Proceedings of the Society of British Neurological Surgeons

The 81st Meeting of the Society of British Neurological Surgeons was held in Hull on 24-26 September 1970, as a joint meeting with the Nederlandse Vereniging van Neurochirurgen. During the course of the meeting the sixth Sir Hugh Cairns Memorial Lecture, entitled ‘Tria Juncta in Uno’, was delivered by Sir Charles Symonds.

SOME UNSOLVED PROBLEMS IN PAEDIATRIC NEUROSURGERY

A. N. Guthkelch (Hull) referred to the considerable advances in the treatment of children born with congenital deformities of the CNS and its coverings during the past decade, but felt that a different pattern of development might be appropriate in the 1970s. The loss, at least in Great Britain, of spina bifida and hydrocephalus cases to other hands was an anomaly which should be corrected by each neurological centre taking its share of these problems. This in turn implied that all such centres should have full facilities either in a children’s hospital or at least in a general hospital with a large paediatric wing offering a full range of specialized services. Concentration of large numbers of spina bifida cases into a few centres imposed an intolerable clinical burden upon these without necessarily increasing the pace of basic or clinical research.

There was also a danger that, since the technique of surgical correction or repair of certain congenital malformations was straightforward, their rationale might not be considered sufficiently deeply. The problems of treatment of three well-known deformities simplified this concept in different ways. In the graver forms of spina bifida the surgeon must have considered the outcome of the operation not only in terms of individual survival but also with reference to the level of support that society would give to patients and parents. In diastematomyelia the alleged theoretical justification for operation—disparate growth-rates of cord and spinal column during childhood—had been discredited, but there were clinical indications and the underlying pathophysiology should be re-examined. In craniosynostosis the deformities of the vault of the skull could be corrected, but not those of the base. Malformations might look much less unpleasant in an adult with a full head of hair than in a baby and the eventual intellectual status of the patient was determined more by genetic considerations than by the alleged freeing of the brain to grow. What then were we trying to achieve by surgery? A more critical approach to our results than the publication of pleasing illustrations was considered to be long overdue.

EPIDERmoid AND DERMoid TUMOURS OF THE CENTRAL NERVOUS SYSTEM

T. I. Tan (Leiden) described three cases of dermoid and nine of epidermoid tumours of the central nervous system which were treated surgically in the Neurosurgical Department of the University Hospital of Leiden between 1957 and 1968. Their incidence was not found to be significantly related to the sex of the patient but, whereas in the literature half the cases were between the ages of 21 and 40 years, in the present series the highest incidence (33%) occurred in children under the age of 10 years, three being less than 16 months. Examples of intradural and extradural spinal epidermoids were presented and the possible aetiological significance of a history of frequent lumbar punctures, as in the treatment of a previous attack of meningitis, was discussed. Two cases in infants of a median nasal sinus communicating with a frontal intradural dermoid cyst were described in detail with an account of successful surgical excision. One presented with recurrent infection of a fistula opening on the bridge of the nose and the other, with intracranial complications, was observed to have a diplea growing hair in the same situation. These lesions were compared with the similar appearances of certain pilonidal sinuses. Reports of such cases appear to be limited to the ENT literature.

‘CRYPTIC TUBERS’ AS A CAUSE OF FOCAL EPILEPSY

J. A. N. Corselli (Runwell) and M. A. Falconer (London) described 10 patients suffering from intractable epilepsy, who were all treated by a lobectomy and who were found to have an unusual structural abnormality in the resected specimens. In six cases a temporal lobe was involved, in three a frontal lobe, and in one a parietal area. (One patient underwent a temporal lobectomy with negative histological findings followed later by a frontal lobectomy in which the lesion was disclosed.) The age at operation ranged from 17 to 46 years, while the average interval between onset of epilepsy and operation was 15 years (range three to 35 years).

In all cases the lobe showed little or no abnormality at operation as well as to the naked eye after fixation. Under the microscope, however, all showed populations of anomalous neurones in one or more circumscribed areas of cortex, often but not always associated with malformed glial cells in the subjacent white matter. Except in one case where there was a tiny calcified shadow deep in one hemisphere distant from the resected lobe, the skull radiography and pneumoencephalograms appeared nor-
mal. Localization to the affected lobe was based mainly upon the preoperative EEG findings, often supplemented by electrocorticography.

The histological findings were reminiscent of tuberous sclerosis, but this diagnosis was not entirely acceptable because (a) no evidence of adenoma sebaceum or any of the other stigmata could be found either in the patients or in their families, (b) the incidence of mental subnormality and of epilepsy in the families was very low, (c) in most patients the onset of epilepsy was during puberty or later, and (d) there was a trend towards a normal or even raised IQ in the patients. Finally, the histological appearances were far from typical, consisting essentially of a neuronal over-population in the cortex rather than a paucity. Other distinguishing features included a total lack of calcification and of subpial glial 'wheat-sheathing', both of which are often found in the tubers of tuberous sclerosis.

The uncovering of these lesions in the main resulted from a policy of resecting as much as possible of the affected lobe in one block, rather than by suction removal which would have precluded a detailed histological examination. Most of the patients were benefited as regards their epilepsy.

The cases therefore appeared to be an unusual type of cortical dysplasia in which circumscribed areas of anomalous neurones and often glia, visible only under the microscope, underlie the clinical and electrical manifestations of a focal form of epilepsy.

**APPLICATION OF CRYOTHERAPY IN CEREBROVASCULAR ANOMALIES: AN EXPERIMENTAL AND CLINICAL STUDY**

H. A. D. WALDER (Nijmegen) studied the effects of freezing of large vessels (common carotid artery and jugular vein) in the dog. There were no macroscopic changes after the application of the probe at —150°C for five to 10 minutes and, after thawing, normal blood flow was resumed. Significant degenerative changes were apparent microscopically, however, affecting the cellular components of the intima and muscularis after 24 to 48 hours when muscle nuclei were completely resorbed without subsequent regeneration. In contrast the fibres in the muscularis (reticulum, elastic, and collagen) were intact but straightened, particularly the elastic fibres. The intima became detached from the internal elastic layer and at the transitional area joining normal intima a marked proliferation of endothelial cells was seen. This process, which was delayed four to six weeks after freezing, resulted in an asymmetrical stenosis of the lumen to about a third of its original diameter, often with thrombosis. These findings were confirmed by angiography.

Fusiform aneurysmal dilatation of the dog's carotid artery appeared three to six weeks after the injection of nitrogen mustard. The application of the cryogenic probe to these damaged arterial segments did not cause haemorrhage or other macroscopic change but angiography six weeks later showed partial thrombosis of the vessel or reduction of the dilatation to about normal diameter. Histological examination revealed thrombosis or endothelial proliferation as described above.

Eleven patients with cerebral arteriovenous malformations had been treated by this technique at open operation, although the author intended eventually to employ stereotaxis. Selection of patients had been influenced by the situation of the anomaly and by the view that age or general condition precluded surgical resection. Illustrative cases were described. One patient came to necropsy three weeks after operation after a pulmonary embolism from a femoral venous thrombosis. The malformation was completely thrombosed. Postoperative angiographic studies of the remaining 10 patients showed total disappearance of the shunt in five cases and considerable reduction in the others.

**CRANIOPHARYNGIOMA—A RADIOPHICAL TECHNIQUE FOR OUTLIFTING THE ANATOMY OF LARGE CYSTS**

J. C. TAYLOR (Derby) presented details of a technique to demonstrate the radiological anatomy of a cystic craniopharyngioma more directly and completely than was achieved by the usual procedures of ventriculography and cerebral angiography. The method was derived from that used to outline cerebral abscess with the fine barium suspension known as Steripaque. The cysts were aspirated through an appropriately situated burr hole and 1 ml Steripaque was injected. This was repeated as often as necessary, the barium becoming incorporated into the capsule as it is in the capsule of an abscess. Serial cystograms would subsequently demonstrate the size and position of the cyst and its extensions.

Four cases were described and their cystograms were shown. In one series a cyst was clearly outlined which extended through the foramen magnum, although other contrast studies had failed to suggest this. The treatment in these four cases was by radiotherapy after aspiration.

**TEN-YEAR EXPERIENCE WITH A NEW METHOD IN THE TREATMENT OF CRANIOSYNOSTOSIS**

A. J. M. VAN DER WERF (Amsterdam) had employed two methods to prevent bony regrowth and secondary closure of craniectomy channels in the treatment of craniosynostosis. In six cases dural strips were replaced by fascia lata, and in 23 cases the jouter layer of the dura was dissected from the deeper layer and was sutured to the periosteum. The surgically produced 'sutures' remained patent in all cases, in some for as long as 10 years. Appositional bone formation occurred at a later date in those cases in which fascia lata was employed but it was thought that the dural layer method resulted in a better cosmetic result. Dissection of the outer layer of dura was not regarded as presenting difficulty and was the recommended procedure.

**FRACURE-DISLOCATION OF THE PETROUS TEMPORAL BONE**

In the course of an investigation of traumatic paralysis of the 5th nerve by J. C. DE VILLIERS (Cape Town) some aspects of the mechanics of crush fractures of the skull were re-examined. He first described, with photographs of specimens, the anatomy of the petrous temporal bone and its relationship to surrounding structures. Horizontal and oblique crush fractures had been produced in eight fixed cadaver heads employing a type of vice used by
"Cryptic tubers" as a cause of focal epilepsy.

J A Corsellis and M A Falconer

*J Neurol Neurosurg Psychiatry* 1971 34: 104-105
doi: 10.1136/jnnp.34.1.104-b

Updated information and services can be found at:
[http://jnnp.bmj.com/content/34/1/104.3.citation](http://jnnp.bmj.com/content/34/1/104.3.citation)

**Email alerting service**

*These include:*

Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Notes**

To request permissions go to:
[http://group.bmj.com/group/rights-licensing/permissions](http://group.bmj.com/group/rights-licensing/permissions)

To order reprints go to:
[http://journals.bmj.com/cgi/reprintform](http://journals.bmj.com/cgi/reprintform)

To subscribe to BMJ go to:
[http://group.bmj.com/subscribe/](http://group.bmj.com/subscribe/)