Glo~us Tumours

A glomus unit consists of an arteriole, a venule, and an anastomotic vessel that directly connects the two. It is lined by endothelium and surrounded by smooth muscle cells, interspersed among which are the cuboidal, epithelioid-like glomus cells from which the glomus tumour, or glomangioma, arises. On electron microscopy the cells from these tumours show features of smooth muscle. The glomus is encompassed by non-myelinated nerve fibres. Glomera are present in greatest abundance in the skin of the distal parts of the limbs, but are widely distributed throughout the body. The glomus tumour must not be confused with the glomus jugulare tumour, also called the chemodectoma or non-chromaffin paranglioma, which arises from the glomus jugulare situated in the dome of the jugular bulb in the depths of the upper portion of the neck. Glomus tumours are small and well defined and are seldom more than 4 cm in diameter. They are usually single but may be multiple, in which case there is sometimes a hereditary tendency. Occurring at all ages, they sometimes affect children. They are found most commonly in the skin of the peripheral portions of the limbs, and a favourite site is under a finger-nail. But they have been reported on the penis and face, in the muscles and deeper tissues, and even in the stomach. A characteristic clinical feature is severe paroxysmal pain. Histologically the tumour is composed of vascular spaces, the walls of which contain even layers or irregular masses of uniform, cuboidal glomus cells with central, rounded, darkly-staining nuclei.

Recently W. F. Mullis and his colleagues have reviewed 35 cases of glomus tumour that were treated at the Hospital of the University of Pennsylvania between 1939 and 1971. The patients' ages were between 15 and 68 years, and there was a slight predominance of women. Twenty-four of the tumours occurred on the upper limb, 13 being subungual and seven located on the forearm. Twelve of the 13 subungual tumours occurred in women, while all the forearm tumours were found in men. There were eight cases of glomus tumour on the lower limb, and none was subungual. Most of the lesions had a reddish-blue appearance, but a third were pale or neutral in colour. Three tumours were not located on the limbs: one was on the skin of the abdomen, one on the nose, and one in the stomach, where it led to massive gastrointestinal bleeding. All the tumours were painful except for those in the stomach and on the nose and one on the hip. One tumour was situated in the wrist joint, where it caused much discomfort.

The aetiology of the glomus tumour is unknown. In a few cases there is a history of trauma, but this is probably incidental. The condition must always be remembered in the differential diagnosis of painful subcutaneous nodules. Other tumours that can also cause pain at these sites are the leiomyoma, neurilemmoma, neuroma, and angiolioma, but none of these is characteristically subungual. The treatment of a glomus tumour consists of complete excision. Provided this is adequate there should be no recurrence, for the tumour has no malignant potentiality. Three of the 35 cases reviewed by Mullis and his colleagues had been previously operated upon, but none of the cases in their series required a further operation after excision at the university hospital. In subungual glomus tumours the whole nail should be removed.

Treatment of Spina Bifida Cystica

The treatment of myelomeningoceles and hydrocephalus used to be a field for enthusiastic research among young neurosurgeons and a source of despondency among those who had already tried and failed. The development of the ventriculoorbital shunt (Holter and Pudenz valves especially) provided a treatment of hydrocephalus which was certainly more effective than anything hitherto and made the closure of myelomeningoceles appear to be worthwhile.

There were hopes of producing normal or almost normal children, whose only handicap was likely to be a defect of locomotion and probably incontinence. In several clinics every child born with spina bifida cystica was treated and the subsequent hydrocephalus likewise. In other clinics the treatment was carried out with the same enthusiasm, but with some selection, by omission of those with gross neurological deficit or multiple congenital abnormalities. Enormous numbers of children were treated, and there was serious concern about the provision of facilities for their subsequent education, care, and absorption into society. However, not only was there the expected need to revise the shunts and to carry out operations on the urinary tract and limbs, but the incidence of complications of all kinds was higher than had been expected. The quality of survival was less satisfactory than had been hoped, and many children spent a life of repeated hospital admissions or of semipermanent care in residential homes in which they learnt how to survive despite handicaps of daunting severity.

Disappointment in the results that were achieved led John Lorber, who with his surgical colleagues in Sheffield had an experience which was far greater than most, to attempt to define prognostic criteria that could provide a basis for the selection of patients for treatment. A prospective study was initiated. It covered 201 infants with open myelomeningoceles born in 1967 and 1968, who were treated with all available skill from the first day of life. Initially, four criteria were thought to have a consistently grave prognosis: severe paraplegia, gross enlargement of the head, severe hyposp, and associated gross congenital anomalies or major birth injuries. Retrospectively it was shown in addition that infants with thoracolumbar lesions, or a very severe degree of hydrocephalus at birth, had a particularly bad outlook. Not only was there considerable suffering for the severely disabled