a day or two the testis is so much diminished in size that the straps are very loose; they may then be reapplied once, twice, or thrice, according to the state of the case. I have seen a patient in the greatest agony before the application, and in an hour after the straps have been put on he has been able to walk about almost without pain.

The earlier the remedy is applied the less will be the induration remaining after the inflammatory stage has subsided.

Lastly, (and that not of the least consequence to the surgeon,) the patient will be delighted with the safe, speedy, and almost painless recovery from a very unpleasant disease, and will be grateful for the means of relief being used without discovering to his friends the nature of his malady. More especially will he value this simple and easy mode of treatment if he has unfortunately been the subject of the same disease before, and has had to submit to the nausea consequent on the use of emetic tartar, or the salivation caused by the calomel he has taken, as well as to the troublesome application of leeches and fomentations, to say nothing of the loss of time from being obliged to remain in bed or on a couch for days or even weeks.

Crewkerne, January 29, 1847.

ON SIMPLE ACUTE INFLAMMATION OF THE MEMBRANES OF THE BRAIN IN INFANTS.

By Dr. RILLIET, of Geneva.

(Translated for the Provincial Medical and Surgical Journal.)

I. PRELIMINARY OBSERVATIONS.

A great number of practitioners, even in the present day, confound all the acute cerebral affections of infancy under the term *acute hydrocephalus*, or *tubercular meningitis*; and the error has continued, although many attempts to introduce a more strict pathology have been made, even as long since as the end of the last century.

Thus Hopfengartner, who wrote in 1802, has distinguished meningitis from acute hydrocephalus, and it is evident from the tenor of his observations, that under the former term he alludes to the same form of the disease which it is our object to illustrate in the present communication. "From the very onset of the disease," he observes, "and without any precursory symptoms, the children complain of pains in the head and abdomen; on the second day they keep their bed, and the disease proceeds without those remissions which we notice in acute hydrocephalus. The patients are dull, the eyelids close convulsively; the teeth are fixed, and deglutition is difficult. Constipation is not so obstinate as in hydrocephalus. There is in general little or no vomiting and the pulse is small and slow. Coma supervenes much more rapidly than in hydrocephalus. The patient usually dies about the fifth or sixth day. After death the membranes are found to be inflamed throughout their whole extent."

This description evidently refers to acute meningitis but the author has committed an error in stating that vomiting is absent, and that the pulse is feeble and slow; on the contrary, vomiting is very generally present, and the pulse though feeble, is not slow.

Coindet, while he admits that hydrocephalus is the result of a peculiar inflammation of the lining membrane of the ventricles, establishes a distinction between phrenitis and dropsy of the ventricles.

Matthey also separates the disease which he terms *hydro-meningitis*, from the water on the brain which follows scarlatina, and also from sub-acute hydrocephalus. This latter variety is that described by Whytt and corresponds to the tubercular meningitis of recent writers. The hydro-meningitis of Matthey offers on the contrary a close analogy with the disease in question. Its characters as stated by Matthey are as follows:—"More or less headache, sickness, spasmodic movements of the limbs, brilliancy of the eyes, quiet delirium, contraction of the pupils, quick and small pulse, coma. After death, gelatinous effusion on the surface of the brain, seldom in the ventricles."

Jahn (*Analekten über Kinderkrankheiten*, 1835,) describes a form of disease similar to our acute meningitis under the denomination of *idiopathic encephalitis*. It is characterized by intense fever, with quick breathing, thirst, great susceptibility to light and noise, brilliancy of the eyes, frequent vomiting, obstinate costiveness, &c. The anatomical characters, as stated by the author, are:—

1. Injection of the brain and its membranes.
2. Induration of the cerebral substance.
3. Effusion of a greenish lymph in the anfractuositities of the brain, and along the course of the vessels.
4. Absence of serous effusion in the ventricles.

Evanson and Naunsel have also distinguished arachnitis of the convexity of the brain, from inflammation of the membranes at the base, and hydrocephalus. They observe:—"Infants are not exempt from arachnitis of the convexity of the brain, although this form of inflammation is less common than the preceding, (hydrocephalus and inflammation of the base.)" But we need not multiply quotations; those already adduced suffice to demonstrate that several writers have endeavoured to distinguish hydrocephalus from acute inflammation of the nervous centres.

From the time that the term hydrocephalus was exchanged for that of *meningitis*, confusion was re-established,—a confusion which was increased by the terminology. It was rational enough to distinguish hydrocephalus from meningitis; but what good could arise from making two forms of meningitis? Those who had written of the disease under this term, as Golis, Senn, Charpentier, &c., confounded both forms under the same description; but others, as Parent and Martinet, at once separated inflammation of the base from that of the convexity of the brain, and recognized the fact, that in infants the former was a far more common affection than the latter.

From the period at which the writings of MM. Papavoine and Rafz contributed so much to the elucidation of the true nature of acute hydrocephalus, the

epithet *tubercular* was added to the designation *meningitis*; it was thought that more precision was thus introduced into the diagnosis of the disease; but it was not so in truth, for MM. Piet, Green, &c., have almost entirely omitted the mention of simple *meningitis*. Ruzf, however, does not deny the existence of this latter affection, though he admits its great comparative rarity; and before him M. Guersent (*Dict. de Méd.*, tom. xix, p. 410,) had distinguished the simple from the tubercular form of meningitis, although he referred to the former, as it appeared in adults, and in an epidemic form.

The first description of *simple acute meningitis* based upon clinical observation is undoubtedly due to the past labours of M. Barthez and myself. But it is strange, that even subsequently to the appearance of our memoir, MM. Deleseur, Barrier, and other talented writers on the diseases of early infancy, have entirely omitted to mention this variety of the disease. M. Deleseur has collected all the acute or subacute cerebral affections of childhood, under the generic term *meningo-encephalitis*, and scarcely even endeavours to distinguish between simple and tubercular meningitis. Trousseau gives the name of *cerebral fever* to all cerebral inflammations indiscriminately. Bouchut and Barrier refer the reader to the tubercular form of the disease, apparently believing that no advantage is to be derived by separating it from simple meningitis.

We do not hesitate to differ entirely from the authors above cited, and to express our belief that their doctrines have been the cause of the greatest confusion. We are far from insisting upon frivolous distinctions, but there are, nevertheless, certain laws which the pathologist cannot transgress, without the risk of falling into error and confusion.

We have already shewn, (*Traité des Maladies des Enfants* tom. iii. p. 518.) and shall again satisfactorily prove, that simple (*franche*) meningitis, and tubercular meningitis differ essentially. Their causes are not alike. They attack children under different circumstances; they have neither the same modes of origin, progress, or termination; their anatomical characters are different, and the treatment likewise is to a certain extent different. If these points are not sufficient to establish their distinction, there is no use in nosological arrangements; our own opinion is that true meningitis is as distinct from tubercular meningitis, as pneumonia is from phthisis pulmonalis.

Before we enter into the more immediate subject of our present communication, it will be useful to make a few observations upon a point upon which we fear that we have been misapprehended in our former writings. In our opinion, meningitis developing itself in a tubercular subject, is always *tubercular meningitis*, whether we find granulations in the pia mater, or whether we do not. Tubercular meningitis, therefore, and the meningitis of the tuberculous, are, to us, one and the same malady, and for these reasons:—

1. In both, the seat of disease is at the base of the brain.

2. Both consist of a thickening of the pia mater with false membranes or purulent exudation.

3. Both are accompanied by effusion into the ventricles, and frequently co-exist with cerebral tubercles.

4. Both co-exist with tubercular deposits in other organs.

On the contrary, in true meningitis, it is the pia mater and arachnoid of the convexity, or of the ventricles, which are inflamed and infiltrated; serous effusion into the ventricles is the exception, and the affection does not coincide with tubercles or granulations, either in the brain or other organs. These differences are so marked, that if the brain of an infant be presented to us, with the fissure of Sylvius filled with adhesive exudation, and the base covered by membranous and purulent deposit, the convexity at the same time being free from inflammation, we do not hesitate to predict that there are most probably also granulations in the membranes and serous effusion into the ventricles, and that tubercles will certainly be found either in the lungs or bronchial glands.

Again, we are able to tell from the nature and number of the tubercles present in the chest or abdomen, what has been the character of the cerebral affection. Thus if we learn that miliary granulations have been found in considerable abundance in the lungs and other organs, we can affirm that the acute symptoms of the head affection have been preceded by precursory symptoms, that the onset of the disease has been insidious, that the inflammation of the membranes was ushered in by vomiting, that there was constipation with but little fever, and that the malady has lasted two or three weeks. On the other hand, if the brain of an infant be exhibited to us, the convexity of which is covered with false membranes or purulent exudation, we do not hesitate to assert that no tubercles will be found either in the membranes of the brain or elsewhere; that the disease has set in suddenly and with violence, with convulsions perhaps, if the infant be very young; with violent headache, constipations, and vomitings if it is of more advanced age; that delirium has been violent, and that the duration of the disease has not been longer than three, four, or six days.

We shall revert to this subject in our article on diagnosis, and shall then enter further into details respecting the differences between the two forms of the disease.

II. MORBID ANATOMY.

Great familiarity with pathological anatomy is necessary for the appreciation of the slight lesions which frequently constitute the morbid appearances left by tubercular meningitis; but it is far more easy to recognize the results of true meningitis of the convexity. Scarcely, in fact, is the injected dura mater divided, than a greater or less extent of the convexity of the two hemispheres is seen to be covered with a layer of yellow or yellowish green exudation. The deposit extends also to the internal aspect of the hemispheres, the upper surface of the cerebellum, and sometimes to the base of the brain. A slight examination is sufficient to demonstrate that the deposit consists of liquid pus, and that its seat is always the pia mater, and sometimes also the arachnoid cavity. The products of inflammation deserve to be separately studied in these two situations.

1. *In the arachnoid.*—This membrane, although it contains the products of inflammation, may itself not exhibit any trace of that process; but in general retains its smooth and polished appearance. If life has been prolonged to the sixth or seventh day, the pus loses its fluidity, and acquires such consistence as to resemble a false membrane; in other cases true false membranes are formed in addition to the fluid products. These partake of the yellow colour of the pus,—are thin, soft, and seldom very extensive; they are always easily detached from the serous membrane, unless as is occasionally seen, organization has commenced.

2. *Pia mater.*—Alterations similar to the above are discovered also in the pia mater, especially in patients who have died on the fourth or fifth day. The pus, when liquid, may be made to pass over the surface of the membrane by pressure with the finger, but it subsequently becomes concrete, forming a flat broad layer of variable thickness, and which passes down into the sulci. The membrane appears to be puffed up by the secretion, and is increased both in thickness and tenacity. The deposit of pus is always more copious along the sides of the blood-vessels, and in the interstices of the convolutions, than elsewhere. At the base the pia mater is often quite healthy. Over the surface occupied by the pus, the membrane is finely injected, and is readily detached from the surface of the brain.

3. *Cerebral substance.*—The brain is firm, sometimes preternaturally so. The grey substance is of a normal colour if death has occurred before the fifth day; later it may also be nearly unaltered, but it is more generally of a vivid rose colour, and the medullary portion exhibits numerous bloody points. The most superficial layer of the convolutions is sometimes softened, so that portions of it are removed along with the pia mater. In very young infants, the brain is sometimes softened throughout, an appearance which is probably due to oedema of its tissues. The condition of the brain in subjects who have speedily succumbed, shows plainly that inflammation of the membranes is the initiatory lesion, and the cerebral pulp becomes involved subsequently.

4. *Ventricles.*—As a general rule, the ventricles are found empty, or containing only a teaspoonful or two of purulent serosity. The exception to this occurs in very young infants. In some cases the lining membrane and the plexus choroides exhibit traces of inflammation, being injected and softened, or subsequently pale, but thickened and opaque. The central portions of the brain in some cases, preserve their consistence; in others they are softened, or converted into a diffuent pulp. The latter case chiefly occurs in young infants, in connection with copious serous effusion into the ventricles; but it is occasionally seen without this, and must then be attributed to inflammatory action, and not to maceration, as may be the case when the effusion is in large quantity.

To recapitulate:—The anatomical characters vary according to,—1st, the duration of the malady; 2nd, the age of the patient; 3rd, the seat of the inflammation.

1. In cases which prove fatal before the fifth day, we find the pus fluid or semi-fluid, or false membranes in the arachnoid and pia mater, the latter being vividly injected, but not adherent to the surface of the brain. Later we in general discover only concrete pus or false membranes; the pia mater is less injected, and the surface of the convolutions is sometimes soft and reddened. In some instances the ventricular portion of the arachnoid is inflamed, and the cavity contains a small quantity of purulent serosity, but never pure serum.

2. In very young infants, the brain is often softened universally; the ventricles contain a large quantity of serosity, and there is also occasionally a sub-arachnoid serous effusion.

3. General meningitis is the most common form of the disease; next, meningitis of the convexity; that of the base and ventricles, is much more rare.

(To be continued.)

Hospital Reports.

QUEEN'S HOSPITAL, BIRMINGHAM.

CLINICAL REPORTS OF SURGICAL CASES UNDER THE TREATMENT OF WILLIAM SANDS COX, ESQ.

By PETER HINCKES BIRD, one of the Resident Medical Officers.

(Continued from page 128.)

CASE XXV.

FISTULA IN ANO.

William Wilson, aged 38, shoemaker, of full plethoric habit, admitted into the Queen's Hospital, under the care of Mr. Sands Cox, on July 21st, 1846. He states that in June, 1845, he first perceived a small swelling, with circumscribed hardness, on the verge of the anus, it caused him much pain and inconvenience, which gradually increased, so that in September following he was unable to sit down. In December this small swelling "came to a head," which broke and discharged a thin matter; it kept getting worse until January, 1846, when it was about an inch and a half deep; it was then laid open by the medical man attending him. Another formed by the side of it, and it was again laid open, but without success. He states that these openings have bled at times. His health has always been good; no tendency to phthisis can be traced in the family; his father died of apoplexy; his mother is alive and well; his occupation is a sedentary one; in his early life he was rather "a free liver;" his bowels have always been exceedingly regular; is seldom troubled with cough; has never been subject to hæmorrhoids.

Present state.—There are two fistulous openings, one on the left side, the other on the right side of the anus. The one on the right side has but lately appeared, it is about an inch and a half deep, situated about half an inch from the anus, and communicates with the rectum; the other, which has been present since last September, is situated on the verge of the anus, and is