

## Ameloblastic Dentino-Fibroma - Report of a case -

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The *ameloblastic dentino-fibroma*, which consists of odontogenic epithelium, a cell-rich mesenchymal tissue and dentin, represents a transitional tumor type between the ameloblastic fibroma and the ameloblastic odonto-fibroma (9, 10). *Ameloblastic dentino-fibroma* is one of the true composition tumors of odontogenic origin (10).

True composition tumors of odontogenic origin reported in the literature have been found in a much younger age group (1, 4, 5, 9, 10). The vast majority of patients were between 5-25 years of age (4, 5). There appears to be no sex predilection.

These tumors usually produce painless asymptomatic slow expansion of the cortical bone of the posterior area of the jaws. Routine radiographs help to recognize the smaller tumors. Radiographically, they are smooth outlined lytic lesions and unerupted teeth may be associated with the tumors. Under these circumstances, the lesions cannot be differentiated from unilocular ameloblastoma and dentigerous cysts (1, 3-5, 8, 13).

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The majority of tumors of this variety have been treated by curettage or surgical excision. Recurrences may be seen when initial removal was incomplete (4, 5, 8, 13).

### CASE REPORT

On Nov., 1971, a 59-year-old man admitted to the Plastic and Reconstructive Surgery Clinic of the Medical Faculty of Istanbul University with a complaint of a swelling of 3 years duration on the right side of the lower jaw causing facial deformity and asymmetry. The patient experienced no pain and paresthesia. Examination revealed a large mass located on the lateral border of the mandible. Radiographs showed a large radiolucent, honeycombed lesion with trabeculations occupying the entire body of the mandible including the angle and the ascending ramus with soft tissue involvement (Fig. 1). A biopsy from the intraoral part of the lesion was diagnosed



Fig. : 1 — Radiograph showing details of lytic lesion.

as ameloblastic fibroma. On Nov. 22, 1971, with general anesthesia, the patient underwent hemimandibulectomy. Twelve months after operation, there was no any sign of recurrence.

The specimen consisted of a half of mandible which measured  $15 \times 10 \times 8$  cm. There was cortical expansion, both buccaly and lingually. The cut

section revealed a soft mass which was generally rimmed by capsule of connective tissue (Fig. 2). It was white-yellow and had a rubbery consistency with varying degrees of granularity.

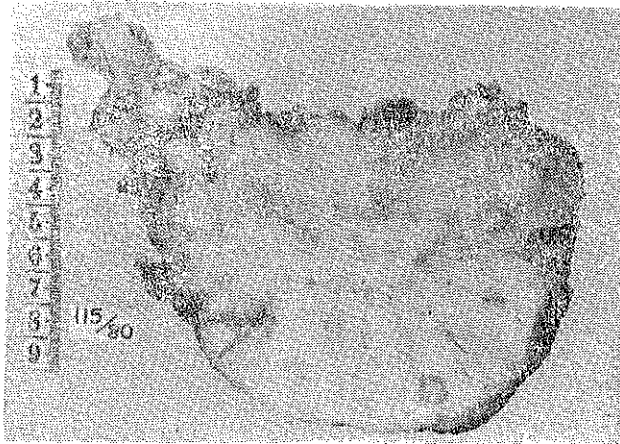


Fig. : 2 — The cut section of specimen consisted of a half of mandible.

The tumor showed different structures from the periphery to the center in the sections stained with hematoxylin-cosin. In the periphery, the tumor consisted of a cell-rich odontogenic mesenchyme and islands of ameloblastic

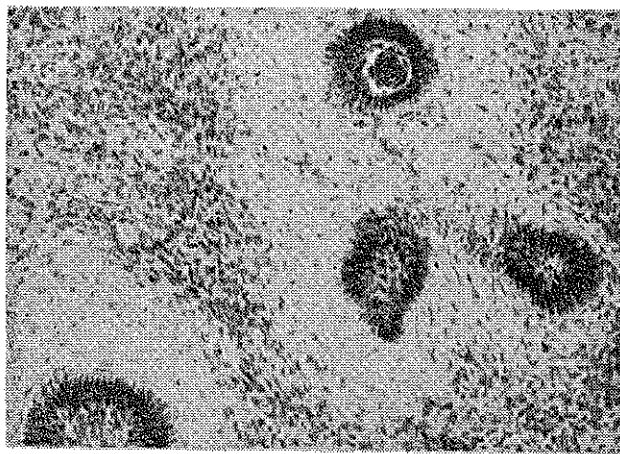


Fig. : 3 — A section from the periphery of tumor demonstrating cellular odontogenic mesenchyme containing islands of ameloblastic epithelium, H-E,  $\times 200$ .

cells (Fig. 3). In the center, odontoblast-like cells were found around the ameloblastic islands and an eosinophilic material resembling the dentin was seen between the ameloblastic cells and odontoblast-like cells (Figs. 4-5). The final diagnosis, *ameloblastic dentino-fibroma* was made.

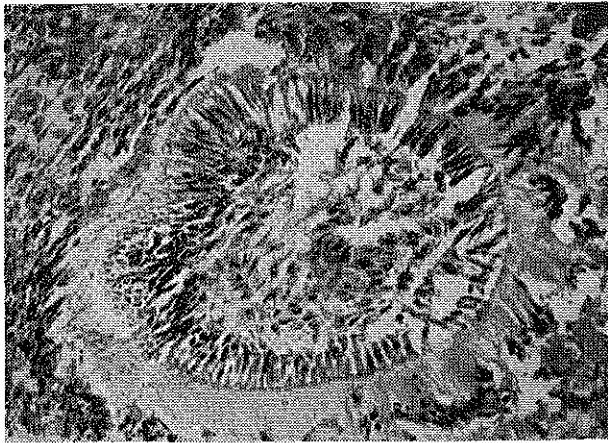


Fig. : 4 — A section from the center of tumor showing a cell-rich odontogenic mesenchyme, hard tissue component resembling the dentin and islands of ameloblastic epithelium, H-E,  $\times 200$ .

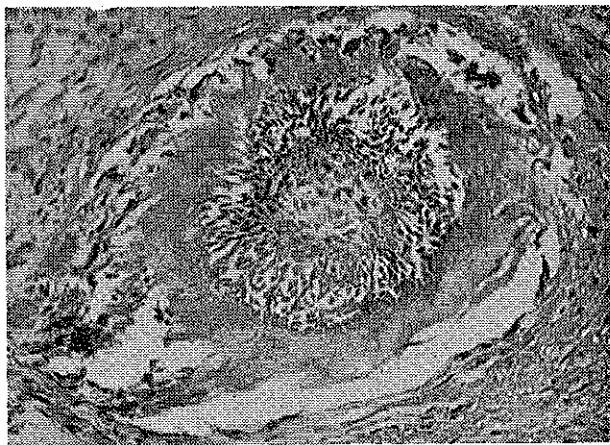


Fig. : 5 — A photomicrograph demonstrating the dentin between the mesenchymal and epithelial components of the tumor, H-E,  $\times 200$ .

## DISCUSSION

The relationship between the ameloblastic dentino-fibroma and other members of the true composition tumors of odontogenic origin has been matter of discussion in oral pathology circles for some time. Tahsinoğlu (10) believes that there is no morphodifferentiation in true composition tumors of odontogenic origin and they may develop after the inductions of the odontogenic tissues on each other. In true composition tumors there is no morphodifferentiation but only histodifferentiation. The ameloblastic fibroma consists of odontogenic epithelium and odontogenic mesenchyme (9, 10). It generally resumes this structure unchanged, and displays the same scene even in recurrences. In few of the cases, one may see the dentin or dentinoid tissue due to the induction of epithelium on mesenchyme (10). This new tumor is then called the ameloblastic dentino-fibroma. This means that the ameloblastic dentino-fibroma is not a intermediate phase of maturational stages of an odontoma, but it is a true tumor. In our case, the tumor had been recognized since three years by the patient, and we have seen a neoplasm containing the elements of odontogenic mesenchyme, ameloblastic cells and dentin, but we could not find any tissue resembling the odontoma. On the other hand, there is not any instance for malignant form of odontomas in the literature. But some of the malignant tumors of odontogenic origin are comparable with the true collision tumors (1, 2, 4, 5, 6, 8, 10, 11, 12). We believe that it is necessary to classify the odontogenic tumors as follows (10):

### I. Tumors without induction

### II. Tumors with induction

#### Benign tumors

#### A. Hamartomatous composition tumors

Compound odontoma

Complex odontoma

#### B. True composition tumors

Ameloblastic fibroma

Ameloblastic dentino-fibroma

Ameloblastic odonto-fibroma

#### C. Odontogenic fibroma

## D. Cementomas

### Malign Tumors

*Ameloblastic sarcoma*

*Ameloblastic dentino-sarcoma*

*Ameloblastic odonto-sarcoma*

The benign group of true composition tumors of odontogenic origin do not metastasize or infiltrate the surrounding structures but enlarge by direct extension (1, 3-5, 7-10, 13). The conditions usually are slow growing and self limiting, and they are seen most often in children and young adults (4, 5). Curettage, local excision of the tumor and the resection of involved bone are the forms of treatment used in the management of the patients, but conservative therapy being preferred by the majority (4, 5, 13). In the case reported here, we have found a large mass causing the considerable facial asymmetry and deformity, and prominent destruction of bone. A hemimandibulectomy was performed due to these clinical and radiological findings.

### S U M M A R Y

A case of ameloblastic dentino-fibroma is reported, along with a discussion of the histogenesis of this tumor and its relationship to the true composition tumors of odontogenic origin. Our findings confirm that this is a lesion which develops after the inductions of odontogenic elements on each other.

### Ö Z E T

59 yaşında bir erkek hastanın altçene sağ tarafında 3 yıldır gelişen ve yüzde asimetri yapan bir tümör saptandı. Radyolojik incelemede, altçene korpus ve ramusunu tutan, yumuşak doku içerisinde de büyük bir kitle yapan litik lezyon bulundu. Tümörün büyüklüğü nedeniyle hemimandibulectomi uygulandı. Mikroskopik incelemede, tümörün periferik kesimlerinin ameloblastik fibroma, ortadaki alanların ameloblastik dentino-fibroma yapısında olduğu gözlemlendi. Bu bulguların ışığında, Tahsinoğlu tarafından önerilen son sınıflandırmada, odontogen kökenli gerçek kompozisyon tümörlerinden biri olduğu vurgulandı.

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