

case report

## Ameloblastic fibroma

Marko Božič and Nataša Ihan Hren

Clinical Department of Maxillofacial and Oral Surgery; University Clinical Centre, Ljubljana, Slovenia

---

**Background.** Ameloblastic fibroma (AF) is a rare odontogenic tumour. It consists of odontogenic ectomesenchyme resembling the dental papilla and epithelium resembling dental lamina and enamel organ without dental hard tissues.

**Case report.** A case report of a large ameloblastic fibroma involving the body of mandible from the lower left second incisor (32) to the lower left second molar (37) is presented. To our knowledge this is the only case of ameloblastic fibroma reported from Slovenia.

**Conclusions.** An aggressive surgical treatment is suggested because of the possibility of recurrence and the possibility of malignant transformation of an AF to an ameloblastic fibrosarcoma.

Key words: fibroma; odontoma; mandibula neoplasms

---

### Introduction

Despite Ameloblastic fibroma (AF) is a rare odontogenic tumour, it occurs predominantly in children and therefore remain an important diagnostic consideration.<sup>1</sup> It usually arises from the mandibular dentition although it can arise in maxilla.<sup>2</sup>

AF consists of odontogenic ectomesenchyme resembling the dental papilla and epithelium resembling dental lamina and

enamel organ without dental hard tissues.<sup>3</sup> Knowledge of the malignant potential in the mesenchymal spindle cells of AF should assist in determining the management of these benign tumours, and may prevent malignant transformation to ameloblastic fibrosarcoma.<sup>4</sup>

At the Clinical Department of Maxillofacial and Oral Surgery in Ljubljana this is the only case of this tumour and to our knowledge the only one in Slovenia. Table 1 presents the frequency of odontogenic tumours from June 1995 to June 2005.

Received 15 February 2006

Accepted 28 February 2006

### Case report

Correspondence to: Marko Božič, M.D., Clinical Department of Maxillofacial and Oral Surgery, University Clinical Centre Ljubljana, Zaloška 2, 1000 Ljubljana, Slovenia; Phone: +386 40 579 112; Fax: +386 15222495; E-mail: marko.bozic@medscape.com

A 23-years old Caucasian asymptomatic woman visited her dentist in March 2004. On dental panoramic tomogram (DPT) a radiolucent lesion formed from three separate com-

**Table 1.** Odontogenic tumours seen at the Clinical Department of Maxillofacial and Oral Surgery in Ljubljana, Slovenia from June 1995 to June 2005.

Tumour	Number of cases	Relative frequency among odontogenic tumours (%)
Ameloblastoma	20	35.1
Odontogenic myxoma	3	5.3
Ameloblastic fibroma	1	1.8
Adenomatoid odontogenic tumour	2	3.5
Ameloblastic Fibrodentinitoma	1	1.8
Cementoma	1	1.8
Odontogenic Fibroma (peripheral)	4	7.0
Calcifying Odontogenic Cyst	4	7.0
Complex Odontoma	21	36.8
<b>Total</b>	<b>57</b>	<b>100</b>

partments from the region 32 to 36 was found (Figure 1A). In February 2005 another DPT showed the lesion had increased. The roots of the teeth 35 and 36 were resorbed. The lesion was presumed to be a cyst so she was not sent to a maxillofacial surgeon before May 2005.

The patient's family anamnesis was positive for neoplasms, diabetes and coronary heart disease. Her brother has Down's syndrome.

A large hard swelling under intact soft tissues was palpated in the lower left vestibulum, all teeth were vital.

A pathohistologic examination showed strands of odontogenic epithelium. In the centre the cells were focally similar to the embryonic stellate reticulum. The epithelial islands were surrounded by a rich mesenchymal component reminiscent of the dental papilla cells. Rare mitoses were present and the nuclear polymorphism was minimally expressed.

The teeth 31, 32, 33 and 37 were endodontically filled before surgery (Figure 1B), and then the extirpation of the tumour and the surrounding bone with nerve preservation was done. The teeth 33, 35 and 36 were extracted and the teeth 31, 32 and 37 were apiectomized (Figure 1C).

The postoperative course was uneventful with good bone regeneration (Figure 1D). A

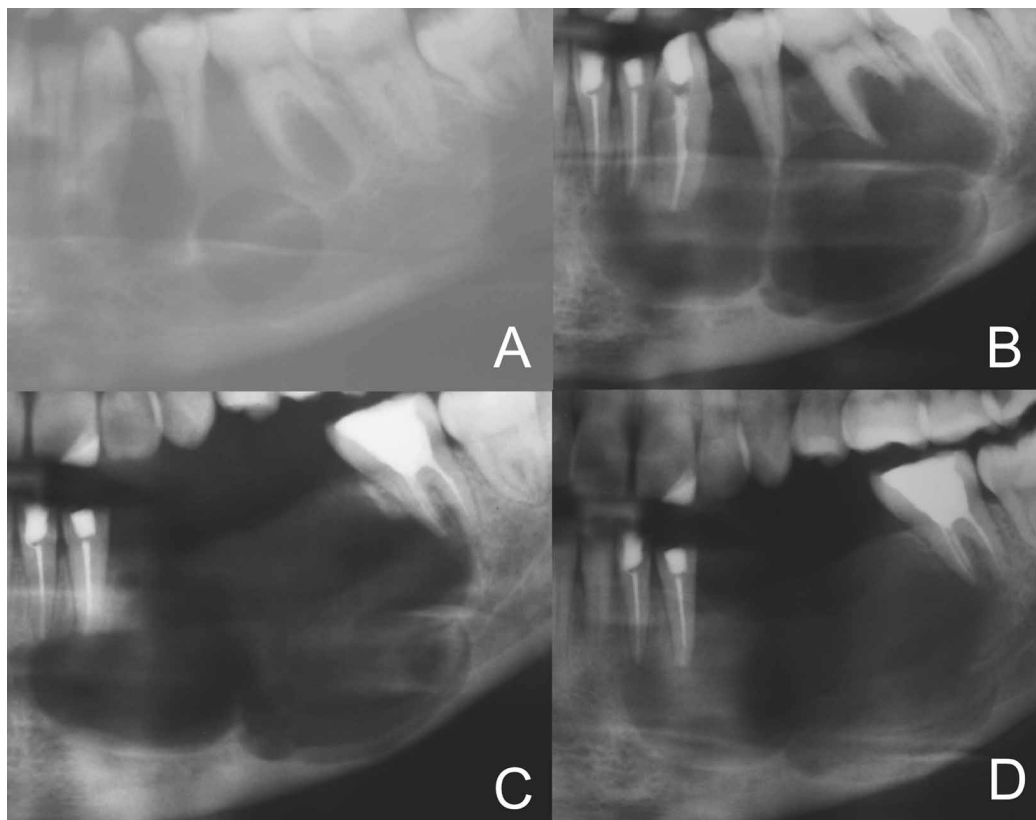
long-term follow-up and an implant-prosthetic treatment is planned.

### Discussion

The relative frequency of AF among odontogenic tumours seen at the Clinical Department of Maxillofacial and Oral Surgery in Ljubljana (1.8%) is within the frequencies described in the literature,<sup>5</sup> although in some other countries it is more frequent.<sup>6</sup> The age of described patient is above the mean age at presentation being 14.8 years.<sup>3</sup> Our AF was incidentally found as 17% of the cases in a survey of 24 cases of AF from the Armed Forces Institute of Pathology.<sup>7</sup>

An aggressive surgical treatment is suggested by some authors because of the possibility of malignant transformation of an AF to an ameloblastic fibrosarcoma.<sup>8,9</sup> Muller *et al.*<sup>8</sup> reported that since 1960 44% cases of ameloblastic fibrosarcoma (19/43) arose from AF. There is also the consideration that the majority, if not all, of AFs are true neoplasms with a potential to recur and/or of malignant transformation and that some, especially those occurring during childhood, could represent the primitive stage of a developing odontoma.<sup>10</sup>

The recurrence rate of AF found by Trodahl *et al.*<sup>7</sup> was 43.5%; on the other hand



**Figure 1.** A - March 2004 when the lesion was discovered; B - preoperative dental panoramic tomogram (July 2005); C - postoperative dental panoramic tomogram; D - two months after the operation.

by Zallen *et al.*<sup>11</sup> it was 18.3% after reviewing the literature with 85 cases of AF. Lysell and Sund<sup>12</sup> proposed the incomplete primary removal as a reason of recurrence in their cases. This was supported by Mosby *et al.*<sup>13</sup> explaining that after the complete removal of a tumour clinically, this cannot be stated at a cellular level. They suggest the conservative removal of AF and modified block resection of any recurrence. No matter what the reason of recurrence is, all authors agree that a long-term follow-up is necessary.

### References

1. Jones AV, Franklin CD. An analysis of oral and maxillofacial pathology found in children over a 30-year period. *Int J Paediatr Dent* 2006; **16**: 19-30.
2. Pereira KD, Bennett KM, Elkins TP, Qu Z. Ameloblastic fibroma of the maxillary sinus. *Int J Pediatr Otorhinolaryngol* 2004; **68**: 1473-7.
3. Slootweg PJ. Ameloblastic fibroma/fibrodentino-ma. In: Barnes L, Eveson JW, Reichart P, Sidransky D, editors. *World Health Organisation classification of tumours. Pathology and genetics of head and neck tumours*. Lyon: IARC Press; 2005.
4. Kobayashi K, Murakami R, Fujii T, Hirano A. Malignant transformation of ameloblastic fibroma to ameloblastic fibrosarcoma: case report and review of the literature. *J Craniomaxillofac Surg* 2005; **33**: 352-5.
5. Adebayo ET, Ajike SO, Adekeye EO. A review of 318 odontogenic tumours in Kaduna, Nigeria. *J Oral Maxillofac Surg* 2005; **63**: 811-9.
6. Tamme T, Soots M, Kulla A, Karu K, Hanstein SM, Sokk A, et al. Odontogenic tumours, a collaborative retrospective study of 75 cases covering more than 25 years from Estonia. *J Craniomaxillofac Surg* 2004; **32**: 161-5.

7. Trodahl JN. Ameloblastic fibroma. A survey of cases from the Armed Forces Institute of Pathology. *Oral Surg Oral Med Oral Pathol* 1972; **33**: 547-58.
8. Muller S, Parker DC, Kapadia SB, Budnick SD, Barnes EL. Ameloblastic fibrosarcoma of the jaws. A clinicopathologic and DNA analysis of five cases and review of the literature with discussion of its relationship to ameloblastic fibroma. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1995; **79**: 469-77.
9. Takeda Y, Kaneko R, Suzuki A. Ameloblastic fibrosarcoma in the maxilla, malignant transformation of ameloblastic fibroma. *Virchows Arch A Pathol Anat Histopathol* 1984; **404**: 253-63.
10. Chen Y, Li TJ, Gao Y, Yu SF. Ameloblastic fibroma and related lesions: a clinicopathologic study with reference to their nature and interrelationship. *J Oral Pathol Med* 2005; **34**: 588-95.
11. Zallen RD, Preskar MH, McClary SA. Ameloblastic fibroma. *J Oral Maxillofac Surg* 1982; **40**: 513-7.
12. Lysell L, Sund G. Ameloblastic fibroma: report of two cases. *Br J Oral Surg* 1978; **16**: 78-85.
13. Mosby EL, Russell D, Noren S, Barker BF. Ameloblastic fibroma in a 7-week-old infant: a case report and review of the literature. *J Oral Maxillofac Surg* 1998; **0368-72**.

*Radiol Oncol 2006; 40(1): 29-33.*

---

## **Zmanjšana moč vratnih iztegovalnih mišic (sindrom padajoče glave) kot posledica obsevalnega zdravljenja**

**Bhatia S, Miller RC, Lachance DL**

**Izhodišča.** Sindrom padajoče glave je redka bolezen, pri kateri bolnik ne more držati glave vzravnano v anatomske legi. Nastane zaradi zmanjšanja moči vratnih iztegovalnih mišic.

**Prikaz primera.** Prikazujemo primer sindroma padajoče glave pri bolnici, ki je bila pred desetiimi leti obsevana zaradi Hodgkinovega limfoma, predhodno pa se je zdravila tudi zaradi multiple skleroze. Razpravljamo o možnih vzrokih nastanka bolezni.

**Zaključki.** Najbolj verjeten vzrok nastanka bolezni je bila poškodba prednjega roga hrbtenjače ob obsevanju, kar je povzročilo poškodbo spodnjega motoričnega nevrona in mišično atrofijo.

*Radiol Oncol 2005; 40(1): 35-8.*

---

## **Ameloblastični fibrom**

**Božič M, Ihan Hren N**

**Izhodišča.** Ameloblastični fibrom je redek odontogeni tumor. Sestavljen je iz odontogenega ekto-mezenhima podobnega dentalni papili ter epitelija podobnega dentalni lamini in sklenini, je brez trdih zobnih tkiv.

**Prikaz primera.** Opisujemo bolnico z velikim ameloblastičnim fibromom, ki se je razraščal v spodnji čeljustnici in je segal od spodnjega levega drugega sekalca (32) do spodnjega levega drugega kočnika (37). Po do sedaj zbranih podatkih je to prvi opisani primer ameloblastičnega fibroma v Sloveniji.

**Zaključki.** Zaradi možnosti ponovitve bolezni pa tudi spremembe ameloblastičnega fibroma v ameloblastični sarkom svetujemo radikalno kirurško zdravljenje in daljše pooperativno sledenje bolnikov.

*Radiol Oncol 2006; 40(1): 57-62.*