CASE REPORT

Malignant fibrous histiocytoma of mandible: A rare case report
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Abstract
Malignant fibrous histiocytoma (MFH) is a rare malignant sarcoma of soft tissues of head and neck region. The lesions often arise in the superficial tissues such as skin and rarely involve deeper tissues. Very few cases of oral involvement of this lesion have been reported till date. Involvement of mandible is only 3%. Clinically, it is difficult to diagnose a MFH if it involves deeper tissues and it is confirmed by histopathological examination. Surgical excision is the treatment of choice. MFH usually has a poor prognosis with a high recurrence rate. We report a case of MFH developed in the left mandible in a 33-year-old male patient.

Keywords
Fibrous histiocytoma, malignant, surgery

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Received 01 February 2017; Accepted 28 March 2017
doi: 10.15713/ins.jmrps.75

Introduction
Fibrous histiocytomas are benign tumors which are composed of cells which can differentiate into both fibroblasts and histiocytes, rarely it undergoes malignant transformation called as malignant fibrous histiocytoma (MFH).[1] It is an aggressive high-grade sarcoma. MFH was first reported by O’Brien and Stout in the year 1964. Intraosseous MFH is very rare and was first described by Feldman and Norman in 1972.[2] Nasal cavity and paranasal sinuses are the most common sites affected in the head and neck region and may involve maxillary bone. Involvement of mandible is very rare accounting for about 2-3% of all bone lesions of MFH. It behaves in a more aggressive fashion in this region than osteosarcoma.[3]

Case Report
A 33-year-old male patient came with a complaint of swelling on the left side of the face for 10 months [Figure 1]. He gave a history which revealed that the growth started as a small swelling in the posterior tooth region of the lower jaw 10 months back, and since then, it had been gradually increasing to reach the present size causing extraoral swelling in the left side of the face. The swelling was associated with mild pain for 6-7 months. Medical history and family history were non-contributory. Past dental history revealed that the patient had undergone extractions of 36, 37 and 38 6 months back due to mobility.

On extraoral examination, a diffuse swelling measuring about 6 cm × 4 cm in size was seen on the left side of the lower 3rd of face involving mandibular ramus, lower border of the mandible, and extending anteriorly about 2 cm away from the angle of the mouth. Skin over the swelling was normal. Swelling was bony hard on palpation, non-tender, and non-compressible.

On intraoral examination, a diffuse bony hard swelling was present corresponding to extraoral swelling [Figure 2]. The swelling was non-tender with buccal and lingual expansion obliterating buccal sulcus from 35 to 38 region. Mucosa over the swelling was normal, and aspiration was negative.

Based on the clinical history, slow growth of the tumor and radiologic findings provisional diagnosis was given as a benign tumor. Differential diagnosis includes odontogenic (ameloblastoma, odontogenic myxoma) or non-odontogenic (ossifying fibroma). Panoramic radiograph and cone beam computed tomography images showed well-defined radiolucency in the posterior part of the mandible involving left ramus and body [Figures 3 and 4]. The lower border of ramus was thinned out but did not exhibit any fracture. Hemogram showed blood parameters within normal limits. Histopathologically, proliferating fibroblasts, macrophages, and proliferating spindle cells were observed giving a final impression
as storiform-pleomorphic type of MFH. Immunohistochemistry showed positivity for vimentin.

Based on clinical, radiographic, and histopathologic features, a final diagnosis of MFH was made. The patient was referred to oral surgery department, and surgical excision of the lesion was done.

Discussion

MFH accounts for about 20-30% of all soft-tissue sarcomas in adults.[1-3] It is relatively uncommon in the head and neck region, accounting for 3-10% of all cases. It can also occur in other tissues of the body, such as bone, visera, and skin. In the head and neck area, the more common sites involved are the craniofacial bones (15-25%), larynx (10-15%), soft tissue of the neck (10-15%), major salivary glands (5-15%), and oral cavity (5-15%).[8] In our case, it was located in the left ramus and the body of the mandible.

The etiology of this tumor is unknown. Predisposing factors may include genetic, environmental factors such as trauma causing proliferation of fibroblasts, radiotherapy and also thought to arise from benign lesions such as fibrous dysplasia. The most common clinical symptom is slow growing painless mass. Usually seen in adults, the age group of between 50 and 70 years and males are affected 2-3 times more commonly than females.[8] Our case was a 33-year-old male presented with similar features. Radiographically, MFH is seen as a radiolucent lesion with the erosion of cortex and ill-defined margins. May be associated with pathologic fracture.[9] Four morphologic subtypes are seen histologically, depending on the predominant cellular components: Storiform-pleomorphic (50-60%), myxoid (25%), giant cell (5-10%), and inflammatory (5%), some of which have prognostic significance; among which myxoid variant has better prognosis. High-grade fibrosarcoma may resemble MFH, but the absence of giant cells in fibrosarcoma differentiates them.[10] In our case, histopathologically, proliferating fibroblasts, macrophages, and proliferating spindle cells were observed.
To conclude, MFH is uncommon in head and neck region, which manifested in our case as an asymptomatic swelling in the posterior mandible and radiographically showed a radiolucent destructive lesion. Treatment is surgical excision of the lesion. MFH has poor prognosis and high recurrence rate.

References
