



Multiple Myeloma of the Jaw : A Case Report

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ABSTRACT

Multiple Myeloma is a neoplasm of the plasma cell origin also known as Kahler's disease or plasma cell myeloma characteristically affecting the elderly. It is when the plasma cell that multiplies in an abnormal way resulting to aberrant production of lytic lesions especially the bones and blood. This gradually leads to spill out plasma cells from bone marrow causing damage to the neighboring organs. Multiple myeloma is known for its unknown etiology. We report a case with a rare malignancy being the only case reported in Jigme Dorji Wangchuck National Referral Hospital (JDWNRH) till date. We describe a case of multiple myeloma with swelling of the mandible in a 77-year-old woman with the underlying history of diabetes and hypertension. The punched-out radiolucencies seen in the mandible and histopathology examination confirmed the case of multiple myeloma.

Keywords: Multiple myeloma; mandible; osteolytic lesions

Introduction

Multiple myeloma (MM) is a hematologic malignancy characterized by the multi centric proliferation of plasma cells in the bone marrow¹. MM is characterized by excess production of immunoglobulins (heavy and light) due to its ability to widespread, it prevails in multiple organs. During the initial stage of MM maxillofacial manifestation are usually not prominent but may present as a primary manifestation in the advanced stages of this uncommon malignancy. Mostly MM patient complains of pain, ulcerations, dental mobility, discomfort, multiple osteolytic lesions which gradually lead to certain degree of pathological fracture². MM are most commonly seen in head and neck regions and in later stages get metastasis in other regions which concerns medical professionals. It commonly affects the jaw especially the posterior region of mandible where hemopoetic activity is greater³.

The radiographic changes of MM vary from normal to diffuse osteosclerosis but most commonly seen are radiolucent bone lesions. The radiographic images mostly seen in mandible are punched-out appearance, ill-defined and multiloculated lesions⁴.

Case report

A 77 years old woman presented with the complaint of painful and progressively enlarged swelling in the left mandible for the past 15 years. Patient experienced restricted opening with gradual loosening of teeth (generalized periodontitis) because of which she was unable to eat which resulted in weight loss. She revealed no history of traumas or any injury. However, she was hypertensive and diabetic for which she was under medications. Despite continuous medications dispensed from basic health units (BHU) like analgesics and vitamins. There were no signs of healing nor reduction in the size of swelling. Patient has no history of hemorrhage or paresthesia but often complained of discomfort and embarrassment.

During physical examination, extra orally there was large swelling at the left body of the mandible extending from angle of mandible to the mental region which lead to facial asymmetry and midline deviation as shown in (Figure 1). Her vitals were within normal range. Meanwhile, she complaint of dull constant pain and feeling of tightness in the massive swollen region. Pain aggravated during touch because of which oral hygiene was poor. During intraoral examinations, multiple missing teeth with chronic generalized periodontist and presence of band like structure on the left buccal mucosa were

noted.



Figure 1. Patient with extra oral swelling

In addition, a histopathological examination was done where multiple malignant plasma cells or plasmacytoma were seen from specimen obtained from the incisional biopsy. However, due to bony swelling fine needle aspiration cytology (FNAC) could not be performed. Panoramic radiograph shows large irregular osteolytic lesions involving the right angle of mandible extending from right mandibular first premolar to the mandibular second molar region was noted with multiple missing teeth in both upper and lower jaw. Similarly, in the left quadrant there were presence of irregular, multiloculated and ill-defined margin with radiolucent lesions involving buccal and lingual cortical plates as shown in (Figure 2).

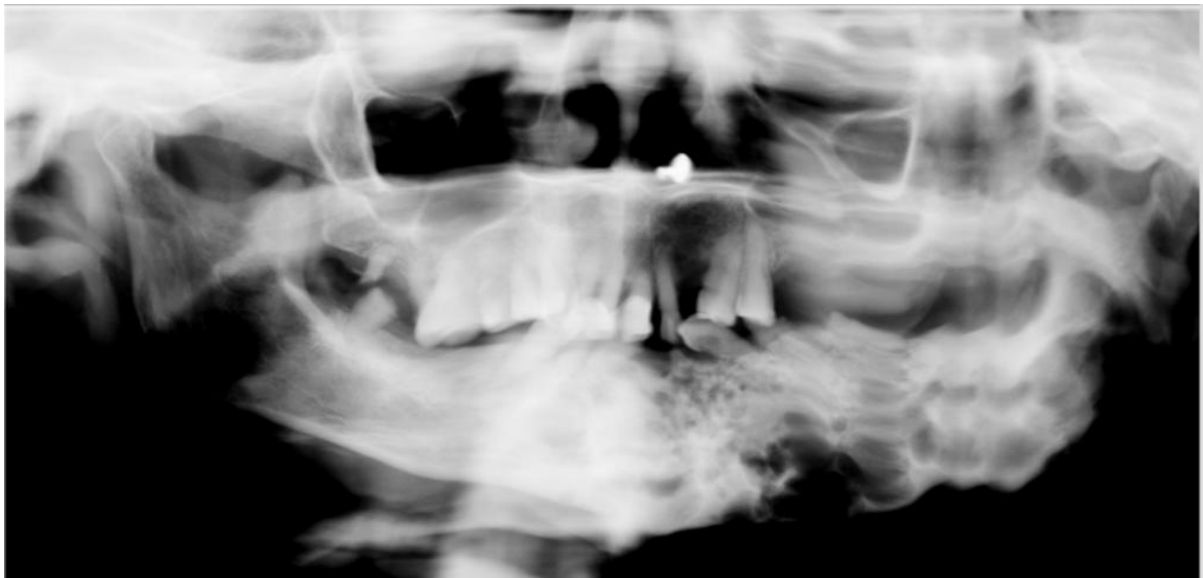


Figure 2. Panoramic radiograph shows ill-defined discrete radiolucent lesions in the mandible.

Lateral cephalogram shows multiple punched-out radiolucent lesion with discrete margins located in the anterior mental and body of mandible which is indicative of MM as a radiological diagnosis (Figure 3).

Patient was referred to Kolkata for further management upon discussion with oncosurgeon and oromaxillofacial surgeons. However, due to age of the patient and underlying medical conditions she couldn't undergo any invasive procedures. After a multidisciplinary approach to manage multiple myelomas, she was put on symptomatic and palliative care which she is receiving till now. She was recommended a dental review every 3-6 months.



Figure 3. Lateral cephalogram showing multiple punched-out radiolucent lesions.

Discussion

MM is a malignant plasma cell neoplasm seen in patient above 50 years of age and males are commonly affected than females⁵. However, the rarity of this case study is owned to the patient being a female. Oral manifestation includes tooth ache, tender jaw, paresthesia, swelling, teeth mobility with migration, hemorrhage leading to accumulation of malignant plasma wells in the bone marrow, and pathologic fracture. MM have high potential to produce local as well systemic involvement depending upon the severity of the disease. Moreover, commonly seen in mandible where hematopoietic activity is intense⁴⁻⁵. Undiagnosed or delayed diagnosed of MM can often be life threatening when multiple organs are involved especially in advanced stages of MM.

The present case had involvement of the posterior mandible and punched-out osteolytic lesions in the body and angle of mandible with discrete margins which is seen as radiolucent patches in the panoramic imaging. The differential diagnosis of MM includes the brown tumor, metastatic lesions and chronic osteomyelitis which all shows multiple lesions with radiographic findings⁶. The treatment for these malignancies needs a multidisciplinary approach to diagnosis.

Conclusion

In multiple myeloma, primary manifestations in jaw varies from 8-15% and its commonly mistaken with osteoporosis due to multiple osteolytic lesion in the affected regions. A detailed examination and evaluation of the affected region, systemic involvement and a thorough oral assessment are crucial for an early diagnosis and timely treatment of this uncommon pathologic entity.

REFERENCE

- Stoopler ET, Vogl DT, Stadmauer EA. Medical management update: Multiple myeloma. *Oral Surg Oral Pathol Oral Radiol Endod* 2007 May; 103(5):599-609.
- Elias HG, Scott J, Metheny L, Quenresy FA. Multiple myeloma presenting as ill-defined radiolucent lesion with numb chin syndrome: A case report. *J*

Oral Maxillofac Surg. 2009; 67(9): 1991-1966.

Shubhasini AR, Praveen BN, Bhanushree R. Multiple myeloma of the jaw: A case report. Oral Med Oral Radiol. 2014 Dec; 26(4):454-457.

Epstein JB, Voss NJ, Stevenson- Moore. Maxillofacial manifestations of multiple myeloma. An unusual and review of the literature. Oral Surg Oral Med Oral Pathol. 1984 Mar; 57(3):267-271.

Neville BW, Damm DD, Allen CM, Bouquot JE. Hematologic disorders. Oral and Maxillofac Pathol. 2nd edition. New Delhi, India: Elsevier; 2002:256-257.

Ali IK, Parate AR, Kasat VO. Multiple myeloma with primary manifestation in the mandible. Cureus. 2018 Mar; 10(3): e2265.