Abstract: Although ossifying fibroma (OF) is a slow growing neoplasm, some lesions may behave aggressively, reaching massive proportions that may demand special treatment. Synchronous presentation of this lesion in the maxilla and mandible is a rare occurrence. A case is presented of a 27-year-old woman who manifested synchronous OF lesions in the left maxilla and right mandible. The clinico-radiologic and histopathologic modalities of diagnosing OF are evaluated and discussed.

Clinical Relevance: Ossifying fibroma cases are known to vary considerably in terms of growth rates and clinical presentation, but synchronous occurrence of OF is rarely reported.

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Ossifying fibroma (OF) is a slow growing, benign neoplasm, but some lesions may behave aggressively, reaching massive proportions, thus demanding special treatment.1 According to the WHO classification of odontogenic tumours, OF and cemento-ossifying fibroma (COF) are defined as the same lesion since they are demarcated or encapsulated neoplasms consisting of fibrous tissue containing varying amounts of mineralized materials which could be bone and/or cementum. Most of the lesions are solitary and rarely occur in a multiple form.2 3 Simultaneous occurrence of these lesions in the maxilla and mandible is rare4 and recurrence following treatment is unusual.5

Case history
In April 2005, a 27-year-old Kenyan woman presented to the clinic at the College of Health Sciences, University of Nairobi complaining of a massive mandibular swelling which had been present since 1999 (Figure 1). The swelling was painless initially but later became slightly painful and was associated with intermittent bleeding from the gums. Clinical examination revealed a massive hard swelling involving the right angle and body of the mandible with bucco-lingual expansion of the cortices. Remarkably, buccopalatal expansion of the left maxilla was also noted. Intra-orally, the mucosa over both the maxillary and mandibular lesions was normal. However, the involved teeth in the mandibular arch were displaced. Radiographic examination revealed a massive expansile lesion involving almost the entire right and left bodies of the mandible. The lesion was corticated and demonstrated globular opacities dispersed within it (Figure 2). In contrast, the left
maxillary lesion was less well defined with almost complete obliteration of the left maxillary sinus.

Incisonal biopsy of both lesions was performed under local analgesia. Histopathological analysis showed well circumscribed lesions composed of numerous trabeculae of neoplastic bone uniformly dispersed in a well vascularized proliferative cellular fibrous tissue stroma. There was uniform cellularity and mitotic figures were absent (Figure 3). Based on these clinical, radiographic and histopathologic features, a diagnosis of OF was made. Because of the patient's low haemoglobin levels (8 g/dl) and poor nutritional status, a decision was made to resect the mandibular lesion first, after blood transfusion: two units pre-operatively and one unit intra-operatively. Resection of the mandibular lesion was accomplished under general anaesthesia uneventfully.

About six months later, when the patient reported for the resection of the left maxillary tumour, a recurrence was noted in the left residual mandibular stump. Disarticulation of the residual left mandibular stump, to eliminate the recurrence totally, and extirpation of the left maxillary lesion were accomplished successfully. Since then, the patient has remained under close follow-up.

**Discussion**

The term ossifying fibroma was first used by Montgomery in 1927 to describe a benign, well demarcated, fibro-osseous lesion composed of fibrous connective tissue with the capacity for deposition of mineralized material resembling bone or cementum. The lesion is thought to originate from mesenchymal blast cells which are present in the periodontium and other craniofacial tissues.

Synchronous occurrence of OFs in the maxilla and mandible is rare. These lesions mainly occur in the mandible, presenting as slow growing and generally asymptomatic masses, but they can also occur in the mid-face and paranasal sinuses where they exhibit more aggressive behaviour. Multiple lesions involving both jaws have been reported in a few cases. Additional reports suggest that hereditary factors may play a role in the development of multiple ossifying fibromas (MOFs).

Interestingly, many of the cases of MOFs are reported in female patients; and solitary OFs also tend to affect more women than men when occurring in the 3rd and 4th decades. However, Su and co-workers report no female predilection in the OFs occurring in the 10–29 year-old age range. The pathogenesis of these trends is poorly understood, but MacDonald-Janowski suggested that female sex hormones may play a role in triggering the simultaneous growth of OF in the maxilla and mandible. In the present case, the obstetric and gynaecological history was unremarkable.

The current case presented with a recurrence following excision of the mandibular lesion with a clinically free margin. Although OF is characteristically a slow growing benign neoplasm, some of the lesions behave aggressively and thus require special treatment. In these cases, en bloc resections are employed whenever possible in preference to the traditional method of simple enucleation. Close follow-up with radiographic surveillance is mandatory to prevent recurrences. This has been exemplified in the management of our patient where radical resection of both the maxillary and mandibular lesions was carried out. The recurrence of ossifying fibroma in this case was unusual and it illustrates the diagnostic difficulties that may be encountered when treating fibro-osseous lesions.

Tumours occurring in the maxillary sinuses tend to behave in a more aggressive manner compared to those in the mandible. In the present case, the mandibular lesion had taken seven years to develop, but the maxillary lesion attained enormous size and caused gross destruction.
within 8 months. The left maxillary sinus was completely filled by the lesion, which also extended to fill the left nasal cavity. This pattern of aggression in maxillary OF has previously been reported by Hauser and co-authors.22

Clinical, radiographic and histopathological findings in this case report support the designation of this condition as synchronous OF of the maxilla and mandible. The radiographic appearance of the maxillary lesion was, however, that of radiolucency with no distinct demarcation from the surrounding normal bone, which is characteristic of fibrous dysplasia, while histopathological evaluation of the lesion showed the sharply circumscribed margins and vascular stroma that is typical of OF. These findings demonstrate the difficulties encountered when attempting to differentiate fibro-osseous lesions using a single diagnostic modality. In such cases, close co-ordination of clinical, histopathological and radiological findings, supplemented with CT scans and MRT, serve as important diagnostic aids essential for accurate diagnosis.11,15

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References

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Abstract

CAN PATIENTS BE ‘ALLERGIC’ TO AMALGAM?


With more and more patients requesting tooth-coloured restorations, having searched the internet and knowing well that modern composite restorative materials are equal to or even better than traditional dental amalgam, the wise clinician will have rehearsed the arguments for and against each material. This paper presents a comprehensive review of the adverse effects of amalgam, both local and systemic. The simple conclusion is that there is definite evidence of hypersensitivity reactions to systemically free mercury, and locally it can cause an erythematous lesion on the adjacent soft tissues, tongue and buccal mucosa.

However, whilst amalgam tattoos are unsightly, they rarely cause clinical problems, and many of these reactions may in fact be due to adherent biofilms or corrosion of the amalgam restorations. Reported cases of burning mouth syndrome, orofacial granulomatosis and oral lichen planus may indeed be a result of an amalgam allergy but these are extremely rare. The literature suggests that, for the vast majority of patients, amalgam is an exceedingly safe restorative material with proven effectiveness and longevity, but you may need to know the detail of this paper to convince your sceptical patients.

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