TWO CASES OF RARE ORBITAL TUMOUR.*

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THE two following cases—chondroma of the orbit and carcinoma of the lachrymal gland—are sufficiently unusual to be worthy of placing on record:

CHONDROMA OF THE ORBIT.

The chondroma occurred in a lady, aged 45, a patient, of Dr. Francis Johnston, of Birkenhead. I first saw her with Mr. Edgar Browne. The patient's attention was attracted to her eye seven years previously by the occurrence of pain in it, which was shortly followed by dimness of vision. Somewhat later she consulted Mr. C. G. Lee, who recognized proptosis and commencing optic neuritis in the left eye. The sight was gradually lost, and the eye has since remained quite blind; but the pain disappeared. The condition which had caused her the most distress was the steadily increasing proptosis, which for some time past had been excessive and attracted unpleasant observation in public. Chiefly for this reason the patient consulted many oculists and surgeons. All were agreed that the prominence of the eye was due to a slow-growing tumour of an innocent nature, which had originated deeply. All advised against operation, and most prescribed potassium iodide. For the last two years the anterior part of the tumour had been recognizable as a tense fluctuating cyst, which could be felt beneath the eye through the lower lid.

The patient consulted Mr. Edgar Browne with a view to enucleation, hoping to obtain some improvement in her appearance by the substitution of a glass eye. Mr. Browne hesitated to recommend this, both because the success of such a proceeding seemed doubtful, and also because he thought it was possible to improve the position of her own eye. I was asked as a general surgeon to give an opinion on the nature of the tumour, and as to the prospects of removing it in part or totally. Without committing myself definitely to any cause or view I consented to explore the orbit with the assistance of Mr. Browne, to deal with any technical details connected with the eye.

On March 27th, 1901, the operation was undertaken by Mr. Edgar Browne and myself, the anaesthetic being given by Dr. Johnston. I made an incision round the lower margin of the orbit and down the side of the nose, and reflected the flap outwards. On clearing the anterior part of the growth it was found to be encapsuled towards the eye, but had burst into the antrum below. It consisted of soft cartilage. With a blunt spoon the orbit and antrum were emptied of their foreign contents, and the removal was continued back to the base of the skull as far as any chondromatous tissue could be recognized. A considerable cavity was left which I drained through the canine fossa into the mouth. Mr. Browne deftly manipulated the eye into a good position, where it was retained by gentle sponge pressure. Up to the present the practical success of the operation has been quite satisfactory. The eye now presents a perfectly normal appearance with the exception of some external strabismus.

The tissue removed showed the usual structure of a soft chondroma. I have not been able to find a report of a similar tumour occupying the orbit, though malignant tumours growing from the sphenoid are known to produce similar symptoms, only much more rapidly. I think if it had occurred to me that a cartilaginous tumour might originate from the body of the sphenoid bone, and follow such a course in its gradual development that a correct diagnosis might have been made. As it was, however, though this patient had seen various oculists and surgeons of eminence, none had truly divined the cause of her trouble.

CARCINOMA OF THE LACHRYMAL GLAND.

The case of carcinoma of the lachrymal gland was brought to me by Dr. Baildon of Southport. It occurred in a single lady aged 56. She was stout and rather inclined to gout, but otherwise had always enjoyed good health. The early stages of the tumour had passed without observation, for it was painless, and had interfered very little with vision, only somewhat limiting the range of movement in the left eye. A few

weeks previously she first noticed a slight swelling at the outer margin of the left orbit. On examining this with the finger a small, hard, nodular tumour could be felt in the position of the lachrymal gland, which had become adherent to the periosteum at the margin of the orbit. The eye was somewhat displaced forwards, downwards, and inwards; but the vision was quite good. From the position of the growth, the very hard nodular character, its slight mobility (showing it did not originate from the wall of the orbit), and its present infiltrating nature, a diagnosis of lachrymal carcinoma was made.

The operation was undertaken for its removal on November 23rd, 1900, Dr. Baildon assisting. Towards the eye the growth was encapsuled and shelled out, but towards the orbital margin it was infiltrating, and had to be chipped away. The wound healed well, and the eye was not damaged. Success was only temporary. On March 30th, 1901, I cleared out the contents of the orbit, and cut away more bone for a recurrence of the growth. This operation failed too, and Dr. Baildon has since on one or two occasions removed outlying nodules. For several months the case has been hopeless, the cheek being swollen and infiltrated with growth, and the sub-maxillary glands much enlarged. A five weeks' course of treatment by exposure to the x rays was also without beneficial result, and resort to morphine has become imperative to relieve the painful neuralgia that has accompanied the later stages of her illness.

The tumour removed measured 1 in. in diameter. The deeper part resembled a lobulated breast adenoma, and was, as has been stated, encapsuled towards the soft tissues of the orbit; but the upper part was exactly like a scirrhus cancer of the breast in appearance.

Microscopically the whole tumour was infiltrated with carcinoma, though I cannot help thinking that the lobular encapsuled growth was originally an adenoma, which may have existed many years without having attracted any attention. Strangely the histological characters of the carcinoma are strikingly like the typical scirrhus cancer of the breast, not only in the appearance and grouping of the cells and dense fibrous stroma, but also in the profusion of the so-called "cancer bodies."

Although in the books in our library there are several short references to the fact that carcinoma as well as other tumours may originate in the lachrymal glands, I have not come across the details of any case which has been investigated, hence this one may have some value.

CASE OF TUMOUR OF THE PONS ASSOCIATED
WITH DEGENERATION IN THE
POSTERIOR COLUMNS OF
THE CORD.

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THE following case is of some interest from the clinical side in the almost complete absence of nervous symptoms, and from the pathological side in the association of degeneration in the posterior columns of the spinal cord.

B. P., a negro, aged 36, was admitted under my care to the South-Eastern Fever Hospital, New Cross, on February 7th, 1901, certified to be suffering from enteric fever.

History.—A detailed history of his illness was difficult to obtain, but apparently he had been well up to a week previous to admission, when he was seized with headache, vomiting, and pain in the abdomen.

Condition on Admission.—The patient was dull and apathetic, little inclined to talk, but able to give some account of his illness. He complained of headache only. The tongue was dry and thickly coated with white fur. Temperature 102.6° F.; pulse soft, rapid, and heart sounds clear, with no murmurs. Lungs normal. Nothing abnormal in the abdomen. No jaundice. Urine dark coloured, but contained no bile pigment and neither albumen nor sugar. On the addition of nitric acid it deposited very abundant crystals of nitrate of urea. No diarrhoea; stools natural. With respect to the nervous system, there was no paralysis detected, either in the cranial or spinal nerve supply. Knee-jerks present. Sensation was not systematically tested, but, so far as the examination went, appeared normal. With no symptoms pointing to an affection of the nervous system, the optic discs were unfortunately not examined.

Progress.—The headache was severe during the first few days after admission, after which it ceased. There was no vomiting. Patient complained of pain and "stiffness" in the neck on movement, but nothing abnormal could be detected. A probable explanation of this symptom

* Read at the Liverpool Medical Institution, February 20th, 1902.

will be mentioned later. There was continuous pyrexia of a variably remittent type, which neither quinine nor salicylates influenced. On one occasion it rose above 105° , and on several occasions was above 104° in the evening. No rigors. The tongue remained throughout the illness in the same condition as on admission. About February 27th he developed slight cough, accompanied with scanty sputum, in which no tubercle bacilli could be found. Examination of the lungs revealed a few rhonchi at the bases, but no other signs of import. At the same time there was some diarrhoea. A few days later he became drowsy, passing his evacuations involuntarily, but he was still able to answer questions. In the evening there was some delirium, and he frequently tried to get out of bed. The drowsiness increased, and on March 4th he was unconscious, and had to be fed by the nasal tube. This condition continued to his death, which occurred on March 7th.

Necropsy.—The body was fairly well nourished. The lungs were congested, with fluid exudation at both bases, but no consolidation and no trace of tubercle. Heart normal. The liver was somewhat enlarged, congested, and showed considerable amount of fatty degeneration. All the other organs were healthy. A very careful examination was made, but no sign of enteric lesion was found either in the alimentary canal or in the other organs. On removing the skullcap and opening the dura mater the arachnoid seemed unduly opaque, and there was certainly an excess of subarachnoid fluid. On cutting into the cerebral hemispheres the lateral ventricles were found to be markedly dilated, otherwise this part of the brain was normal. In the pons an elongated tumour was discovered, situated on the left side near the middle line in the posterior part but not encroaching on the floor of the fourth ventricle, and extending through almost the whole length of the pons. The growth, which was about half an inch in diameter, was not encapsuled, but was marked off from the rest of the pons by its deeply-congested appearance.

Microscopical Examination.—The brain and spinal cord were hardened in Müller's fluid and pieces embedded in paraffin. The tumour was found to be a glioma. There was no degeneration (Marchi method) either ascending or descending as a direct result of the tumour, but the cervical cord showed (1) very marked symmetrical degeneration of the intraspinal portion of the first cervical posterior roots, the extraspinal portion of the roots being quite normal; (2) scattered symmetrical degeneration in Goll's column, and also a few degenerated fibres in Burdach's column. The source of the fibres in Goll's column appeared to be a scattered degeneration in the lumbar posterior roots, but this could not be quite definitely determined. The degenerated fibres of (1) and (2) terminated above in the outer part of the cuneate and the gracile nuclei respectively.

No definite diagnosis was made in this case, but it was thought that it was most probably acute tuberculosis. This the necropsy proved to be an error. The cause of the peculiar temperature is obscure. Affections of the pons are known to be associated with pyrexia, but it is hardly of this prolonged remittent type. Moreover, it is an association more commonly of haemorrhage than of tumour of the pons. It seems very possible that the pyrexia may have been due to the condition of the liver, but it is important to point out that this organ showed no signs of acute yellow atrophy, but merely a considerable amount of fatty degeneration. Acute yellow atrophy may indeed be fairly excluded by the duration of the case, because after such a period the liver would almost certainly have assumed the atrophied condition typical of that disease.

Degeneration of the posterior columns of the cord in cases of cerebral tumour was the subject of an exhaustive paper recently published by Drs. Batten and Collier.¹ These authors found it present to a greater or less degree in about 65 per cent. of cases. They find that the degeneration is of root origin, is nearly symmetrical, and is more common in the cervical region than in the dorsal or lumbar regions. According to the view of these authors the degeneration is due to increased intracranial tension which causes distension of the spinal arachnoid and consequent traction on the spinal roots. The anterior roots are less liable to suffer than the posterior, because they are less attached to the arachnoid. In my case the degeneration in the postero-external columns of the cervical cord was undoubtedly of root origin, and arose from the point where the first cervical posterior root entered the cord; the extraspinal portion being quite normal.

In three of the cases in the above paper there was sym-

metrical degeneration of the direct cerebellar tracts in the upper cervical region which it is suggested is due to pressure on the upper cervical cord brought about by the descent of the cerebellum and bulb, so as to block the foramen magnum, a condition which occurs when the intracranial tension is rapidly increased.² Such a condition would of necessity shut off com-

munication between the spinal and cerebral arachnoid spaces. This suggests that the descent of the bulb may of itself be a factor in the causation of the root degeneration by effecting a downward traction on the cervical posterior roots which have a nearly horizontal course. This suggestion is supported by the fact that in the three cases mentioned the degeneration in the posterior columns was limited to the cervical region. Such an explanation would hold good in the present case, because the roots of the first cervical nerve would be especially liable to traction on account of their short horizontal course. The presence of slight degeneration in the lumbar root goes to show that the foramen magnum was not completely blocked, a fact which would account for the absence of degeneration of the cerebellar tracts in my case.

Clinically the affection of the posterior columns is important, because in some cases it is a cause of absence of the tendon-jerks, particularly the knee-jerk. In the present case the affection of the posterior lumbar roots was but slight, and the knee-jerks were retained until coma supervened. The only evidence clinically of the involvement of the cervical roots was probably the pain and stiffness in the deep muscles of the neck, of which the patient frequently complained.

For permission to publish this case I am indebted to the kindness of Dr. F. M. Turner, Medical Superintendent of the South-Eastern Hospital.

REFERENCES.

- ¹Batten and Collier, *Brain*, 1899, Winter. ²Hill, *Allbutt's System of Medicine*, vol. vii, p. 266.

NOTES ON ADRENALIN CHLORIDE SOLUTION IN OPHTHALMIC PRACTICE.

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THE value of suprarenal extract as a haemostatic is well known. In 1896 Bates published his first experiences in ophthalmic surgery of a solution of the extract, and later Dor, Darier, Velich and others recorded their experiences of a similar solution. But evidently the want of a stable, sterile and more convenient preparation of the drug was required to make its qualities better known. John Abel separated an alkaloid which he named epinephrin. It was found to cause conjunctival blanching and slight anaesthesia. Bates recorded his experience of its use in the eye; he found it lessened congestion and hastened absorption of inflamed tissue. The preparation, however, was not to be had commercially, which probably accounts for its limited use. Wolffberg also records his experience of atribilin, another preparation of the suprarenal bodies. We are now indebted to