PRENEURAL ENTEROGENOUS CYSTS

J. M. SMALL (Birmingham) had presented a paper on these lesions in 1961 and had predicted that there would be further cases of cysts in the mediastinum and mesentery associated with spinal cysts. Further experience had been gained, and a recent case showing foregut anomalies associated with an intraspinal enterogenous cyst was described. It was considered that the pattern was now complete and the entity undoubted.

ANGIOGRAPHIC DEMONSTRATION OF EARLY VENOUS DRAINAGE IN HEAD INJURIES

B. ODORIZ (Argentina) had studied the carotid angiograms of 15 patients with head injuries who had subsequently undergone operation. It was considered that early venous drainage (EVD) was present when venous filling was found during the arterial or arteriolar phase of the angiogram or when it was shown two or more seconds before the filling of the main venous system. In five cases there was an extradural haematoma, in four a cerebral contusion, in five a subdural haematoma, and in one both a cerebral contusion and a subdural haematoma. EVD was demonstrated in six (40%), was doubtful in three (20%), and absent in six (40%). EVD was always found to be in the same area as the lesion demonstrated at operation, but there was no obvious relationship between EVD and the type of lesion found. In cases of extracerebral haematoma, EVD demonstrated areas of brain injury despite their normal microscopic appearances at operation. The appearance of EVD was a sign of poor prognosis, even in patients with extracerebral haematomas and no obvious brain lesions at operation. The number of cases studied was small and therefore it was impossible to say when EVD could first be demonstrated after injury.

A THERAPEUTIC TRIAL OF EPSIKAPRON

S. C. SO and R. P. SENGUPTA (Newcastle) examined the efficacy of EACA (epsilon aminocaproic acid) in preventing ruptured intracranial aneurysms from bleeding again in the preoperative period. They had administered the drug to a series of 66 patients with proved subarachnoid haemorrhage from ruptured intracranial aneurysms. Seventy-six patients had been used as controls, using a method of random selection. The two groups were compared with regard to age, incidence, sex, site of aneurysm, clinical grade on admission, time of inclusion within the series, and the length of treatment before operation (or fatal bleed). The number of female patients was higher in the EACA treated group, whereas the incidence of male patients was higher in the control series. The two groups were comparable in respect of

remaining data. Almost all the patients in both groups were in grade 3 (Botterell's classification) or higher on admission. In the EACA treated group no rebleeding occurred in the preoperative period but two patients died of thrombotic complications. In the control series eight patients were shown to have suffered from recurrent haemorrhage and nine were presumed to have bled again because of rapid deterioration in clinical condition. Of the 17 patients who bled a second time, two became fit for surgery, four died, and 11 were managed conservatively. All the recurrences of haemorrhage occurred within the first two weeks of the initial bleeds. The pharmacological basis of EACA in the management of ruptured intracranial aneurysms was discussed. It was concluded that EACA was of definite value in the short-term prevention of recurrent haemorrhage from ruptured intracranial aneurysms. Definitive surgery was still the best safeguard against recurrences of bleeding.

CIRSOID ARTERIOVENOUS MALFORMATIONS OF THE SCALP

R. H. SHEPARD (Derby) described the clinical findings, investigations, and operative procedures in three cases of congenital arteriovenous malformation of the scalp found in three young men aged 29, 18, and 20 years respectively, who had been seen in the out-patient clinic during a period of six months. The author had seen a further three patients with similar abnormalities, the total of six accounting for 5% of a total personal series of 115 cases of cranial angioma. The rarity of the lesion was emphasized, and it was noted that in the series of Olivecrona and Ladenheim only 2.4% of 125 angiomas were of this type. The importance of full angiographic investigation including, for occipital lesions, vertebral studies was emphasized.

Primary excision of the anomaly was performed in the first case. In cases 2 and 3 preliminary ligation and division of the main feeding arteries was ineffective, the malformation recurring within a few months in the second case and a few weeks in the third. Repeat carotid angiograms in these last two cases demonstrated anastomoses between branches of the main vessels proximal to the ligatures and branches distal to the ligatures. These simple procedures of ligation and division of main vessels were performed with the idea of reducing the blood supplies to the lesions without rendering likely ischaemic necrosis of thin scalp flaps. In cases 2 and 3 the main masses of angiomatous tissue were deep to the galea and included pericranium. The angiomas were totally excised. In the third case a large feeding vessel from the right middle meningeal artery entered the deep surface of the angioma and required division.

There was at present no evidence, either clinical or radiological, of recurrence in the first two cases. The third case had only recently been treated.

ROLE OF PLATELETS IN THE CAUSATION OF CEREBRAL VASOSPASM

J. M. RICE EDWARDS, BRIAN BULL, JOSEPH THOMPSON, and GEORGE AUSTIN (London) noted that the release of various vasoactive substances from platelets was thought to account for cerebral vasospasm after subarachnoid haemorrhage. That this was so in acute experimental vasospasm was confirmed by experiments on the cat's basilar artery *in vivo*. It had been shown that agents inhibiting the release phenomenon prevented spasm even when blood coagulated normally. It was, however, doubtful whether the release phenomenon was implicated in the delayed chronic vasospasms seen in humans after subarachnoid haemorrhage, but examination of the adventitia of cerebral vessels in monkeys with prolonged vasospasm did show that platelets adhered to the vessels and might well be able to influence the artery walls. It was suggested that delayed chronic vasospasm might be caused not by the release of vasoactive substances such as 5-hydroxytryptamine (because this was released rapidly and early) but by the release of substances during the disintegration of platelet lysosomes, which had an injurious effect on vessel walls.

ANTERIOR COMMUNICATING ARTERY ANEURYSMS

R. H. SHEPHARD, A. R. CHOUDHURY, and F. S. KAISY (Derby) had studied 194 cases of ruptured anterior communicating artery aneurysm which had been investigated and treated by one surgeon between 1958 and 1973. All patients who had been considered likely to survive the ictus had been admitted, and there were 99 females and 95 males in the series. In 102 cases there had been more than one episode of haemorrhage. Associated medical problems were present in 42. Bilateral carotid angiography was carried out, and 12 were shown to have multiple aneurysms.

The policy of treatment was early operation. The average time interval between haemorrhage and operation was eight days, delay in most cases being due to the mode of reference. The decision to operate was made mainly on the conscious level of the patient, a minimum conscious level of reasonable response to voice being essential. Operation had been performed on 140 cases. In 95 the base of the aneurysm had been clipped, in 12 the aneurysms had been clipped and wrapped, wrapping only had been carried out in 12, and clipping of the dominant anterior cerebral artery adjacent to the aneurysm had been done in 21.

Of the 54 cases considered unsuitable for surgery, 12 were aged and complicated by generalized vascular disease in three instances, five had coronary heart disease, and four had been referred too late. Forty-two patients were considered unfit for surgery because of very poor neurological, circulatory, and respiratory states.

Thirty-two of the 140 patients submitted to surgery died within three months of operation. The operative mortality was 23%. Sex did not appear to influence the mortality rate, which was higher in hypertensives (33%), in patients over 50 years of age (35%), and in patients with multiple haemorrhages (33%). The outstanding facts emerging from this analysis were that the mortality in patients with intracerebral haematomas was low (16%), and was only 11% after a single haemorrhage. A follow-up study of the 108 survivors was carried out for a period from 16 months to 16 years, six cases were lost to follow up, and 11 died. Nine of the late deaths were due to unrelated causes, and two followed recurrent haemorrhage. In the remaining 91 cases the results were poor in nine who were totally disabled, fair in 14 who had to change their jobs because of partial disability, and good in 68 who were able to return to their previous occupations. Of the patients who were not submitted to surgery, 32 died within three months of haemorrhage, giving a mortality rate of 59%. Delayed deaths occurred in five patients, being due to unrelated causes in three and to unknown causes in two. Of the 17 survivors after conservative management, seven were totally disabled and 10 were reemployed. Only four were able to return to their previous jobs.

It was concluded that the outlook for patients with ruptured anterior communicating aneurysms was significantly better after surgery than after non-operative treatment. The exclusion of aneurysms from parent vessels by occluding the bases of the aneurysms could be undertaken with acceptable results. The aim should be operation after a single haemorrhage.

WIND IN THE HEAD

G. K. TUTTON (Preston) noted that fractures involving the accessory air sinuses or mastoid air cells were the commonest causes of pneumocephalus, which was almost symptomless except when it attained a large size when it caused headache and drowsiness, or when it entered the ventricles when Hippocratic succussion was both a sign and a symptom. Cerebrospinal fluid rhinorrhoea indicated the potential danger of infection. The causes of pneumocephalus were infection, as with an abscess, accidental or surgical trauma, and embolus. The essential factors leading to trapping of air inside the brain were a fracture involving an accessory air sinus together