CONGENITAL NASOFRONTAL ENCEPHALOMENINGOCELES AND TERATOMAS
REVIEW OF SEVEN CASES

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Congenital masses and protrusions that occur along the spinal axis and along the midline convexity of the skull are recognized and treated as neurosurgical problems. In the nasofrontal region, however, these lesions are uncommon, they may digress from the midline, and they are frequently diagnosed incorrectly. Errors in early recognition lead to hazardous management. The following case reports illustrate principles of diagnosis and treatment of sincipital (pertaining to the anterior and upper part of the head) and basal encephalomeningoceles; they also illustrate common mistakes and complications.

CASE REPORTS

Case 1. A 4-day-old girl was seen in October, 1950, because of a 2-cm. mass protruding at the base of the nose (Fig. 1A). The mass could be transilluminated and it bulged further when the infant cried; it could be reduced with pressure and a bony defect was palpated at the base. The orbits slanted in a manner suggesting hypertelorism, but there were no other obvious abnormalities.

At 2 months of age she was admitted to the North Carolina Baptist Hospital,

Fig. 1. Case 1. (A) Preoperative appearance of child with a nasofrontal encephalocele. (B) Appearance at age of 4 years.
and the protrusion was explored through an extracranial coronal approach. It contained cerebral tissue attached to the frontal lobes and protruded through a 1-cm. defect in the bone and dura mater. The herniated brain was removed, and the dura mater was closed, a flap of pericranium was sutured over the defect, and the incision was closed. Plastic repair of the residual deformity of the skin and the elevated eyebrows was performed by Dr. Kenneth Pickrell at Duke Hospital in January, 1953.

Except for an exotropia of the left eye she is a normal child (Fig. 1B).

Case 2.* A 2-year-old boy was admitted to the Otolaryngologic Service at Duke Hospital in November, 1951, because of an enlarging mass in the right paranasal area. On location incision a 2-cm. pedunculated mass was encountered in a concavity in the frontal process of the right maxilla. A 1-cm. pedicle came through a round defect at the base of the frontal bone in the region of the fronto-maxillary suture, and cerebrospinal fluid drained through the defect. The mass was excised, but because of the inadequate exposure a tight closure of the dura mater was not possible. The skin incision was closed but a draining fistula developed.

Eleven days later a right frontal craniotomy was performed. A funnel-like depression in the floor of the frontal fossa communicated with the previously noted defect in the frontal bone. Cerebral tissue herniating into the defect was removed intradurally, but, again, because of limitations of exposure and because of the friable nature of the tissue a watertight closure of the dura mater was not accomplished. Extradurally the defect in the bone was packed with absorbable gelatin sponge and then covered with tantalum mesh and a piece of fascia obtained from the temporal muscle. The draining fistula recurred and was repaired at another operation by suturing a large piece of fascia lata over the defect in the dura mater.

There have been no further complications and the child's development is normal (Fig. 2).

Comment. Preoperative recognition and a coronal incision with a bifrontal craniotomy would have simplified management.

Case 3. A 7-week-old girl was admitted to the North Carolina Baptist Hospital in September, 1953, for treatment of meningitis and a draining mass protruding from the base of the nose. A butterfly-shaped encephalomeningocele, protruding from the region of the nasion, was present at birth. At 4 weeks of age, at another hospital, the lateral projections of the mass had been tied off by simple loop sutures. Bilateral draining fistulas and meningitis developed.

* This patient was treated by one of us (C.H.D.) as the resident neurosurgeon at Duke Hospital. The case has been included with the kind permission of Dr. Barnes Woodhall.