Aneurysmal bone cysts are uncommon lesions of the bone, which are benign and non-neoplastic in nature. They are commonly seen in the long bones. Their occurrence in the calvarium is rare. We report the occurrence of an aneurysmal bone cyst in the temporal bone of a young boy, which eroded the posterior part of the orbit to cause proptosis.

Keywords Aneurysmal bone cyst

Introduction

Aneurysmal bone cysts (ABC) occupy the grey area between distinctly non-neoplastic conditions of the bone and true neoplasms. While the histological features are well known, the aetiology of this condition is not well established. We now report the occurrence of a large aneurysmal bone cyst in the temporal bone of a young boy, which had eroded the posterior part of the orbit.

Case history

A 5½-year-old boy was referred for investigation because of prominence of the right eye of 10 days' duration. Also noticed was a prominence in the right temporal region. There were no symptoms of raised intracranial pressure; nor were there any visual or ocular symptoms apart from the proptosis. He had been in good health prior to this. He had sustained a minor head injury 10 days before the proptosis was noted. The fall was not followed by loss of consciousness, seizures or vomiting.

Clinical examination showed minimal proptosis of the right eye and a fullness in the temporal region. No other abnormality was present.

CT scan of the head revealed a heterogeneously enhancing mass in the right temporal region eroding the floor of middle cranial fossa. The lesion was seen to extend up to the posterolateral part of the orbit, where it had eroded the bone and extended into the orbit. It had also extended into the infratemporal region. There was erosion of the outer table of the temporal bone. There were areas of varying density and fluid levels. In addition, calcification was seen in the wall of the lesion (Figs. 1, 2). The MRI revealed essentially the same features (Figs. 3, 4).

The lesion was exposed by a frontotemporal approach. The incision was extended below the zygomatic arch to allow access to the infratemporal part of the tumour. On subperiosteal reflection of the temporalis muscle the tumour was seen to be eroding the temporal bone. The outer table was extensively eroded; rongeurs were used to remove part of the temporal bone. Then the tumour was thoroughly curetted anteriorly until the intact periorbita was seen and inferiorly until tissue with a normal appearance was seen.
Posteriorly, curettage was continued until normal bone was seen. Medially the lesion was removed until the dura was reached. A thin film of the tumour was left adhering to the dura.

Postoperatively the proptosis regressed. The boy is being kept under observation.

Histological examination revealed a highly vascular lesion composed of numerous telangiectatic vascular channels, some packed with RBCs. The intervening fibrous septa were cellular and revealed varying numbers of multinucleate osteoclast giant cells (Fig. 5). Within the septa, focally, there were areas of new bone formation. These spicules were rimmed with plump osteoblasts (Fig. 6). The features were consistent with ABC.