Temporal Meningocele*

I. Nagulich, M.D., G. Borné, M.D., and Z. Georgevich, M.D.

Neurosurgical University Hospital, Belgrade, Yugoslavia, and Neurosurgical Service,
University Hospital Center, Oran, Algeria

Cranium bifidum is defined as a congenital gap in the skull usually at the site of a cranial suture line. During the first weeks of embryonic life, the nerve axis undergoes sequential transformations which if disturbed at any specific stage produce predictable malformations. Thus, we can distinguish defects ranging from a small loss of bone to a large opening that permits cerebral herniation and the passage of cerebrospinal fluid. The most common location is near the midline, including the nasal, nasopharyngeal, buccal, naso-orbital metopic, interparietal, occipital, and suboccipital areas.1,10 To our knowledge, no case of temporal meningocele has been reported. We are presenting eight cases of temporal meningocele; seven were operated on at the Neurosurgical University Hospital in Belgrade and one at the University Hospital Center in Oran.

Case Reports

Case 1. The patient, an 18-month-old girl, had a mass on the left temple; it was loosely covered with normal skin and was not affected by coughing. Pregnancy had proceeded normally to delivery at term.

Examination. The patient could not hold up her head, sit, or stand. She displayed bilateral choreothetoid movements when at rest. The left eyeball was abnormally small with a film on the cornea; fundus examination showed right optic atrophy. Myototic reflexes could not be elicited. Standard x-rays of the skull did not reveal any bone anomalies; left carotid angiograms were also normal. Pneumoencephalography showed dilated right lateral and third ventricles; the left lateral ventricle and meningocele did not show.

Operation. Surgical removal of the meningocele was performed. The cystic cavity, about 2 cm in diameter, was covered with dense fibrous tissue 1 cm thick. It contained cerebrospinal fluid and communicated with the subarachnoid space through a bony orifice 3 cm in diameter. The brain on this side appeared atrophied. The postoperative course was good.

Case 2. This 4-year-old girl had a left temporo-zygomatic mass covered with normal skin and hair (Fig. 1 A). Pregnancy and delivery had been normal.

Examination. General health and psychomotor development were normal, as was the neurological examination. Standard x-rays of the skull did not reveal any bone anomaly.

Operation. Surgical removal of the meningocele was carried out. The capsule, filled with cerebrospinal fluid, was joined to a dural pedicle at the level of the pterion, passing through a bony orifice 5 mm in diameter. There was congenital aplasia of the neighboring bones.

Case 3. This 8-month-old girl had a mass in the left lateral region of the head, which had progressively increased in size until it extended to the upper part of the cheek (Figs. 1 C and D). Pregnancy and delivery had been normal.

Examination. The patient’s general condition was good. She could hold up her head, sit, cry, and smile normally; there was a right hemiparesis. Standard x-rays of the skull showed a left temporal bony lump. Pneumoencephalography showed dilated right lateral and third ventricles; the left lateral ventricle and meningocele did not show.

Operation. A cavity, the size of an orange, was found to contain cerebrospinal fluid and to communicate with the endocranium through two juxtaposed bony holes, each 1 cm in diameter. The postoperative course was uneventful; 30 months later, plastic surgery was performed with satisfying results.

Received for publication December 14, 1966.

Case 4. A 23-day-old girl was born with a large pedicular mass in the left temporoparietal region (Fig. 2). Pregnancy and delivery had been normal.

Examination. The mass was covered with a finely-vascularized membrane; at the base, the skin appeared normal and was covered with hair. The circumference of the meningocele was 24 cm and that of the skull 34 cm. The mass became tense when the child cried. General health and psychomotor development were good; the neurological examination was normal. Standard x-rays of the skull showed no anomaly.

Operation. A cystic cavity 6 to 7 cm in diameter was found at the pteric fontanel; it contained cerebrospinal fluid and communicated with the endocranium through a bony orifice 1 cm in diameter. Four clips were placed to mark the limits of the bony defect (Fig. 3). Postoperative course was normal.

Case 5. A 6-month-old girl had a right temporal swelling covered with normal skin; it had progressively increased in size. Pregnancy had been normal, but delivery at term had been difficult.