Bilateral proptosis from a subgaleal hematoma

Case report

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A case of bilateral proptosis due to orbital extension of a subgaleal hematoma is reported. It was produced by a compressive dressing applied for treatment of the hematoma. Orbital entry seemed to be via the lateral canthal region.

KEY WORDS • proptosis • subgaleal hematoma • head injury

PROPTOSIS following head injury may result from orbital fractures with diminution of the orbital cavity, orbital emphysema, a carotid-cavernous fistula or aneurysm, laceration and rupture of the tissues of the orbit or the extraocular muscles, or total oculomotor nerve paralysis. A subfrontal epidural hematoma and a subdural hematoma with fracture of the sphenoid bone have been reported to cause traumatic proptosis. A case of bilateral proptosis due to orbital extension of a subgaleal hematoma is described. No similar case appears to have been published previously.

Case Report

This 13-year-old girl came to the Soonchunhyang University Chunan Hospital with severe proptosis. She was punched by her elder sister on the left parietal region 7 days prior to admission. Four days later, a fluctuating mass was noticed involving the whole scalp. She visited a local clinic where a needle aspiration was attempted but not completed for fear of shock. A compressive dressing was applied. One day later, the patient developed proptosis with ocular pain. This condition was not relieved by removal of the dressing, but progressed until exposure keratitis developed on the left. The patient was referred to our institution for evaluation.

Examination. There was severe proptosis with a marked limitation of ocular movement in all directions and downward displacement of the eyeballs (Fig. 1 upper). A fluctuating mass was noticed involving the entire scalp. Visual acuity was 20/32 in the right eye and 10/130 in the left. Papilledema was absent. Hertel's exophthalmometer revealed a corneal distance of 25 mm on the right and 27 mm on the left, with a bar reading of 98 mm. No neurological deficits was found. The patient's vital signs were normal. There was no evidence of coagulopathy; hemoglobin was 10.5 gm/dl, hematocrit 32%, platelet count 169,000/cc, prothrombin time 100%, and partial thromboplastin time 24 seconds. Computerized tomography (CT) scanning of the head revealed an extensive subgaleal hematoma without any intracranial pathology, and CT scanning of the orbit showed bilateral orbital hematomas (Fig. 2).

FIG. 1. Upper: Appearance of the patient on admission. She had bilateral proptosis with downward displacement of the eyeballs and lid edema. Lower: The patient's appearance 5 days after suctioning.
Proptosis from subgaleal hematoma

Operation. Under local anesthesia, a small incision was made in the left temporal region. A Hemovac drainage tube was introduced into the subgaleal space and the hematoma was aspirated, yielding a volume of about 300 ml. Two pints of whole blood was transfused. Immediately after succioning, the ocular pain and proptosis were reduced. A circular compressive dressing was applied for 1 day to prevent reentry of the hematoma into the orbit.

Postoperative Course. Two days later, the proptosis was further reduced. Exophthalmometry revealed a corneal distance of 22 mm in the right eye and 23 mm in the left. Ocular movement was free except on upward gaze. Five days later, proptosis was much reduced (Fig. 1 lower). Exophthalmometry revealed reduced corneal distance: 19 mm on the right and 12 mm on the left. The Hemovac drainage tube was removed and ocular movement was free in all directions. Visual acuity was 20/25 in the right eye and 20/100 in the left. The patient was discharged on the 10th hospital day with a small amount of residual subgaleal hematoma. One month later, exophthalmometry showed distances of 18 mm on the right and 20 mm on the left. Visual acuity became 20/20 in the right and 20/32 in the left. The subgaleal hematoma had completely absorbed.

Discussion

Subgaleal hematomas rarely produce clinical problems by themselves. Most of the problems result from inappropriate or unnecessary treatment. Traditionally, needle aspiration and compressive dressing are performed to relieve local pressure and to promote absorption. Compressive dressing may cause lid edema, but orbital entry by the hematoma is exceptional. The orbital septa protect against this extension; however, in the lateral canthal region, there is a potential gap between the orbital septa and the lateral horn of the levator palpebral aponeurosis. This gap could permit orbital extension of the subgaleal hematoma under abnormally high pressure. The proptosis in this case was iatrogenic. It is well established that the preferred treatment for subgaleal hematomas is to reassure the patient that the mass will resolve and, if the collection is large, to obtain serial hemoglobin and hematocrit determinations.

References


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