and the matter is treated as part of the inflammatory process, which indeed it is. In one or two cases where there has been a fall it is not quite clear if the condition was due to it, though in some cases violence was adjudged the cause.

The child assumes the ordinary position of wry-neck, and there is a certain amount of rigidity and fixity of all the muscles of the neck, and movements or attempts at movements are resented as painful. At first little is thought of the condition; in few cases is it considered necessary to have an x-ray photograph taken at this time. In those cases, however, where a photograph has been taken several things are noted. There is a distinct subluxation of the atlas upon the odontoid and a marked lessening of the shadow of the anterior part of the atlantoid ring compared with the bones lower down the neck; indeed, this may be so marked that a congenital defect may at first be suspected.

In the commoner unilateral subluxation there is no pressure on the spinal cord, owing to the ample space provided in this region, though this must be encroached upon. Pressure symptoms have been noted to come on almost at once, as in Ogilvy's case, where they appeared on the fourth day and disappeared again on the eleventh; or they may come on late, as in my first case. On examining the pharynx with the finger a distinct irregularity and protrusion of bone can be felt at the level of the soft palate. This is more evident on one than the other.

Treatment

A correct recognition of the factors of the condition will dictate the line of treatment to be advised. Whether control of the neighbouring inflammatory process is the first essential step, or the old rule of reducing a dislocation at the earliest possible moment is the most important, is difficult to decide. In most cases, however, considerable time has elapsed before the diagnosis is made and the case comes to the surgeon, so that the question does not arise, and then replacement at any early date is to be desired. This method was adopted in Mr. Watson Jones's two cases with complete success. The head was fixed in plaster for ten weeks; this was followed by exercises and a return to normal. No surgeon with any imagination, however, will contemplate this form of treatment lightly. The anaesthetic, by relaxing the muscles, removes the last barrier to the free movements between the two bones, and with free movements sudden death is likely to ensue. After reduction the application of a bandage round the neck cannot be altogether free from danger. In most cases it would be necessary, frankly, to explain the risks to the parents. In my two cases the parents at once vetoed any active treatment; although in one the parent had no objection later to a bone-setter wrenching the boy's neck.

One is therefore reduced to fixing the head in the wry-neck position with weight and pulleys to see if reduction will occur as the deformity and disability become less. I have no doubt also that at the tender age of most of these patients the gradual development of the parts will render less and less apparent any deformity which might ensue. Some of the patients have been kept in the recumbent position for months with excellent results.

My own belief is that these cases are more common in a slight degree than is generally supposed, and that many of the temporary wry-necks associated with inflammation of the upper part of the neck are in reality such cases in a mild form, which rectify themselves and leave no trace. It is certainly curious that if one case has been recognized and impressed upon the memory, other obvious ones seem to be encountered shortly afterwards.

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GUMMA OF THE BRAIN

WITH A REPORT OF A CASE TREATED SURGICALLY

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(With Special Plate)

There is a very prevalent belief that gumma of the brain is rather a common form of intracranial new growth, but this view is not borne out by statistics. Thus Cushing,¹ whose figures cover a period of thirty years and go back well into the pre-Wassermann and pre-salvarsan era, had only twelve cases of gumma among his two thousand patients with verified intracranial neoplasms; Sachs,² again, had but four cases in eight hundred intracranial operations—that is, 0.5 per cent. of the whole. Gumma cerebri is thus to be regarded as decidedly among the rarer types of space-occupying lesions of the intracranial cavity, and it is felt that operations for the condition are of sufficient rarity to justify the publication of the case reported below, while the unusual features of the lesion, and the resultant difficulty in the differential diagnosis, make it one of special interest.

Case Record

A. A., 37 years, a hammerman, was transferred to the Victoria Infirmary from Kilmarnock Infirmary on February 21st, 1934, suffering from headaches, mental deterioration, Jacksonian epilepsy, and gradually increasing right-sided paresis, of eight months' duration.

There was a definite history of syphilitic infection, diagnosis of which was made in 1919; energetic treatment followed, after which his Wassermann reaction, previously positive, had become negative.

In July, 1933, he came home from work complaining of very severe pains in the head. These persisted, and two weeks later he had his first Jacksonian seizure. Further fits followed at varying intervals; occasionally he would have two or three in twenty-four hours, at other times periods of freedom of several days would occur. Gradually it was noticed that he was losing power in his right hand, and later the right leg became involved also. This was his state when he was admitted to Kilmarnock Infirmary on October 13th, under the care of Dr. Hamilton and Dr. Currie, and thereafter, in spite of energetic anti-syphilitic treatment, his condition gradually deteriorated, and by the end of October he was bed-ridden. The fits continued, as did the severe headaches, and latterly these had been associated with periods

of drowsiness, while his mental state had deteriorated very noticeably.

The fits were typically Jacksonian; starting in the right thumb and forefinger, the clonic spasms spread gradually up the limb to elbow and shoulder, finally involving the right side of the face. Except on one doubtful occasion, consciousness was never lost, while the fits were invariably followed by a temporary aggravation of the paresis.

Examination.—On admission to the Victoria Infirmary he presented the following appearances: a tall, thin, pale, and obviously ill man, he was noticeably drowsy and inoperative, and answered questions with difficulty and with marked inaccuracy; so much so that his story, when checked with that from other sources, was found to be false in almost every detail. X-ray examination of the skull was negative; the Wassermann reaction of the blood was positive. The following signs were found on neurological examination. The fundi were normal, as was the visual acuity, while the visual fields, as far as could be ascertained, were full. There was a right-sided facial paresis of the upper neurone type, moderate in degree; the tongue deviated to the right when protruded. It was impossible, because of his mental state, to test his sensory functions, while the extreme hemiparesis made an examination of gait and station impossible; the right arm and leg showed a very marked palsy of upper motor neurone type, more pronounced in the upper limb, with marked spasticity and some contracture of fingers, wrist, and elbow. The right arm reflexes were exaggerated, as was the right knee-jerk, while the right plantar reflex was extensor, with ankle-clonus.

Operation.—This was done on March 7th, 1934. Under local infiltration with novocain, supplemented with morphine and scopolamine, a large bone-flap was turned down over the lateral aspect of the left hemisphere. The bone was rather thicker and more vascular than normally. The dura, whose surface appeared normal, was under moderately increased tension. When a dural flap had been turned down the exposed convolutions were found to be everywhere yellow, oedematous, and flattened, especially in the upper part of the field.

In this region, in the upper portion of the post-central gyrus, was a rather depressed, sharply defined area, about a centimetre in diameter, the surface of which presented a firm, purplish-grey appearance. In order to obtain a piece of tissue for examination an incision was made in this area, when at once a quantity of thick material like pus poured out. The possibility that we were dealing with a chronic brain abscess occurred at once, and the incision was hastily plugged with a pledget of cotton, while a report on the characters of the purulent fluid was awaited. It proved to be composed largely of mononuclears, while no organisms could be seen in smears, and on the strength of these findings a diagnosis of a breaking-down gumma was made, and it was decided to try extirpation of the lesion.

Complete evacuation with the sucker was followed by occlusion with silver clips of a few small cortical vessels running into it, and thereafter it was possible to seize the thick fibrous wall and gradually remove it from its bed by traction, combined with gentle wiping away of the adherent brain with cotton pledgets wet with Ringer's solution. Ultimately the capsule was removed intact, but in a rather torn state, so that measurements were difficult, but it was estimated that the lesion, before evacuation of its contents, was probably about the size of a small hen's egg. The dura was closed completely, the cavity left by the removal of the gumma being drained by a small strip of rubber dam. The bone-flap was replaced and the scalp sutured in the usual way.

Pathological Report.—The tissue, which was examined microscopically, was definitely gummatous, and no difficulty was experienced in recognizing it. In sections taken from different portions of tissue the different areas which compose a gumma could be identified. In the periphery there was an area of dense character, encapsulating the more cellular and softened tissue, and forming a wall of demarcation from the surrounding congested brain tissue. This area showed connective tissue cells of new-formed character, mixed with cells of lymphocytic and polymorphonuclear type. An area which was more cellular and highly vascular was situated internal to this. The features of this part of the section were the numerous dilated and well-filled blood vessels, and groups of

cells of epithelioid and plasma type. The central area was necrotic, and showed softening and caseous change. In this area cells of inflammatory character, polymorphonuclear and mononuclear in type, were present with occasional giant cells of irregular outline, and with no attempt at tubercle formation. Both in the new formation and in the adjacent brain tissues groups of mononuclear cells almost resembling septic foci were seen; but the softened contents from the cyst-like cavity showed no evidence of pathogenic or tuberculous organisms.

The vascular changes were quite definitely those of a syphilitic lesion. A large number of the blood vessels showed thickening of their intima with swelling of the endothelial cells, and a few revealed an obliterative endarteritis. Other vessels showed a periarteritis with a distinct appearance of cuffing of the vessel wall.

Progress.—Recovery was uneventful, and the patient was discharged to a convalescent home on March 22nd, when he could already walk across the ward with some assistance. A mild degree of aphasia, present since the operation, was showing some signs of improvement. He reported again on May 3rd, when his condition had greatly improved. He walked with a barely noticeable limp, his former aphasia being shown only by some hesitancy in speaking and an occasional difficulty in finding a word. There was still some spasticity and weakness in the right hand and arm. Mentally he was a transformed individual, alert in manner, and displaying a pronounced sense of humour when he related his recollections of his pre-operative state.

Discussion

Forty years ago the treatment of brain tumours, despite a few brilliant successes by Horsley and MacEwen, was in an early stage of evolution, while the discovery of the Wassermann reaction was still ten years distant. The customary treatment of a case of suspected cerebral tumour was a lengthy course of mercury and potassium iodide, on the principle that if antisppecific treatment failed but little remained to be done. In 1893 Sir Victor Horsley³ read his classical paper in which he pleaded with the profession to shorten this period of antisppecific treatment to six weeks, and urged that they should hand over to the surgeon any brain tumour patient whose condition had not very definitely improved by then.

In 1934, however, thanks to the great advances in the technique of intracranial surgery and to the development of the Wassermann reaction, Horsley's plea has become of historic interest only, and in the vast majority of cerebral tumour cases the finding of a negative Wassermann reaction is now followed by speedy recourse to operation. Cases of true brain tumour do, however, occur in which the blood or cerebro-spinal fluid shows a positive reaction, a fact perhaps sometimes not sufficiently appreciated by the physician. Moersch⁵ has said: "None of the serological data, the condition of the fundus, nor any one cardinal symptom are pathognomonic of either brain tumour or syphilis"; while Martin⁴ describes two cases of brain tumour with positive Wassermann reaction which were treated for lengthy periods by antisppecific measures, and points out that the presence of a positive reaction does not necessarily mean that the symptoms of involvement of the nervous system are of syphilitic origin. Bagdasar,⁶ again, in a paper from Cushing's clinic, states that the neurologist is still too much inclined to see specific lesions whenever the Wassermann reaction is positive in the blood or cerebro-spinal fluid, and maintains that what he terms this "abuse of the diagnosis of nervous syphilis" is very widespread to-day among neurologists.

Even granted that a lesion is of syphilitic origin, it should, however, be emphasized that antisppecific treatment may be quite ineffective. This can be readily seen to apply in such a case as ours, in which a thick, fibrous wall isolated the interior of the lesion from its surround-

ings. Horsley pointed this out many years ago, and demanded concrete proof of the healing of a cerebral gumma by medicinal treatment. In this view he was supported by Puusepp,⁶ who holds also that certain cases of chronic syphilitic meningitis should be submitted to surgical treatment when uninfluenced by iodides, and claims good results. Martin,⁴ again, points out that there are cases of syphilis of the nervous system in which operation may favour the activity of medical treatment, when this was previously of no avail.

Altogether, there is much to be said for Bagdasar's view when he writes:⁶ "Ainsi donc, nous conseillons d'opérer toujours les malades suspect d'être atteints de gommages cérébrales, l'opération montrera d'ailleurs le plus souvent qu'il s'agit d'une tumeur cérébrale et très rarement d'une gomme."

We may sum up the position by saying that our attitude towards gumma of the brain should be that of Horsley towards cerebral tumour forty years ago—if no improvement results after a short course of medical treatment the case should be handed over to the surgeon for removal of the lesion, or, failing this, for decompression.

A very unusual feature in our case is the extraordinary resemblance the lesion presented to a chronic encapsulated intracerebral abscess. In the literature available we have failed to discover any note of a syphilitic focus with such appearances in this situation, although one is familiar with the occurrence of pronounced central liquefaction in gummata in other organs, notably in the liver. Again, Garland and Armitage⁷ have stated in a recent paper that gumma of the brain is to be distinguished from tuberculoma in that it is probably always attached to the dura mater, and in this our case provides the exception to the rule, the dura being neither adherent nor otherwise involved. The point to be noted is, however, that in the differential diagnosis of gumma the fact of its rare simulation of chronic brain abscess should be borne in mind.

We must express our indebtedness to Dr. Currie, Dr. Hamilton, and their house-physician, Dr. Gemmill, for very careful notes of the patient's condition during his stay in Kilmarnock Infirmary, while to Dr. John Anderson, director of the clinical laboratory, we wish to tender our thanks for his examination and confirmation of our slides, and for a great deal of valued help.

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The following international medical post-graduate courses will be held in Berlin this autumn. From October 1st to 13th there will be a course in internal medicine with special regard to tuberculosis, followed by a course in tuberculosis from October 15th to 20th. Throughout this last-named week there will also be a course in obstetrics and gynaecology. A post-graduate course in diseases of the ear, nose, and throat will extend from October 1st to 13th; another in paediatrics from the 22nd to 27th; and a third in surgical intrathoracic disease, with special reference to pulmonary tuberculosis, from October 29th to November 2nd. Individual training classes in all branches of medicine are held each month, including bedside and laboratory practice, and concentrating on practical work rather than on theoretical studies. Programmes and further particulars are obtainable from the Berlin Academy for Medical Post-Graduate Training, Robert Koch Platz 7, Berlin, N.W.7.

CAESAREAN SECTION

DELIVERY OF 254-DAY EXTRAUTERINE FOETUS

BY

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(With Special Plate)

Modern textbooks give good descriptions of the methods of escape and survival of the ectopic foetus. I find them especially lucid in *Diseases of Women*, by "Ten Teachers." Whitridge Williams includes a long bibliography, while Gould and Pyle (*Anomalies and Curiosities of Medicine*, 1898) give a summary of recorded cases to that date.

It would appear that operation has generally been very much more difficult than in the case recorded below. This happy state of affairs followed on the complete retention of the placenta within the tube, no part escaping to form general adhesions. A factor in the non-recognition of the condition was the position of the sac above the

FIG. 1.

- A, Omental sac containing foetus.
- B, Foetal head.
- C, Omentum in front of placenta.
- D, Position of omental adhesions to abdominal wall.
- E, Uterus below placenta.
- F F, Colonic flexures.

uterus, and its growth upwards as if in continuity. It is consoling, however, to find it stated, on the authority of the "Ten Teachers," that these cases of erosion "may show no symptoms to suggest that pregnancy is in any way abnormal."

I am not able to state just when complete erosion of the gestation sac took place. Probably the extrusion of the foetus in its unruptured amnion was slowly progressive. The fixation of the lower omentum to the old scar evidently held it in such position that upward growth pushed the foetus between this and the transverse colon, enabling a wrapping of omentum to form a protecting nest. I think Fig. 3 explains this. Of the other illustrations in the text, Fig. 1 shows the position as first observed on opening the abdominal cavity. Fig. 2 shows the position of the parts with omentum removed. The foetus is above the enclosed placenta, while the cord and tubal isthmus diverge from the tubal rent. It also shows the amniotic cap on the foetal head, and the position of the adherent transverse colon.

J. E. PATERSON AND MARGARET LESLIE: GUMMA OF THE BRAIN

FIG. 1.—Showing gunmatous focus in brain with central giant cell, mononuclear cells clustered external to same, and further out on left side cells of spindle-celled type. To right of giant cell, area of focal necrosis with ill-defined cell outline and poorly staining nuclei.

FIG. 2.—Section of vascular area showing round-celled proliferation: dilated vessels with some thickening of lining epithelial wall.

FIG. 3.—Section of brain tissue at periphery of area of degeneration showing a syphilitic periarthritis of a vessel in longitudinal section. Definite inflammatory reaction seen in wall of vessel.

FIG. 4.—Section of brain tissue from a similar area showing a periarthritis of vessel in transverse section. Note increase of round cells and heaping up of same at external aspect of vessel wall.