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Benign Osteoblastoma of the Orbital Part of the Frontal Bone: Case Report

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Introduction

Osteoblastoma is an infrequent benign, solitary, vascular, osteoid forming bone tumour which is rich in osteoblasts. It is an uncommon tumour and most often involves the vertebrae, long tubular bones and small bones of the hands and feet [3, 4,]. However, osteoblastoma may also affect the skull, and there are a few reported cases of this type [2, 5]. We report a frontal benign osteoblastoma presenting with exophthalmus and frontal deformity.

Case Report

A 17-year-old man was admitted to our hospital with a slowly growing, painless left supra-orbital mass of one year duration. Neurological examination was normal. On radiological examinations; CT scan of the fronto-orbital bone, with and without contrast, showed an ill-defined homogeneous mass (approximately $4 \times 4.5 \times 7$ cm), characterised by an increased volume of the diploic bone with new bone formation (Fig. 1). Skull X-rays and MRI did not reveal any more details. Angiography showed the tumour vascularization from external carotid artery. Total surgical removal of the tumour mass was accomplished by using the high speed drill; a well-defined, 4×4 cm brownish mass was drilled out of the frontal bone. The mass was noted to be more vascular and softer to drill than normal frontal bone and drilling was continued until normal bone was reached. In the pathological examination; the lesion was composed of interconnecting osteoid islands and highly vascularized stroma and the osteoid tissue was rimmed by osteoblasts. Scattered osteoclasts and small bony trabeculae were seen. There was no evidence of malignancy. With these finding the lesion was diagnosed as a benign osteoblastoma (Fig. 2.) (H&E, ×20). There was no evidence of recurrence after 44th month on the postoperative MRI.

Discussion

Benign osteoblastomas are very rare and account for less than 1% of primary bone tumours. Vertebrae, appendicular skeleton, the small bones of hands and feet and the skull bone are most commonly affected

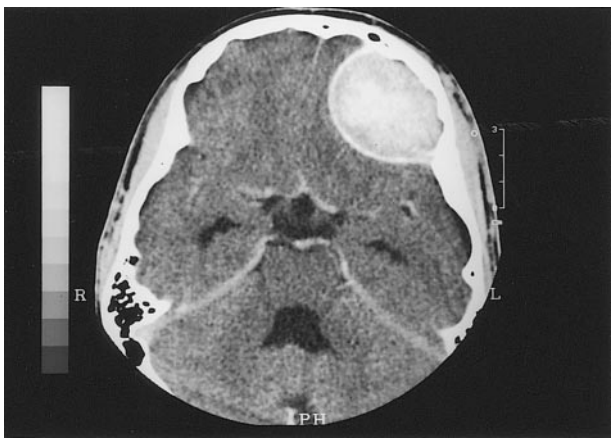

Fig. 1. Preoperative computerised tomography showing the tumour in the frontal bone

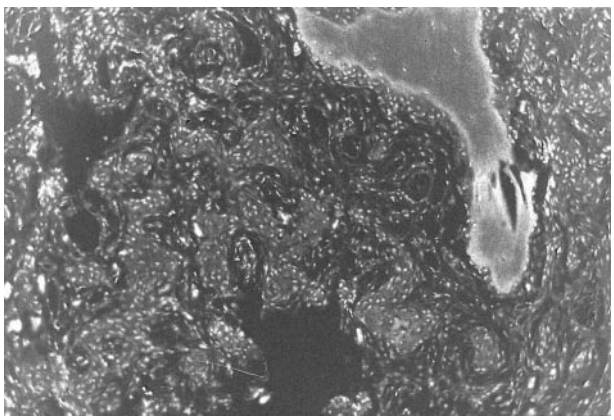

Fig. 2. Pathological appearance of the tumour showing, interconnecting osteoid islands, vascularized stroma, the osteoid tissue was rimmed by osteoblasts, scattered osteoclasts and small bony trabeculae. (H&E, ×20)

[1, 3, 4]. Osteoblastomas show male and young age predominance [4]. While the classical history in osteoid osteoma is pain, which is dull or sharp, increases in the evening, and is relieved by aspirin, osteoblastomas are less painful and are first noticed by virtue of their mass rather than pain, as in our case [3]. Radiographically, osteoblastomas usually present as a cortical mass or medullary, diaphyseal or metaphyseal, round, oval or elongated, with well defined radiolucency and variable mineralizations [1]. Histopathologically the lesion shows typical histologic features with long interanastomosing trabeculae of osteoid bone rimmed by single row osteoblasts within a loose fibrovascular stroma [4]. Because of the benign nature of the neoplasm many authors suggested local excision or shaving of the lesion to the border of the bone in to normal appearance [4]. Neither radiation nor chemotherapy is required if any malignant sign is observed in pathological examination. Our case confirms the findings of previous investigators that osteoblastoma is a benign tumour affecting younger patients and is more prevalent in males. If the tumour is removed totally no recurrence is expected even without adjuvant irradiation and chemotherapy.

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