tion of the central nervous system was made and the following changes recorded:

1. Severe chronic interstitial inflammation of the posterior spinal ganglia—especially severe in the lumbosacral region, but fairly marked in the cervical and dorsal regions also. In the lumbosacral region the inflammation had been so intense as to cause destructive atrophy of the ganglion cells.

2. In the lumbosacral region the posterior roots and their fibre continuations into the posterior columns of the spinal cord had undergone destructive atrophy. This was shown in the spinal cord by a characteristic sclerosis in the posterior columns, especially of the root zones. The lesion resembles, therefore, in some respects locomotor ataxy.

Dr. Mott suggests that the eruption of the cutaneous plaques which came out at successive periods, and which appeared as rings of angio-neurotic oedema, may have been the result of the inflammatory irritation of the posterior spinal ganglia, and not caused, as Lingard and Laveran suppose, by embolism of the cutaneous vessels. In support of this view, he refers to the fact that numerous authorities have shown that herpes zoster in man is caused by an acute inflammation of the posterior spinal ganglia.

Other trophic changes which may be associated with the posterior spinal ganglion lesions may be cited—for example, many of the plaques terminate in a leucoplakia. Towards the end of life in this animal the hoof dropped off. Fractures and dislocations occur, according to Laveran, in this respect bearing a resemblance to tabes dorsalis.

Besides this localized lesion, there was evidence of a general irritation of the central nervous system, manifested by a subpial and septal proliferation of the neuroglia, a chronic interstitial inflammatory change which in the spinal cord was not found limited to the posterior columns.

The changes in the tissues of animals dying after inoculation with *Trypanosoma gambiense*, and the tissues of human sleeping sickness are compared with dourine, and there is evidence to show that chronic trypanosome infection causes a lymphadenitis and a chronic inflammation of the lymphatics of the central nervous system which manifests itself by a chronic interstitial change affecting the lymphatics of the soft membranes, the subpial septa, and the perivascular spaces, without any marked destruction of the neural elements. The neuroglia cell-proliferation is the first manifestation of this chronic interstitial change, and the lymphocyte accumulation and proliferation which is such a pronounced feature of human sleeping sickness, in the light of the observations of chronic trypanosomiasis in animals, may be secondary, and partially the result of these neuroglia changes.

The communication to the Royal Society was illustrated with drawings and photomicrographs. A full description of the histological changes in sleeping sickness and certain trypanosome infections of animals, including experimental sleeping sickness, will be published shortly in the Reports of the Sleeping Sickness Commission.

CASE OF OBSCURE INTRACRANIAL TUMOUR: MENINGEAL SARCOMA WITH EXTENSION TO FOURTH VENTRICLE.

By G. H. GRANT DAVIE, M.B., CH.B.,
WITHINGTON, LANCs.

Mrs. H. J., aged 35 years, married, two children, consulted me on May 8th, complaining of "an aching fullness like rheumatics, only worse," in the occipital region. On March 19th she had an attack of "neuralgia" in the right side of the lower jaw. A few days afterwards she complained of a "rheumatic pain" in the right side of the neck and right shoulder, which "went up and settled in the back of her head, but which was not like an ordinary headache." About the same time she suffered pain in both temporal and inferior parietal regions. These pains continued to increase in severity, with some intermissions, until the middle of April. From this time she could not lie flat in bed, but supported herself in a semi-sitting posture on the right side, for "she felt

she would choke if she lay on her back." Pressure at the back of the neck near the skull gave rise to pain, and sometimes to the choking sensation also. On April 28th she fainted twice owing to the severity of the pain, and because her head "seemed to get off its balance."

The occipital pain always increased in severity between 3 and 4 a.m., after which she could get no more sleep, and made frequent complaint she felt "worn out," as she had had no "proper sleep" since her pains began. Exacerbations of the pain occurred at first once or twice during the day, but latterly more frequently.

On May 8th her symptoms were as follows: She complained of "an aching fullness" in the occipital region and of a track of pain extending forwards to the orbits. This latter pain was of less severity than the occipital, but it became more pronounced when she suddenly rotated the eyeballs, especially in the vertical axis. It was noticed that whilst speaking she placed both hands at intervals under the angles of the jaw, as if to support the head. On suddenly assuming the upright posture she became giddy and placed her hand momentarily over her eyes. She was able to stand erect steadily, with eyes closed, after an initial slight swaying movement. She walked in a straight line and turned with moderate rapidity, preserving her equilibrium. She stated, however, that there were times when she felt she would fall, especially when walking outside and looking at passing objects. She had the sensation of "running forwards on her toes all the time." On one occasion, when suddenly rising, she had vomited, and sometimes "had hard work to keep her food down." In the act of drinking the occipital pain was much increased. The head was therefore thrown back with great care, and rotation of the head horizontally was performed as though she suffered from "stiff neck." She complained of sore throat and some difficulty in swallowing, and also of pain in the lumbar and sacral regions, increased on straightening the back. The tongue was slightly coated white, the fauces injected, the pharynx showing chronic granular inflammation; the appetite was very poor; the bowels sluggish, requiring aperients for every action; the urine was normal; reflexes normal; the temperature normal; the pulse 84.

A week later the occipital pain had extended to the left ear and angle of the jaw, and at 3 a.m., when the pain was most acute, she would call out to be raised to the sitting posture "or she would choke." At a later date she got out of bed when she experienced this acute pain, and knelt with her forehead on the floor, affirming that this attitude gave relief. She described this acute paroxysm of pain as though "a knife was pushed through above the ears to the back of her head." Frequent complaint was made that "she was sure there was something in her head, that this was not an ordinary headache, but if she could only make one understand there was a *something* there."

In order to ascertain exactly the condition of the eyes, the patient was sent to see Dr. Hill Griffith, and the following is his report:

I saw Mrs. J. on May 16th, and found the vision of each eye equal to No. 1 Jaeger and $\frac{1}{8}$; with -0.5 D she got $\frac{1}{8}$. The pupils were normal in size and reacted well to light. The fields of vision (hand test) were normal. The fundi were absolutely normal. The examination was repeated after full dilatation of the pupils by atropine. The vision was $\frac{1}{8}$ with a glass of -0.5 D, and no further improvement could be obtained.

So matters progressed, with decreasing periods of relief, until June 30th, when she got no respite at all from her pain. On July 1st, in the morning, she got out of bed as usual to place her forehead on the floor, and on the second occasion had a violent rigor, "though her body felt warm." The pain, which now extended down the neck to both shoulders, must have been agonizing, for when I saw her at 4.30 p.m. she appeared dazed with it. On this occasion she had a peculiar apprehensive look, and, relaxing hold of her head, she stretched out her arms and cried, "Save me, doctor, I am dying!" Her pulse was then 80, steady, regular, and of good tension; temperature normal. The knee-jerks were exaggerated. The respirations were somewhat "panting."

She complained bitterly of the occipital pain throughout the whole evening, and about 10.30 asked for something to drink. She then appeared to close her eyes to rest, and a few minutes afterwards her attendants found that she was dead.

I am indebted to Mr. Telford, F.R.C.S., for his report of the *post-mortem* examination of the head:

Calvarium.—Unusually thick; otherwise normal.

Dura Mater.—Very loosely attached; inner surface normal.

Brain.—A layer of soft, gelatinous tissue was found covering to a depth of $\frac{1}{4}$ in. the whole of the anterior half of the under surface of the left cerebellar hemisphere. This substance extended inwards towards the middle line covering the under surface of the mid portion of the cerebellum, and extending forwards as a delicate covering over the hinder half of the floor of the fourth ventricle. The abnormal tissue was grey in colour, almost diffident in consistence, and resembled the grey matter of an infant's brain. The fourth ventricle was dilated to twice its normal size; the third to the third ventricle was as large as a goose quill, and the third and lateral ventricles were alike much enlarged, and contained clear fluid.

The growth was quite distinct from the adjacent brain, from which it could readily be removed, disclosing the unaltered contour of the structures beneath it.

The anatomical diagnosis was new growth of the soft meninges, with secondary extension to the fourth ventricle, producing interference with the normal circulation of cerebro-spinal fluid. Paraffin sections were made of the growth. These showed that the structure was that of a round-celled sarcoma, with almost complete absence of an intercellular stroma.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL.

INDUCTION OF PREMATURE LABOUR.

Most men in general practice meet with obstetric cases in which, in subsequent pregnancies, they would like to induce premature labour, and yet have a hesitation in doing so. I chiefly allude to difficult forceps cases in which craniotomy may have been necessary. The following plan I have found simple and effectual. The date—seventh or eight month—having been settled for the induction, the patient should have an enema administered. After free purgation the external genitals are well cleansed, and a bougie inserted as usual into the os and passed upwards, care being taken not to rupture the membranes. This by itself often fails to induce labour. The following procedure, in addition, makes it effectual. A large-sized Barnes bag, made aseptic and oiled with carbolic oil, should be inserted high up in the vagina. It should then be distended fully with warm water by a Higginson's syringe, the tap of the bag turned so as to retain the water, and the syringe taken away. The presence of the bougie in the uterus and of the Barnes bag in the vagina set up in a few hours rhythmic uterine contractions. If the insertion of the bougie and bag is done at 11 a.m., the labour will probably be completed in the evening. Micturition will be necessary two or three times during the day. The nurse should be instructed to get the patient into a suitable position and allow the water in the Barnes bag to drain off, but on no account to withdraw the bag. After micturition the nurse should again distend the Barnes bag with warm water. A capable nurse can carry out all this, and will summon the medical attendant in the evening, when the os will be found, on removing the Barnes bag, fully dilated. A natural delivery will then take place.

Bournemouth.

A. HUMPHREY DAVY, M.D.

A HYDATIDIFORM PREGNANCY.

MRS. C., aged 44, who had reared a large family, had missed a period or two, but as she was nearing the menopause it was impossible to be certain whether she was pregnant or not. There then succeeded slight intermittent haemorrhages for two or three months more, the abdomen meanwhile rapidly distending, till at the end of four or five months it had attained the size of a six or seven months pregnancy. The haemorrhage then became so serious that it was decided to evacuate the contents of the uterus without any further delay. The smallest Barnes bag was used, but after its application for many hours there was no further dilatation than that made by the finger for its first insertion, the os remaining as hard as ever, and becoming dry, hot, and tender. A further exploration with the finger withdrew a vesicle or two, thereby clinching the diagnosis. It was then decided to

abandon any further attempt at artificial dilatation, and a full dose of ergot was given; it was interesting to note the inefficiency of forced dilatation compared with the beautiful effects of the oxytocic, which, acting on the nerve centre, set in motion all the co-ordinating forces of labour, the os soon becoming soft, moist, and patulous, and labour pains setting in, which, increasing in force and frequency, were not long in expelling a large hydatidiform mole, with complete cessation of haemorrhage and an uneventful recovery.

In the management of the case I had the invaluable assistance of the late lamented Dr. James Murphy, to whose memory I wish to add my humble tribute of warm and grateful admiration.

Sunderland.

B. STRACHAN, M.B.

ANTISTREPTOCOCCUS SERUM IN EMPYEMA.

ON April 16th I was called to a boy, A. T., aged 11 years, an ill-nourished child suffering from acute pleurisy with effusion on the left side. He had also suffered for some time from blepharitis. To all appearances he was of strumous diathesis. He had all the usual signs of acute pleurisy with effusion. For nine days the temperature ranged from 100° to 104°; on April 24th it was 99.2° in the morning and 102° at night; the acute pain had subsided and the child began to show signs of rapid wasting. His appearance was hectic and pus was found in the chest. I suggested operation, but this was objected to by the parents.

The temperature remained the same, ranging between 99° to 103° morning and evening, until April 29th. I then injected 10 c.cm. antistreptococcus serum. On April 30th and May 1st and 2nd the child's temperature reached 101° in the morning and 104° at night, but on May 3rd the temperature assumed its old character—99° in the morning and 103° at night—and so remained until May 11th, when I received an urgent message to see the child as his mother was afraid he had scarlet fever. I found the temperature 104.2°, and an adventitious rash more especially marked on the face. He complained of aching throughout his body; I assured the mother it would all soon go. On the following day the temperature was normal and his aches and rash soon disappeared. The child was out of bed on May 17th; the cough entirely disappeared; he was soon able to be out-of-doors, and rapidly gained strength. The condition of his eyelids has also improved.

Burghead, Morayshire.

JOHN WM. INGLES.

THE ETIOLOGY AND TREATMENT OF OBLIQUE INGUINAL HERNIA.

I WAS interested to find, in Mr. Murray's paper in the BRITISH MEDICAL JOURNAL of June 16th, p. 1390, confirmation of an opinion formed by me as the result of experience with Egyptian troops. There is little to be added to his lucid and convincing observations upon the subject, but the nature of my cases makes them interesting. The reasons which led me to regard most oblique inguinal hernias as congenital, and to modify my operative methods accordingly, were as follows:

1. The Egyptian soldier is a man of exceptional strength and muscular development. The idea that, in his case, rupture is due to weakness of the abdominal wall, is refuted as soon as an operation is commenced and the strength of the local defences against hernia made visible.

2. A large number of recruits suffer from hernia shortly after joining the army. This I attribute to the new muscular combinations that are demanded by military exercises. Mr. Murray has used an illuminative expression in speaking of the "sphincter-like action of the muscles guarding the inguinal canal." This action might be perfectly successful whilst muscular exertion was on familiar lines, but the sphincter might be "taken by surprise" during some new and severe exercise. On the assumption that a patent funicular process exists, it is to be expected that the fellah, having pulled a "shadoof" all his life without inconvenience, might rupture under the unfamiliar stress of the goose step.

3. I have on several occasions found a patent funicular process during operation for encysted hydrocele of the cord, although hernia had been carefully excluded in a differential diagnosis.