disturbance of the nervous system, which such patients cannot display at some time or other. It is the very multiplicity of unconnected symptoms which leads to a diagnosis.

The course of brain syphilis is always influenced by medication. In many instances a positive cure can be accomplished, if not, at least the occurrence of new symptoms is prevented, although the existing ones—caused, perhaps, by secondary changes—remain unchanged. Of all forms, the mental disturbances are the most resistant to medication; so that the existence of insanity is of grave prognostic importance in any case of brain syphilis. If not treated, all syphilitic disorders have a tendency to become permanent and to spread in extent. The chapter which Fournier devotes to the ultimate progress and termination of brain syphilis, seems to us the most instructive of the entire work. It is evidently the result of careful reflection, based on an exceptionally large experience. It is, however, too full of details to be abstracted profitably.

As regards the prognosis, the chances diminish, of course, with the duration of the affection and the multiplicity of symptoms. Yet now and then a case apparently hopeless is completely restored, so that the author endorses Ricord's *bon mot*: "As regards the cure of syphilis, everything is possible, sometimes even impossibilities." An exceptional value can be attributed to Fournier's statistic of the termination of 138 cases of brain syphilis:

Death	14 cases.
Recovery with serious impairment of intellect, motion or sensation	33 "
Recovery complete	30 "
Recovery incomplete, with permanent but slight im- pairment of some functions	13 "
Still under observation	11 "
Unknown	37 "
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Still the fearful importance of these figures is somewhat diminished by reason of a number of cases coming under his observation at a very late stage, and the fact that of the 14 fatal cases, not one had been treated properly, at the proper time. On the other hand, the statistic does not include numerous cases with slight symptoms, cured before they could develop into unequivocal brain syphilis.

There follows hereupon an instructive account of the prognosis in different forms. While the lighter forms are very amenable to treatment, all cases are characterized by a tendency to sudden exacerbations and relapses.

The last chapter (nearly 50 pages) is devoted to the treatment. The treatment should always be commenced *early and energetically, kept up with the original energy during the course, and continued for a long time after the disappearance of symptoms.*

Fournier's chief remedies are iodide of potassium and mercurry. The former is given boldly by the stomach, preferably mixed with food or drink. He claims to have never met a patient absolutely intolerant to KI. Yet in such cases it might be given by the rectum. Strangely enough, he has sometimes seen that large doses were less irritant to the stomach than smaller ones. Mercury, on the other hand, is more apt to disturb the stomach, and, hence, the author favors injections. He commences the use of iodide of potassium in a dose of at least 3 grammes per day, raising it finally to 6-8, or even 10 grammes, daily. Larger quantities he has not found more serviceable, but only more irritant. Iig is given in the form of proto-iodide, 0.10 to 0.20, or as sublimate in doses of 0.02 to 0.05 per day. The latter dose, large as it seems, he gives without hesitation or regret, at least for a short time.

For injections he begins with 5.00 per day for the first week, raising this dose 8.00 or even 12.00 grammes.

The occurrence of stomatitis is to be observed, and when present it is to be treated; but the mercurry is not suspended, on account of the proper reason that the dangers of stomatitis are slight compared with the dangers which we remove with mercurry.

During the continuance of the disorder the treatment is to be kept up with the original energy. But there is always some ac-customation to both KI and Iig. This however lasts but a few weeks after suspension of the remedy, and hence Fournier advises

strongly *alternate medication*, changing from KI to Hg and back every few weeks. This treatment is to be continued long after the disappearance of all symptoms. As auxiliary means he advises cold douches, which in his experience as well as that of Charcot, hasten the cure materially, especially in syphilitic epilepsy. All special indications are of course fulfilled by the usual palliative and other means. The cure being accomplished Fournier insists for some time on strict hygiene, *i. e.*, avoidance of all excesses, especially venereal indulgence, exertions, and brain work, his object being to give the brain absolute rest.

This incomplete review of the salient points of the book can give the reader an estimate of its value. It is the result of a large experience of a careful, logical observer. It contains a good deal which cannot be found in any one work, though perhaps little entirely original with the author. It can be read profitably by everyone, especially in this country, where brain syphilis is either very rare, or overlooked. But it requires attention to read it, in order to recognize at once when the author schematizes, which he does a great deal. At any rate the title, clinical lectures, is not an appropriate one. With due care one will find the book very valuable for practical purposes. But the reader will be disappointed if he expects scientific research, either in the account of autopsies, or in physiological modes of examination.

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SHORTER NOTICES.

- I. FIFTH BIENNIAL REPORT OF THE BOARD OF COMMISSIONERS OF PUBLIC CHARITIES OF THE STATE OF ILLINOIS. Presented to the Governor, November, 1878. Springfield, 1879. 310 pages.
- II. THE TRANSACTIONS OF THE AMERICAN MEDICAL ASSOCIATION. Instituted 1847. Vol. XXIX. Philadelphia: Printed for the Association, 1878.
- III. A CLINICAL TREATISE ON DISEASES OF THE LIVER. By Dr. Fried. Theo. Frerichs. In three volumes. Translated by Chas. Murchison, M. D., F. R. C. S. New York: Wm. Wood & Co., 1879.
- IV. DISEASES OF THE INTESTINES AND PERITONEUM. By John Syer Bristowe, M. D., J. R. Wardell, M. D., J. W. Bigbie, M. D., S. O. Habershon, M. D., T. B. Curling, F. R. S., and W. H. Ransom, M. D. New York: Wm. Wood & Co., 1879.
- V. PORT'S DISEASE. ITS PATHOLOGY AND MECHANICAL TREATMENT, WITH REMARKS ON ROTARY LATERAL CURVATURE. By Newton M. Shaffer, M. D. New York: G. P. Putnam's Sons, 1879. Chicago: Jansen, McClurg & Co.