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Benign osteoblastoma of the maxillary sinus

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Benign osteoblastoma is an uncommon neoplasm comprising less than one percent of primary tumour of bone. The term benign osteoblastoma was proposed independently by Jaffe and by Lichtenstein in 1956. The most frequent sites of occurrence are vertebral column and long bone of extremites. The tumour is particularly rare in the maxilla.

REPORT OF A CASE

The patient, a 25-year-old woman, complained of left exophthalmos and visual disturbance. Radiographic studies showed a mass in the left maxillary sinus with expansion into the floor of the left orbit (Figure 1). Computed tomography showed that the lesion contained areas of increased density consistent with calcium deposits (Figure 2). A Caldwell-Luc procedure was performed. There was a

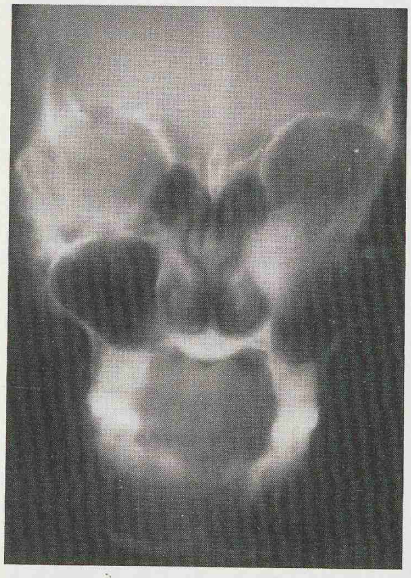

Figure 1. A well-circumscribed mass in the left maxillary sinus with expansion into the floor of the left orbit.

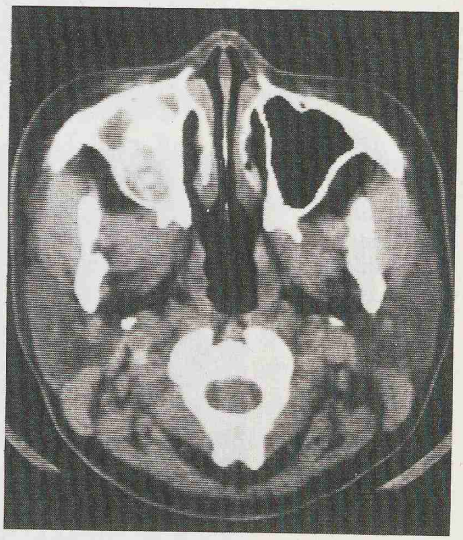

Figure 2. The lesion contained areas of increased density consistent with calcium deposits.

large cavitary lesion in the left antrum and the loss of the orbital floor, as the mass was removed in several pieces. The surgical specimens were friable, granular, gritty and reddish-brown. On histologic examination, the lesion was composed of a highly vascular connective tissue stroma in which were scattered numerous trabeculae of oseoid (Figure 3). Actively proliferating osteoblasts surrounded the osteoid area (Figure 4). A diagnosis of benign osteoblastoma was made on the basis of these findings. A four-month follow-up showed no recurrence.

The majority of the cases have occurred in patients under 30-year-old. There is no sex predilection. In general, symptoms are non-specific and vary with the location of the tumour. The most prominent complaint is local dull pain in associa-

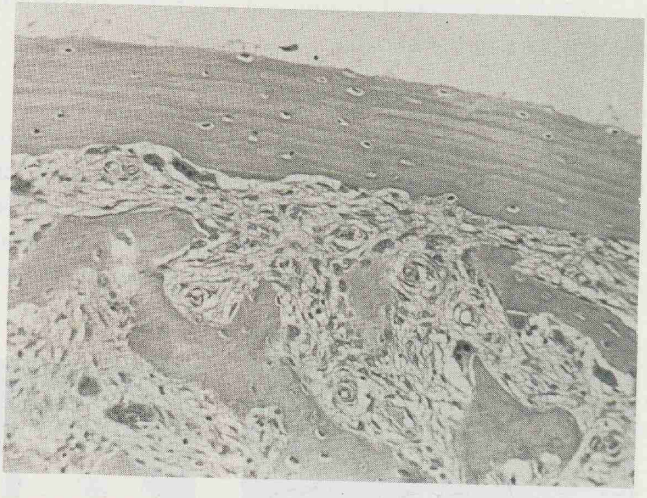

Figure 3.
The tumour is delimited by a shell of cortical bone.

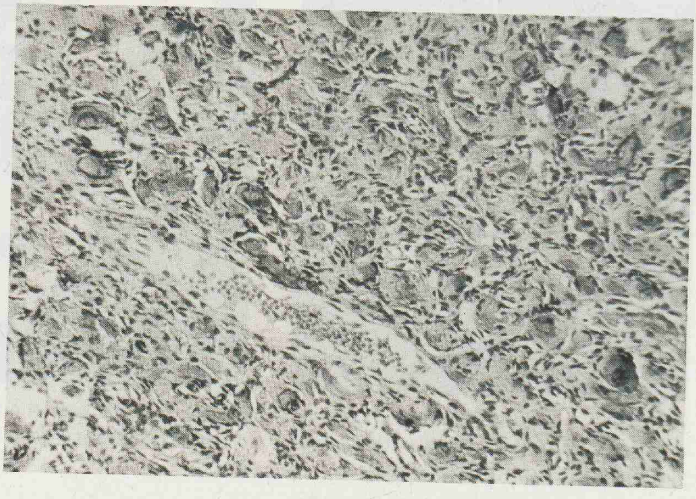

Figure 4.
Actively proliferating osteoblasts surrounded the osteoid area.

tion with local tenderness and swelling. Roentgenographically, the tumour is a well-circumscribed osteolitic legion that is delimited by a shell of cortical bone and is usually larger than 2 cm., with variable central mottling, depending upon the extent of osteoid mineralization. Computed tomography also shows that the lesion contained areas of increased density consistent with internal calcification. The tissue is homogenously granular of gritty, and appears reddish-brown with a rich vascular component. Histopathologically, the tumour consists of well-vascularized, cellular, fibrous stroma with scattered osteoid trabeculae. Actively proliferating osteoblasts line the trabeculae, however, nuclear atypism and abnormal mitotic activity are not present. On ultrastructural study, the osteoblast is characterized by the presence of abundant rough-surfaced endoplasmic reticulum and several Golgi complexes. Benign osteoblastoma should be distinguished from other benign fibro-osseous lesions such as osteoid osteoma, fibrous dysplasia or ossifying fibroma. Because of its cellularity and cortical expansion with occasional destruction and soft tissue-masses, benign osteoblastoma may be misdiagnosed as a giant cell tumour or osteogenic sarcoma. Adequate biopsy specimens are mandatory for the histological diagnosis. Surgical treatment is preferred. Curation can be expected after complete removal either by excision or through curettage. Surgeons should often attend to operative bleeding. Radiation therapy should be avoided because of the risk of radiation-induced neoplasm. It has been reported that, there are some cases of malignant transformation of benign osteoblastoma (Mayer, 1967; Dakinka et al., 1972), life-long follow-up is obligatory in all cases.

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