TUBERCULOMAS OF THE BRAIN AND CEREBELLUM

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The results of the surgical removal of tuberculomas of the brain and cerebellum have been transformed in recent years by the judicious use of Streptomycin associated with other antibiotics. Formerly tuberculous meningitis was a common occurrence in the postoperative period, and almost all patients with tuberculomas of the cerebellum and the majority of those with a tuberculoma of the brain succumbed. Nowadays, by observing certain precautions the postoperative results are greatly improved.

A few years ago, some of the foremost neurosurgeons still performed a mere decompression associated with medical therapy. Now, under the protection of antibiotics, it is possible to remove, even piecemeal, all of the intracranial tuberculomas that are surgically accessible.

This complete change in prognosis was particularly appreciated in North Africa, where the incidence of intracranial tuberculomas is very high, chiefly among young people, and especially among natives.

INCIDENCE

Only 3 of the patients were European; 35 were natives.

Fifteen patients were under 16 years of age, and of the 23 adults, the majority were between 20 and 30 years of age. Our oldest patient was aged 60 years.

There were 12 females and 24 males.

Most of the intracranial tuberculomas appeared as primary lesions and there were only few cases in which there was an associated tuberculosis in the lung or elsewhere. But those patients usually lived in a badly infested family.

PATHOLOGY

Sixteen (42.1 per cent) of the tuberculomas were located in the posterior fossa: 7 in the right hemisphere, 7 in the left, 1 in the vermis, and 1 in the brain stem.

Contrary to what has usually been held, location in the cerebral hemispheres was more frequent. There were 22 (57.9 per cent), situated as follows: 10 in the right hemisphere; 10 in the left; and, in 1 instance, in both frontal lobes.

The lobes most frequently affected were in order: (1) the parietal lobe, (2) the occipital, (3) the temporal, and (4) the frontal.

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Gross Pathology. When the bone flap is lifted, one may find that the dura mater has an unusual appearance. It is often rough, with small foci of bone metaplasia. The dura mater is often adherent to the tuberculoma. In some cases, tuberculous granulations on the pia mater make the diagnosis clear. The convolutions are flattened, and sometimes there is marked edema of the brain. The brain is yellowish and has a jelly-like consistency, because a certain amount of tuberculous encephalitis *always exists* around the tuberculoma. This is more marked with cerebral tuberculomas than with those of the cerebellum.

Antibiotics have a strong effect on this encephalitis and thus prevent infection of the meninges. One can easily remove the tuberculoma from the surrounding area of encephalitis. Usually the tuberculoma has few blood vessels. However, in 2 cases of parasagittal tuberculomas that were highly vascular, the diagnosis of meningioma was suspected.

The shape of the tumor may vary (Fig. 1). It is generally round, and often “bun like.” The size is usually greater than anticipated, especially in cases of tuberculoma of the posterior fossa. Most of those we operated on were bulky, their size varying between that of a walnut and a tangerine. A huge one weighed 210 grams; the smallest one was surrounded by an extensive area of tuberculous encephalitis. In one case a coating of multiple tuberculomas was found around the frontal lobe.

Some tuberculomas, though comparatively rarely, are not amenable to any form of surgical treatment. Classically, when sectioned, the tumor resembles a raw chestnut, although sometimes it has the appearance of a chronic tuberculous abscess because of calcification or caseification.