TÜRK PATOLOJİ DERGİSİ • 7-1: 32-33 (1991)
(The Turkish Journal of Pathology)

CEMENTO-OSSIFYING FIBROMA WITH AN ANEURYSMAL BONE CYST (A CASE REPORT)

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ÖZET: Anevrizmal kemik kistiyle karakterli bir cemento-ossifying fibroma vakası sunulmuştur. Cemento-ossifying fibroma, periodontal membran kökenli benign bir fibroosseöz lezyon olup en sık mandibula ve maksillada yerleşir. Periodontal membran tüm diş köklerini çevreleyen fibröz bir bağ doku tabakasıdır. Sementum, lameller kemik ve fibröz doku oluşturabilen multipotent blastik hücreler içerir. Bu hücrelerden köken alan tümörler yalnız sementum, lameller kemik, fibröz doku ya da bunların değişik oranlarda karışımlarından oluşan bir kompozisyon sergileyebilirler. Cemento-ossifying fibroma ile birlikte anevrizmal kemik kisti görülmesi çok seyrek değildir.

SUMMARY: A case report of a cemento-ossifying fibroma with an aneurysmal bone cyst component is presented. Cemento-ossifying fibroma is a benign fibro-osseous lesion considered to be of periodontal membrane origin and most common in the mandible and maxilla. This membrane is a layer of fibrous connective tissue surrounding all the tooth roots. It contains multipotential blastic cells capable of forming cementum, lamellar bone and fibrous tissue. Under pathological conditions, the same cells can produce a tumor consisting of solely cementum, lamellar bone, fibrous tissue or any mixture of these components in varying amounts. Association of this tumor with an aneurysmal bone cyst is not infrequent.

INTRODUCTION

A variety of disease processes are subsumed under benign fibroosseous lesions; these include fibrous dysplasia, ossifying fibroma, florid osseous dysplasia, periapical cemental dysplasia, proliferative periostitis of Garre', focal sclerosing osteomyelitis and osteitis deformans (1,6). These lesions share common microscopic features whereby a hypercellular fibroblastic vascular stroma prevails with elaboration of a variety of calcifiable matrices represented by woven bone, lamellar, bone, curvilinear trabeculae and spheroid "psammomalike" calcifications (4,7).

Differentiation with assignment of a definitive diagnosis rests with evaluation of clinical and radiomorphologic features, provided that a benign fibro-osseous pattern is exhibited microscopically. The importance of radiomorphology in differentiating fibrous dysplasia from ossifying fibroma of the jawbones is emphasized. It is indicated that fibrous dysplasia fails to exhibit well demarcated borders radiographically whereas ossifying fibromas are well demarcated and amenable to surgical enucleation or curettage (4,5,8,9).

CASE REPORT

The patient was an eleven year old boy. He was admitted to Gazi University Medical Faculty Hospital in August 1988. He had a left maxillar mass protruding inside to gingivo-buccal mucosae and producing a left facial mass simulating African's Burkitt's Lymphoma. His first complaint had

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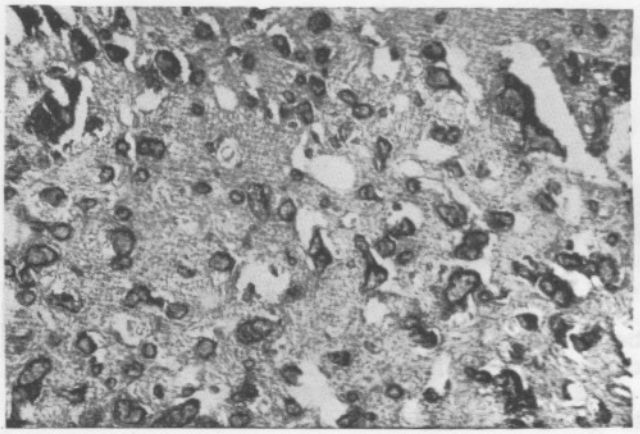

Figure 1: Microscopic appearance of cemento-ossifying fibroma: Numerous mineralized irregular spheroid deposits (cementicls) scattered throughout a cellular fibroblastic tissue (H.E. X 80).

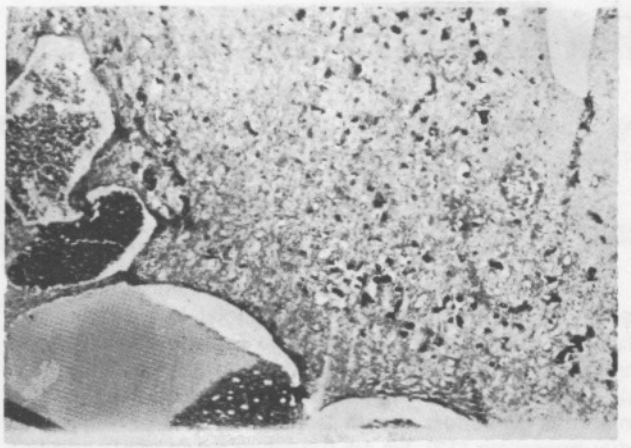

Figure 2: Aneurysmal bone cyst component with numerous blood-filled cavities in the tumor (H.E. X 40).

begun six months ago and had a progressive course. The incissional biopsy of the mass proved to be a cemento-ossifying fibroma and then the patient had an operation of total left maxillectomy. He had no sign of reccurence during a two year follow-up period.

PATHOLOGICAL FEATURES

Macroscopically the surgical specimen was a left maxilla with three teeth. In an area of 5x5 cm. there was a partially cystic and hemorrhagic tumoral mass eroding the bone.

Microscopically numerous mineralized irregular spheroid deposits (i.e. cementicles) that are more or less regularly scattered throughout a cellular fibroblastic tissue were present (Figure 1). Besides cementicles there were also some smooth, often anastomozing osteoid-like trabeculae with curvilinear configurations. Under polarized light, the fiber width was fine and was arranged in a quilted network or demonstrated a microlamellar orientation. Dense cortical bone-like deposits were also observed.

The second microscopic component of the tumor was blood-filled spaces of variable and often large size (Figure 2). Cystic cavities were not lined by endothelial cells but rather by fibrous septa containing osteoid and several osteoclast-like multinucleated giant cells.

DISCUSSION

The term "fibro-osseous lesions" has recently gained considerable acceptance as a general designation for a group of pathological disturbances characterized by replacement of the normal bone architecture by a tissue composed of fibroblasts and collagen fibers containing various amounts of calcified tissues which may be bony and cementum-like in appearance (10). Within this group ossifying fibroma is the apellation when bone predominates, while the term cementifying fibroma has been assigned when curvilinear trabeculae or spheroidal calcifications are encountered when bone and so-called cemental tissues are observed, the lesions have been referred to as cemento-ossifying fibromas. Since the mesenchymal progenitor cells of the periodontal ligament are capable of elaborating both bone and cementum, ossifying and cementifying fibromas are benign fibro-osseous lesions of periodontal ligament origin and therefore represent histologic variations of the same neoplastic process. There are no difference in behavior between these histological entities and frequently both features are found in the same tumor as in ours (6).

Aneurysmal bone cyst is associated or secondary to another bone lesion up to % 50 (11). Included in the primary lesions are chondroblastoma, giant cell tumor, osteosarcoma, fibrous dysplasia and other fibro-osseous lesions. An aneurysmal bone cyst component is noted in three of sixty-four cases in a study of ossifying fibromas (6). The true mechanism of the cyst formation is uncertain. Although the lesion does not contain many blood vessels, the rupture of blood vessels and compression necrosis widening the cavity as evidenced by the high content of potassium and enzymes in the aspirate is suggested in a case (12).

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