Cranial epidermoid tumor associated with subacute extradural hematoma

Case report

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The authors present a case of cranial epidermoid tumor that caused a subacute epidural hematoma after minor trauma. The radiological, operative, and pathological findings are described, and indications for elective excision of cranial epidermoid tumor are discussed.

KEY WORDS trauma • epidermoid tumor • extradural hemorrhage • tumor hemorrhage

CRANIAL epidermoid tumors constitute less than 1% of all cranial tumors. They vary in size, location, and rate of growth. Some remain small for long periods of time; others may reach considerable proportions, causing compression of intracranial structures. In those involving only the cranium, the rationale for surgery includes, in addition to cosmetic reasons, prevention of neurological deficit, osteomyelitis, and malignant degeneration.

This report describes hemorrhage from an epidermoid tumor into the extradural space as a result of minor trauma. This complication has not previously been reported associated with these lesions.

Case Report

This 11-year-old right-handed girl was struck over the right frontozygomatic region with a baseball 1 year before admission. This resulted in a soft-tissue swelling, followed eventually by a protrusion of the bone. Six days before admission, she suffered minor trauma to the same region. She presented with a history of severe frontal headache, progressive lethargy, photophobia, and vomiting.

Examination. She was lethargic and restless. She had mild left central facial weakness and upper extremity drift. A mass in the right frontozygomatic area was noted to be very tender. It was of bony consistency, elevated 8 to 10 mm, and 2 cm in diameter.

Skull x-ray films revealed an osteolytic lesion that had sharp sclerotic margins (Fig. 1). Computerized tomography (CT) documented the presence of this mass and of a large extradural hematoma in the right frontotopolar region, producing a shift of the midline structures (Fig. 2 left). Direct communication was noted between the tumor and the hematoma (Fig. 2 right).

Operation. At surgery, an extradural hematoma in continuity with an encapsulated tumor was found. The tumor was filled with partially hemolyzed blood. Communication between the tumor cavity and the extradural space could be identified. Histological examination revealed a vascular fibrous membrane surrounding a well organized squamous epithelium. The diagnosis of epidermoid tumor with chronic fibrovascular reaction in the surrounding tissue was thus made. The postoperative course was uneventful.

Discussion

Epidermoid tumors of the cranium and in the central nervous system are thought to arise either from inclusion of epidermal tissue during the 3rd to 5th week of fetal life, or from mechanical implantation following trauma. Our patient suffered from trauma to the affected region 1 year earlier. However, there
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was no break in the skin at that time, and probably this episode only directed her attention to the presence of the tumor.

Computerized tomography suggested that the hematoma originated within the tumor cavity and extended to the epidural space. This was confirmed at surgery. Classically, epidermoid tumors are thought to be avascular, but the pathological specimen in this case revealed a vascular capsule. This corresponds to the enhancing rim often seen on CT scan. Tadmor, et al., have previously described this rim in their review of the CT patterns in cranial and intracranial epidermoid tumors.

This case substantiates the possibility that epidermoid tumors may bleed, with secondary complications. While this event is rare, the potential does exist and may be considered as another indication for elective excision of these tumors.

References


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