CT scanning and MRI provide definition of the extent, site and nature of the disease.[6,11,24] High-intensity intramedullary signal changes on T2-weighted MRI reflect oedema or gliosis of the spinal cord and are generally associated with a poor prognosis.[20,25–27] However, in patients with OLF the high-intensity intramedullary signal may be due to reversible changes and are therefore not necessarily associated with a poor prognosis.[22,28] In our patient, although the cord demonstrated high signal intramedullary changes both on pre-operative and post-operative images, a good recovery was achieved.

Myelopathy due to OLF responds dramatically to decompressive laminectomy.[3,7,23] Meticulous microsurgical resection of the ossified mass is necessary to avoid damage to the dura mater, spinal cord and nerve roots. The dura mater may be thinned or ossified due to long-term compression and its separation from the ossified mass requires careful attention to avoid dural laceration.[18]

In conclusion, OLF is a rare cause of cervical myelopathy, particularly in the absence of degenerative changes in the cervical spine, which may be successfully surgically treated.

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Petrous bone osteoblastoma invading the cavernous sinus

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Summary A 45-year old female was admitted complaining of double vision. A CT scan revealed a mass originating from the petrous part of the temporal bone with infiltration of the cavernous sinus. The patient was operated and a subtotal excision of the tumor was achieved. Pathological examination revealed benign osteoblastoma. During an 18 year follow up period, no progression of tumor has been detected.

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INTRODUCTION

Osteoblastoma is an uncommon benign, solitary, vascular, osteoid-forming bone tumor, which is rich in osteoblasts. It most often involves the vertebrae, long bones and small bones of the hands and feet.[1,2,3] Osteoblastoma may also rarely affect the skull, with the temporal, frontal and sphenoid bones the most commonly affected regions.[1,4] In this report, a temporal petrous bone osteoblastoma is presented. Despite only partial resection, progression was not observed over 18 years, the longest follow up recorded in the literature.

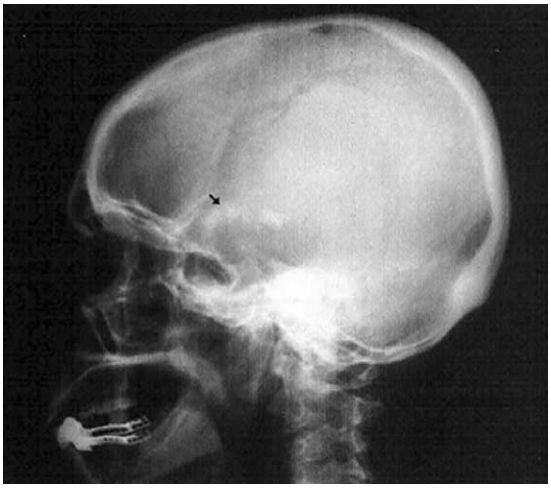

Fig. 1 Preoperative lateral plain radiograph; a heterogeneous, calcified, irregularly contoured mass lesion which originates from petrous apex and extending to the sella turcica is seen (arrow).

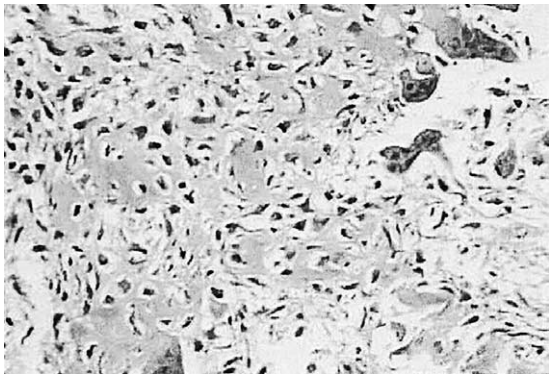

Fig. 3 Histopathological micrograph. The lesion was composed of interconnecting osteoid islands and highly vascularized stroma. The osteoid tissue is rimmed by osteoblasts. Scattered osteoclasts and small bony trabeculae are seen.

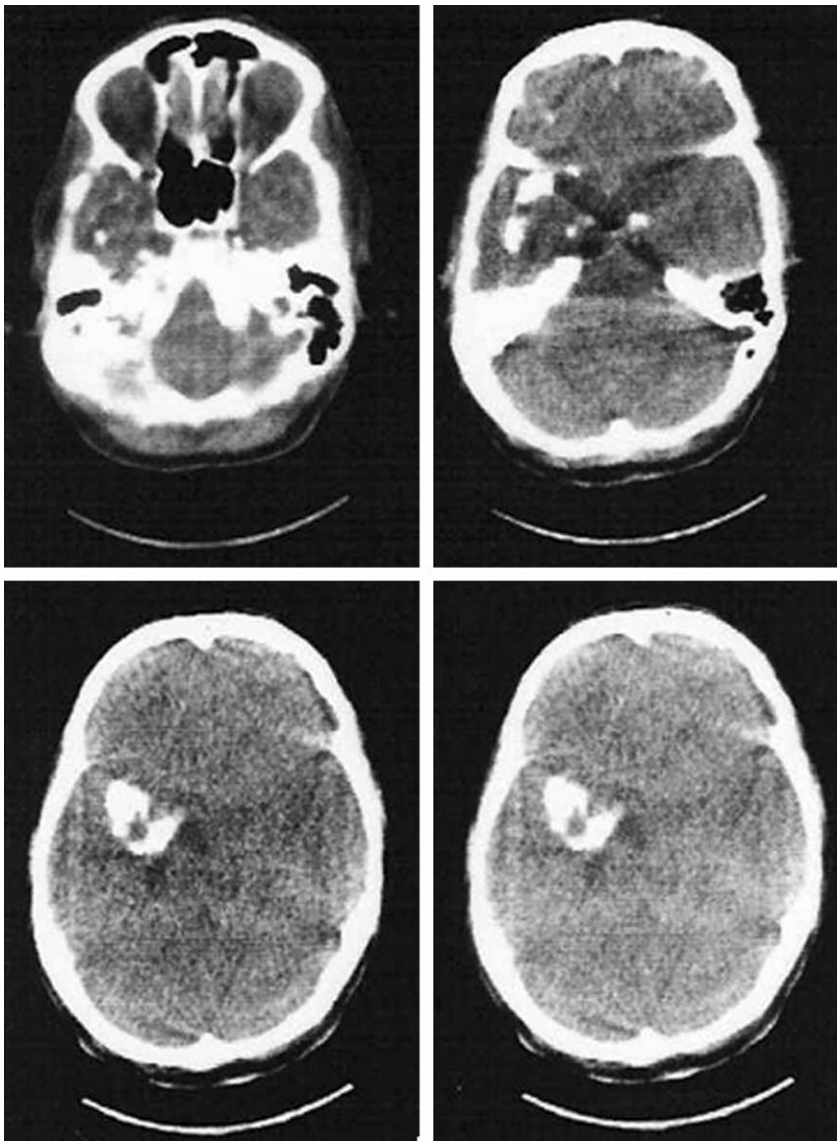

Fig. 2 Preoperative unenhanced CT scan showing the tumor originating from the temporal petrous bone and occupying the cavernous sinus.

CASE REPORT

A 45-year-old female was admitted complaining of headache and double vision. General examination revealed no specific abnormality, but neurological examination revealed a right lateral gaze palsy. Complete blood count and blood biochemistry were normal. A calcifying mass lesion extending from the temporal region to the sella turcica was observed on the skull X-ray (Fig. 1). Cranial CT scan revealed a nodular lesion, originating from the right temporal petrous bone and extending to the dorsum sellae, sphenoid wing, cavernous sinus, and the floor of the third ventricle (Fig. 2). The patient was operated through a right frontotemporal craniotomy. The tumor, originating from the petrous temporal bone and invading the cavernous sinus, was vascular, yellowish-brown and softer than normal

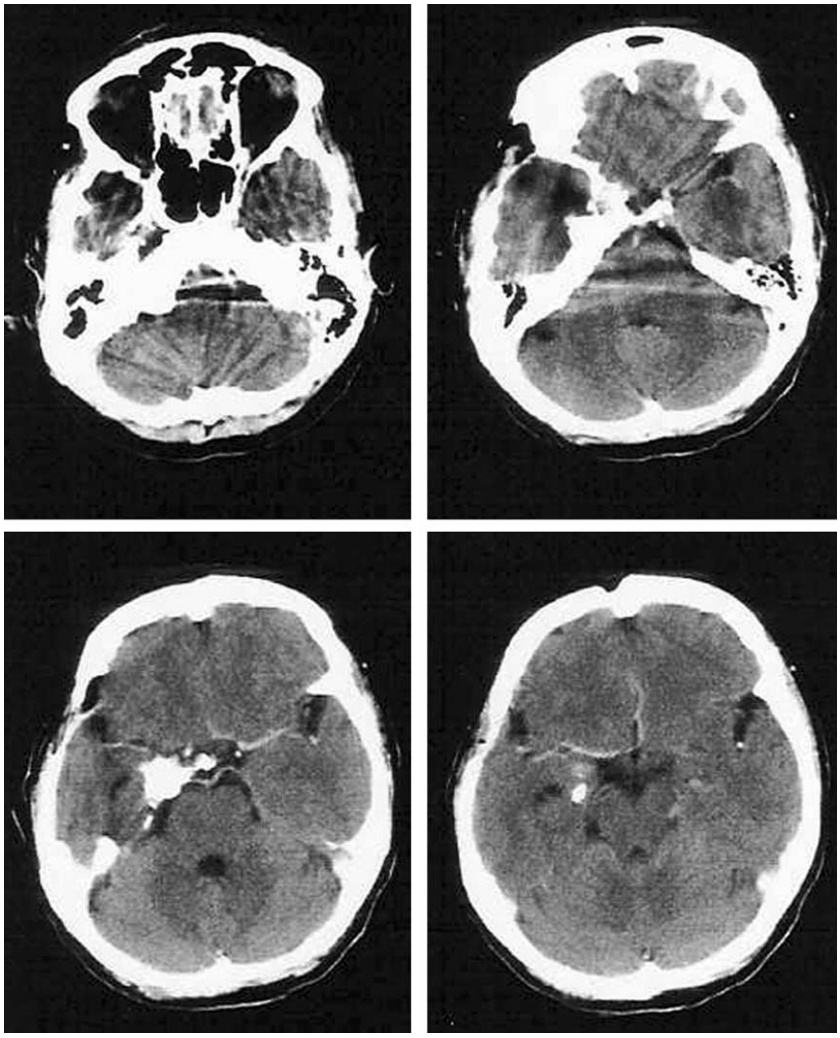

Fig. 4 CT scan taken 18 years postoperatively. A subtotal resection was achieved but the tumor has not increased in size since resection.

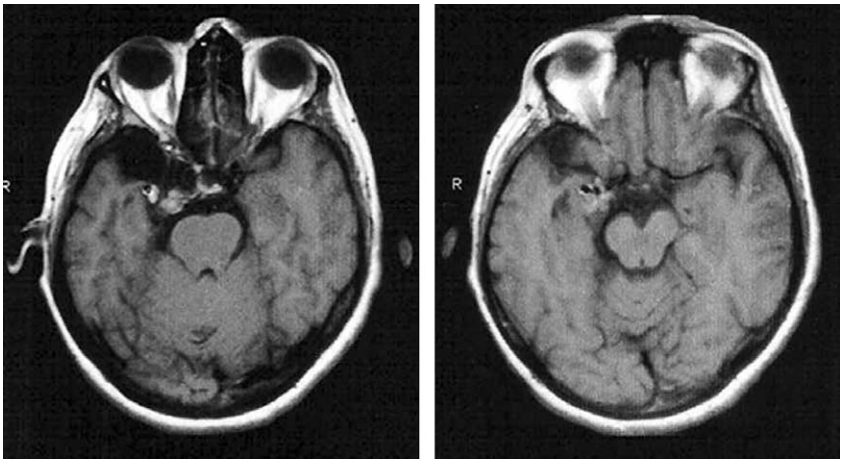

Fig. 5 T1-weighed MRI taken 18 years postoperatively. A heterogeneous calcified mass lesion originating from temporal petrous bone is still visible, occupying the right cavernous sinus and compressing the right internal carotid artery superolaterally.

bone tissue. It was very adherent to the right internal carotid artery and optic nerve, therefore, a subtotal excision was performed. On pathological examination, the lesion was composed of interconnecting osteoid islands and highly vascularized stroma. The osteoid tissue was rimmed by osteoblasts. Scattered osteoclasts and small bony trabeculae were seen. There was no evidence of malignancy. The lesion was diagnosed as a benign osteoblastoma (Fig. 3).

Post-operative neurological examination revealed no additional deficit and there was no neurological progression over 18 years, other than the right eye lateral gaze palsy present preoperatively. There was no evidence of enlargement at 18 years on cranial CT scan and MRI (Figs. 4 and 5).

DISCUSSION

Benign osteoblastoma is a rare bone tumor with an indolent biological behavior and good clinical prognosis. It is very rare in the cranium.[5] The temporal bone is the most common site of osteoblastoma in the neocranium.[6] In the reported case, the tumor originated from the petrous temporal bone and extended to the parasellar region and cavernous sinus.

It is important to differentiate osteoblastoma from osteoid osteoma. The pain from osteoid osteoma generally increases nocturnally and responds to salicylates, while the pain from osteoblastoma is continuous and does not respond to salicylates. Osteoblastoma has a greater potential to enlarge than osteoid osteoma and presents by mass effect rather than pain.[5,6] In this case, paralysis of the sixth cranial nerve aided localization of the pathology. Although imaging is insufficient to determine the nature of the lesion, it may be highly suggestive.[2] However, low-grade chordoma, chondrosarcoma and giant cell tumors also have similar radiological features.[2] They present as cortical or medullary, diaphyseal or metaphyseal, prominently radiolucent lesions with variable calcification and clearly defined, non-lobular margins.[2] Histological diagnosis is important. On microscopic examination, early lesions contain actively propagated connective tissue islets and older lesions frequently show large foci of ossification. In all lesions, irregular fibrous stroma and osteoid deposits are seen. Stroma tends to be well vascularized, particularly in early tumors and rarely exhibits extravasation. Rarely minor atypical changes may be observed in osteoblast mitochondria.[3]

Optimal primary treatment of benign osteoblastoma is total surgical excision.[7] If, as reported here, the tumor is not suitable for total surgical excision due to its location, subtotal excision is adequate as the probability of recurrence is low. No progression has been observed during 18 years post-operative follow up in this patient. Therefore, radical surgical excision, which may have significant post-operative morbidity and mortality, should be avoided and safer palliative excisions considered. If there is any evidence of malignancy on pathological examination, radiotherapy and chemotherapy may be administered. However, it has been reported that radiotherapy may induce or promote malignant degeneration.[1,2,3] Hence the role of the radiotherapy is controversial.

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Primitive supratentorial neuroectodermal tumor in an adult

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Summary We report the case of a 32-year-old female with a diagnosis of supratentorial tumour. Total removal of the tumour was achieved in a two-stage procedure. Histopathology revealed a primitive neuroectodermal tumour (PNET), an unusual and highly malignant, mainly infratentorial tumour of childhood that is uncommonly described in the supratentorial compartment of adults. We review the literature and describe the existing knowledge of these tumours.

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INTRODUCTION

The term primitive neuroectodermal tumour (PNET) refers to a group of neoplasms consisting of highly undifferentiated malignant cells that present mainly in children and histologically resemble cerebellar medulloblastoma. They are chiefly characterised by small, round, undifferentiated cells with scanty cytoplasm. One of the outstanding features of the malignant character of PNET is their ability to disseminate within the central nervous system (CNS) via the cerebrospinal fluid (CSF) pathways. Thus, at the time of diagnosis, multiple foci of disease are frequently discovered.

Although this tumour is relatively uncommon, it is well recognised, particularly in children, yet there is still ongoing debate and considerable controversy concerning the histogenesis and classification of PNET. An extensive literature review has revealed few reports of PNET in adults.[1] In this report, an adult female with a supratentorial PNET is described and the existing literature regarding the unusual features of these tumours reviewed.

