

## Proceedings of the Society of British Neurological Surgeons

The 88th Meeting of the Society of British Neurological Surgeons was held in Middlesbrough on 7 and 9 May 1975.

### ENDOCRINE EXOPHTHALMOS TREATED BY ORBITAL DECOMPRESSION

P. R. R. CLARKE (Middlesbrough) discussed a series of 20 patients with endocrine exophthalmos treated by lateral orbital decompression. There had been 14 bilateral decompressions, and in six patients a unilateral operation only had been performed. One patient had needed reoperation. Four patients had no thyroid abnormality, and two had untreated hyperthyroidism. In 14 patients exophthalmos had progressed after treatment for hyperthyroidism. The treatment given for hyperthyroidism had been thyroidectomy in eight, radioactive iodine in one, radioactive iodine and thyroidectomy in one, thiouracil in three, and pituitary irradiation and thiouracil in one. Eighteen of the 20 patients had been relieved of orbital discomfort, photophobia, and pain on eyeball movement. Of 12 patients with diplopia, eight had lost this symptom after operation. Papilloedema had subsided after operation in two cases. A postoperative corneal ulcer had developed in one of the three patients who had preoperative keratitis. The one patient who had corneal ulcer before operation developed a recurrent ulcer after decompression. One patient with a blood dyscrasia developed a corneal opacity after surgery, and another patient required treatment for entropion. It was suggested that orbital decompression might be considered more frequently than is often the case in view of its success in relieving discomfort in a high proportion of cases.

### SIXTEEN CASES OF TRANSORBITAL STAB WOUNDS OF THE HEAD

J. C. de VILLIERS (Cape Town) presented a series of 16 patients with transorbital stab wounds. It was pointed out that low velocity wounds were usually associated with absence of eyeball damage, but this was not the case with high velocity wounds. Other structures which might be damaged were the optic nerve, the ocular muscles, the ocular nerves, and the lacrimal gland. Haemorrhage and infection might complicate the picture. The cerebral injury was usually a cortical laceration which might extend into

a ventricle. Detailed radiology was essential before operation and arteriography was considered essential to exclude vascular injury, vascular spasm, or intracranial haematoma. Repeated arteriograms might be necessary to demonstrate the evolution of a false aneurysm or a carotid cavernous fistula.

Fresh knife wounds should be treated by removal of the knife, if it had not already been extracted, under radiological control in an environment where everything was in readiness to deal with a major vascular injury. In the absence of vascular injury, expectant treatment with antibiotics could be given. Intracerebral haematomas should be dealt with by craniotomy, as should wounds caused by sticks and pencils. Patients with carotid injuries were treated conservatively for two to three weeks, after which appropriate surgical treatment was carried out. In the series presented, five out of the 16 died, the causes of death being carotid thrombosis in one instance and massive intracerebral haemorrhages in the other four.

### EYE MOVEMENTS AND BRAIN-STEM DYSFUNCTION AFTER HEAD INJURY

GRAHAM TEASDALE and JIM SMITH (Glasgow) had studied eye movements elicited by stimulation with iced water irrigation in the external auditory canals in head injured patients with impaired consciousness. The graded impairment of movement reflecting increasing brain dysfunction was shown first by the replacement of nystagmus by tonic deviation, second by the replacement of conjugate position by dysconjugate position, and last by a total absence of response. This method of examination was significantly more reliable than either the observation of spontaneous motility or the 'doll's head' manoeuvre. The grade of movement observed after caloric stimulation was greater than the amount of spontaneous activity in almost half of the 272 examinations carried out on 100 patients, and it was higher than that induced by the 'doll's head' manoeuvre in one-third of the patients. There were loose general correlations between increasing impairment of the vestibulo-ocular reflex and depression of conscious

level, pupil reaction, and corneal reflex. However, there were many discrepancies in individual patients so that the vestibulo-ocular reflex afforded useful information additional to that obtained from traditional tests. Bilateral abnormal motor activity or absent pupil reactions were often associated with relatively unimpaired vestibulo-ocular reflex responses. There was no correlation between abnormal breathing patterns and impairment of the vestibulo-ocular reflex. Caloric tests were carried out in 100 patients within a day of admission. An impaired response correlated with a poor prognosis for recovery.

LATERAL EXTRADURAL APPROACH TO SCHWANNOMAS OF THE CEREBELLOPONTINE ANGLE

HUW GRIFFITH (Bristol) had devised an extradural approach to the cerebellopontine angle in the cadaver, and had employed it for the first time on a patient in January 1972. Twenty cases had undergone this operation. All the tumours had been medium sized or large. Removal had been total in 18 cases and subtotal in two. Postoperative complications had been few. Three patients had transient CSF rhinorrhoea, one patient had a single episode which might have been epileptic, all patients had improvement in nystagmus, and all had shown improvement in ataxia. In one patient, trigeminal sensation was absent after operation. Continuity of the facial nerve had been preserved in eight patients, and in one case where the nerve root was divided a satisfactory result followed reapproximation of the nerve ends.

Postoperative recovery had been rapid and striking due, it was suggested, to the fact that the cerebellum had not needed retraction.

CERVICAL MYELOPATHY TREATED BY ANTERIOR DECOMPRESSION AND FUSION

W. E. STRACHAN (Plymouth) presented the results in 65 patients with cervical spondylosis one to seven years after treatment by anterior decompression and fusion using the Harris modification of Cloward's technique. The ages of the patients ranged from 44 to 76 years (average 62.4). Self-assessment questionnaires had been used.

Preoperative severity of the condition was judged by functional ability. Fifteen patients were ambulant but unable to work or pursue hobbies. Twenty-six required help for walking and feeding. Twenty-four were confined to chairs or beds and required considerable assistance. In 10 cases one level was affected, in 17 cases two were involved, and in 38 cases more than two levels were involved. Myelographic block was complete in eight patients and partial in 19. In more than 75% of the patients the

cervical canal was narrow. Postoperative function was 100% in 32 patients, 55% in 14, 50% in seven, and less than 50% in two. Two patients were unchanged, and eight were worse. Thirty-six (55%) had no limitation in walking ability, 22 (35%) were able to walk up to one mile, and seven (10%) could not walk a mile. No patient was unable to walk out of doors, although 14 (32%) did use sticks or other walking aids, not necessarily because of symptoms due to myelopathy.

The results did not seem to correlate with age, severity or duration of symptoms, or with the numbers of levels treated. In one patient early improvement was followed by deterioration. Rate of improvement was variable. In about 20% of cases improvement continued longer than 18 months. Physiotherapy seemed to have little effect on the final functional results.

FURTHER EXPERIENCE WITH EMI SCANNING IN PAEDIATRIC NEUROSURGERY

NORMAN GRANT (London) described further experiences with the EMI scanner in the management of paediatric neurosurgical patients. With increasing experience, it was found possible to operate after history taking, bedside examination, plain radiography of the skull, and an EMI scan which was sufficiently conclusive to allow surgery without further radiological investigation. This was particularly the case in children with classical signs and symptoms of cerebellar or fourth ventricle tumours. Intravenous contrast infusion enhancement increased the reliability of the scan interpretation.

It had been found that considerable reliability could be achieved in differentiating between cerebral infarction and abscess in cyanotic children referred from a cardiothoracic unit. The scan was highly reliable—particularly in combination with contrast enhancement—in detecting the vascularity of an abscess capsule. Intracranial haematoma after injury was expeditiously and reliably investigated by EMI scanning. Children with traumatic oedema and no blood clot and those with acute hemiplegia due to infarction rather than abscess could be spared further investigation and operation with the scanning technique. The diagnosis of benign intracranial hypertension by exclusion of a space occupying lesion could be rendered less traumatic by computerized scanning. Deep lesions in the thalamus or basal ganglia could be diagnosed as gliomatous and treated by x-ray therapy without histological or neuro-radiological verification. EMI scanning might allow one to detect which brain stem tumours were cystic and possibly amenable to surgery. Optic nerve gliomas confined to the orbit and therefore resectable could be identified by the scan. Other conditions