being caused on raising the head, or on attempting to straighten the legs."

On admission (October 15th), the retraction and the pains had subsided, but on attempting any passive flexion of the legs the boy at once twisted over to the opposite side, sharply arching his back, though he could bear them fully extended if lying on his back. Any attempt to obtain Kernig's sign produced this curious contraction of the spinal muscles, and was evidently very painful.

The state of the reflexes was as Dr. Hodgson had already noted, but ankle clonus was present, in addition, on the right side.

There was much loss of power in the extensor muscles of the thigh on the right side, and as in all cases in which the patellar reflexes were lost there was an extraordinary laxity of the patella tendon, so that the fingers could be inserted between that bone and the head of the tibia.

I have not noticed this phenomenon in so marked a degree in ordinary cases of loss of knee-jerk, and I take it that it may be looked upon as an index of the degree to which the extensor muscles have suffered.

REMARKS.

Here, then, we have what may be considered as a fairly widespread epidemic of acute disorder affecting the spinal cord and meninges, and although we have heard a good deal of late of epidemic acute anterior poliomyelitis, I think that these cases do not all conform to the type which we have been accustomed to meet with during the last twenty years, inasmuch as the intense pain in the back of the head and neck, the twitchings of the face, the retraction of the head, amounting in some cases to opisthotonos, the marked rigidity, and continued pains in the limbs, the interference with the due control over the bladder and rectum, and, in several instances, the more or less rapid and complete recovery, are quite contrary to the usual experience in that disease.

I had the advantage of meeting Sir James Goodhart in consultation over A. G., my fifth case, and he was decidedly of the opinion that we had to deal with cerebro-spinal meningitis, which was the conclusion I had previously come to with regard to the other cases I had then seen.

Sir William Osler makes the statement that those instances of acute basic meningitis, with which from time to time we have met in such a severe and fulminating form, are nothing more or less than sporadic cases of cerebro-spinal meningitis.

There are doubtless several signs which have been looked upon as more or less classical of this disease which were absent in my cases, notably the rash from which the old name of "spotted fever" was derived, but even in the severe basic form, of which I have seen a few instances, I cannot call to mind any rash. Where this occurs it indicates a malignant form of the disease, and a very severe toxæmia in addition to the local signs. Vomiting also in my series was unusual, although it did occur in Case v.

It may be that when, as in the epidemic form, the disease becomes generalized, it at the same time loses some of its virulence (and abortive cases do occur) but it is interesting to note that the older the victims the more severe and lasting has been the mischief—one of my cases (Case i, seen with Mr. Way) having died on about the fourth day, while the two youngest (Cases iii and v), have apparently recovered without any trace of the paralysis occurring after acute anterior poliomyelitis.

So far I have not come across any cases in adult females, nor have I observed any connexion between this epidemic and the incidence of herpes zoster referred to by Dr. Garrow of Maryport in Cumberland, in an epidemic of poliomyelitis which occurred there in August and September, 1910. This was also noticed in the Cornwall epidemic this year.

I do not wish to give the impression that every case in the present epidemic is cerebro-spinal fever, but at least I would submit that anterior poliomyelitis is a misnomer, since the meningeal symptoms, either cerebral or spinal, have been most marked. Cases i, iv, and v in the private series, together with Nos. i and ii of the hospital cases, present clinically the picture of cerebro-spinal fever.

With regard to the pathology of cerebro-spinal fever there are three cocci which have been claimed by their discoverers as being the specific cause: (1) Weichselbaum's *Diplococcus intracellularis*; (2) Still's meningococcus (this in sporadic cases); (3) a micro-organism resembling

the pneumococcus of croupous pneumonia; and I am fully aware of the absence of any pathological evidence in my cases as to the presence or otherwise of any of these organisms. Houston and Rankin's recent researches go to prove that the two former are quite distinct.

In Dr. Tullis's cases the specific organisms were not found, though albumen was present in the spinal fluid, which probably indicated inflammation of the meninges, notwithstanding that the normal reducing action of the fluid on cupric oxide was present, which reaction in cases of meningeal inflammation is generally absent. Had the cases come under observation during the very early stage, something more might have been learnt.

It would be interesting to know in what percentage of cases during the various epidemics reported it has been possible to examine the spinal fluid in the acute and early stage, since bacteriologists I presume would not admit the existence of cerebro-spinal meningitis without the presence of one of the above-mentioned organisms; but of this I am convinced, that, notwithstanding Dr. Allen Starr's classical description in Allbutt's *System* of acute anterior poliomyelitis, which I must admit describes very nearly some of the milder cases I have seen, we have here at any rate in some of the cases a distinct clinical entity, which is much more serious to life.

Pain! pain! has been the persistent outcry in all the cases, sometimes persisting for weeks, and as that acute observer, the late Dr. Bristowe, remarks of anterior poliomyelitis that "pain is no essential feature of its clinical history," and that "an almost total absence of pain may be regarded as characteristic of this disease," it is, I think, fairly evident that we have in this present epidemic a condition of things which, to quote from Dr. Ormerod, we may at least say, "We have had (until now) very scanty experience."

Now, while I fully concede that bacteriology and modern laboratory research bear a very great and increasing value in determining the hitherto obscure origin of many diseases, as an old practitioner I very much deprecate the fact that clinical observation is often made to take a back seat to the newer methods of diagnosis, and although, as I said before, several of my cases approximate more nearly the type of acute anterior poliomyelitis, there are in some (notably i, iv, and v) symptoms which correspond almost exactly to the "simple type" of cerebro-spinal fever which is described in *Allbutt's System of Medicine*.

EPIDEMIC ANTERIOR POLIOMYELITIS IN SOUTH DERBYSHIRE.

By JOHN HAY MOIR, M.D., D.P.H.,

NEWHALL, BURTON-ON-TRENT.

IN the general interest evolved by the recent epidemic of anterior poliomyelitis during the past summer, a short synopsis of 25 cases which occurred in this district in South Derbyshire may be of some value.

All the cases occurred within the Urban District of Swadlincote, which comprises a population of 22,000, scattered over an area of about three square miles. The principal industries are coal mining and earthenware manufacture. During the summer work is bad, and many families are in a state bordering on destitution. Dr. R. A. Parkhill has kindly supplied me with the records of 14 cases which came under his care, the remainder being under my own observation.

There were two periods of greatest incidence, the first early in June amongst Dr. Parkhill's patients in the south-west of the district, the second early in August in the north-west. The epidemic apparently spread in this direction through the district, but there is no evidence to show the mode of progress. The distribution of cases was very scattered, with some exceptions, namely, 3 cases occurred in one street, and 2 in each of two houses. There was practically no communication between the houses affected, except possibly where the three cases occurred in one street. Twelve cases occurred in very poor and dirty houses. Dusty roads do not appear to be of any etiological moment. Many of the patients were strong and well nourished. The occurrence in both sexes was of

equal frequency. The ages of those attacked ranged from ten months to eight years, three and four years being by far the commonest age.

The mode of onset was mostly with fever, malaise, and symptoms of pulmonary catarrh. Some cases began very suddenly and went on with remarkable rapidity to a fatal issue. Constipation was a marked feature; prominent among the symptoms were great tenderness and pain over the spine and the back of the legs, and the presence of Kernig's sign. Deep reflexes were lost early, but in 2 cases of the encephaloid type the knee-jerks were at first exaggerated. In 1 case a papular rash was present over the face, neck and shoulders; the papules were isolated, superficial and shot-like, and had a small inflammatory base. They were not painful to touch.

Of the 25 cases 5 were of the encephaloid type, and proved fatal, death being due to respiratory paralysis early in the disease—in 1 case six hours after the onset. In the remaining 20 cases—of the spinal type—death occurred in 3, and was due to respiratory paralysis in 2. The remaining death occurred a month after onset from acute bronchopneumonia. This gives a total mortality of 8, or 32 per cent. Several cases, which were open to doubt, have been omitted from this analysis.

The paralysis affected one leg in 11 cases, both legs in 4 cases, one arm in 2 cases, one arm and one leg in 1, and all four limbs in 2 cases.

Some of the cases bore a great resemblance to sunstroke, and I am convinced that exposure to the sun or unaccustomed excessive heat is an important etiological factor. In most of the cases under my observation, there was no proper means of isolation, and in many there were large families of young children who escaped, though they came into more or less intimate contact with the victim.

There was no evidence to show in what way the virus was transmitted in any case.

RETENTION OF A FETUS IN THE ABDOMINAL CAVITY FOR FORTY YEARS.

BY

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CASES of extrauterine gestation in which the fetus survives the rupture of the tube are rare. The continuance of the development of the fetus without serious accident to the mother until its death at the onset of the so-called "false labour," and its subsequent retention in the abdominal cavity for many years, is of yet rarer occurrence.

At the October meeting of the Sussex Medico-Chirurgical Society I was able to show a specimen of such a fetus which had been retained in the abdominal cavity for forty years. An additional interest was given to the case by the fact that it was possible to turn for the early history of the case to the *Proceedings* of the society itself. In the notes of a meeting held in September, 1872—just thirty-nine years ago—the following account is to be found:

Mr. Tuke* brought a patient before the notice of the society with a large abdominal tumour, which was examined by some of the members. The woman was of tolerably healthy aspect. She married at 21; had one child, who died in eighteen months. [This, I may say, is a mistake. The child here alluded to is alive now, and made a home for his mother up to the time of her death.] Her husband died, and she married again at 25 and has had no children since. The catamenia were quite regular up to March, 1871. [She would then be 38 years of age.] At the end of April she had an attack of enteritis, relieved by opium. After this she thought herself pregnant, as she felt larger and had what she deemed as the usual signs of child-bearing. At the end of six months there was milk in the breasts. She thought she felt the movements of the child. At Christmas, which would be the termination of the supposed pregnancy, she had severe pains, none of them bearing down, and she had a dangerous attack of peritonitis about this period. The medical man who saw her found a tumour in the hypogastric region having all the appearance of a fetus in utero. He heard the placental murmur, not the fetal heart. He did not examine for ballottement. The catamenia returned on

May 3rd; been quite regular to the present time. There is now a very large tumour lying across the hypogastric region. On the left side this is extremely hard; on the right somewhat softer. There is no fluctuation. There appears to be a kind of sulcus in the middle of it. On examining per vaginam the os is very small, slightly open, and appears fixed at the left side. The tumour can be distinctly felt through the uterine walls. The sound had not been passed, and no examination made per rectum. Mr. Tuke examined the tumour in March, 1872. [Six months previous to the meeting of the society, and about three months after the termination of the supposed pregnancy.] He thought on the left side he could distinguish the parietal bone. . . . On examination per vaginam, os uteri was enlarged, as well as the body of the uterus, which was pressing down on the pelvis. On using to and fro movement he felt fluctuation on the left side, and the body he felt seemed to float in fluid. . . . Mr. Tuke's opinion was that it was a fetus encysted in the abdominal cavity, probably with a fibroid tumour of the uterus.

In the discussion that followed, it is interesting to note that none of the doctors who spoke on the question agreed with Mr. Tuke's diagnosis. They held that no importance could be attributed to the woman's statements as to the supposed signs of pregnancy, and, as one doctor put it, "but little to the medical man's, who had not heard the fetal heart." They seem to have been generally agreed that the tumour was a fibroid tumour of the uterus with calcareous deposit. Mr. Tuke, in his reply, made the pointed remark that he "had heard no explanation given of the fact that the tumour had much diminished"—as it would, from absorption of the liquor amnii. I am told that some years later the patient was seen by Sir Spencer Wells, and other eminent gynaecologists, who diagnosed a lithopaedion.

To come down to more recent times, the patient came under my care four years ago. She was then 74 years of age, and had been bedridden for some years. The abdomen was prominent, and a hard mass could be felt in the hypogastric region, rising up out of the pelvis. Part of the mass appeared on palpation to be of bony hardness, and suggested a fetal head. It appeared to be tender to pressure. The patient complained of a good deal of pain at times, but her general health was fairly good for her age.

In the early part of September last she began to suffer from diarrhoea with raised temperature, and gradually sank, dying about three weeks later. I obtained permission for a *post-mortem* examination, which disclosed the following condition:

The tumour consisted of a fetus lying in the bag of membranes, which were more or less completely calcified. It forms an ovoid mass, which filled up the greater part of the pelvic cavity, the broader end of the ovoid being uppermost. The adjacent coils of intestine were intimately adherent to the sac and had to be peeled off, and the parietal peritoneum on the lower part of the anterior abdominal wall was also adherent. The uterus, flattened out by the tumour and atrophied, can be recognized lying in front of the lower part of the mass, with the inner ends of the Fallopian tubes and part of the broad ligament. There is no sign of any fibroid tumour. The fetus lies in the breech position, face looking forwards, and in the usual attitude of flexion of the head and extremities. The skin, where it is in contact with the calcified membranes, is for the most part adherent to them. This made it difficult to know how one could best demonstrate the parts, and it was decided to make a section as nearly as possible vertically through the middle of the mass. This had to be done mainly with a saw. The section, as a matter of fact, has passed somewhat obliquely to the right of the middle line of the fetus, opening up the right side of the thorax.

As to the condition of the fetus, there is no calcification of any of the deeper tissues, but there is a good deal of calcareous deposit in the subcutaneous tissue, and at parts in the skin, and according to some authors it would be classified as a lithopaedion.

The fetus has not undergone that process of dehydration which results in mummification—a condition which has sometimes been recorded in cases of long retention. All the parts are easily distinguishable. The substance of the fetus has a curious waxy or soapy consistency, suggesting that it may be partly converted into that rare material, adipocere.

The umbilical cord is seen passing to the remains of the placenta, which is situated laterally on the right. As to the age to which the living fetus had attained before its death, judging from the history which we have of the

* Mr. Tuke died in 1880.