

# Maxillofacial Radiology 201

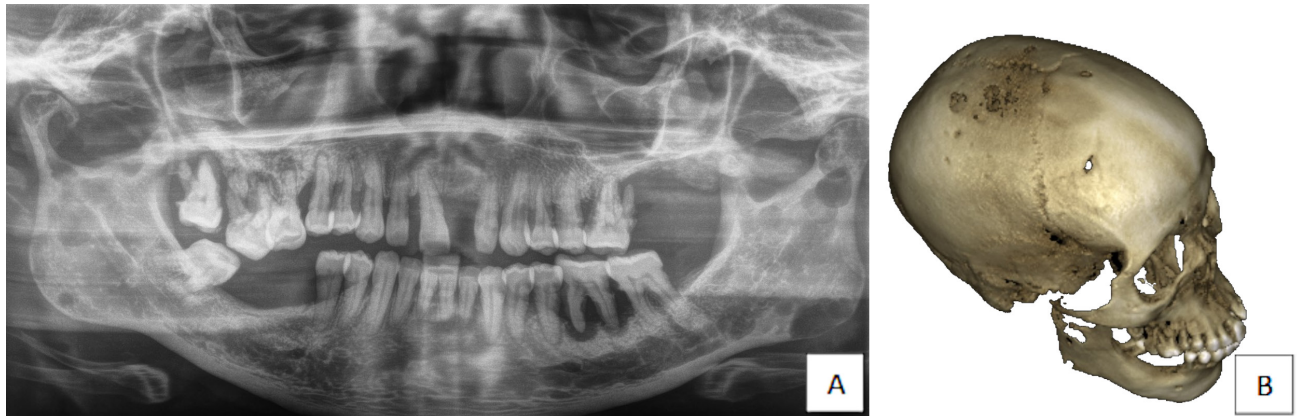
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## CASES

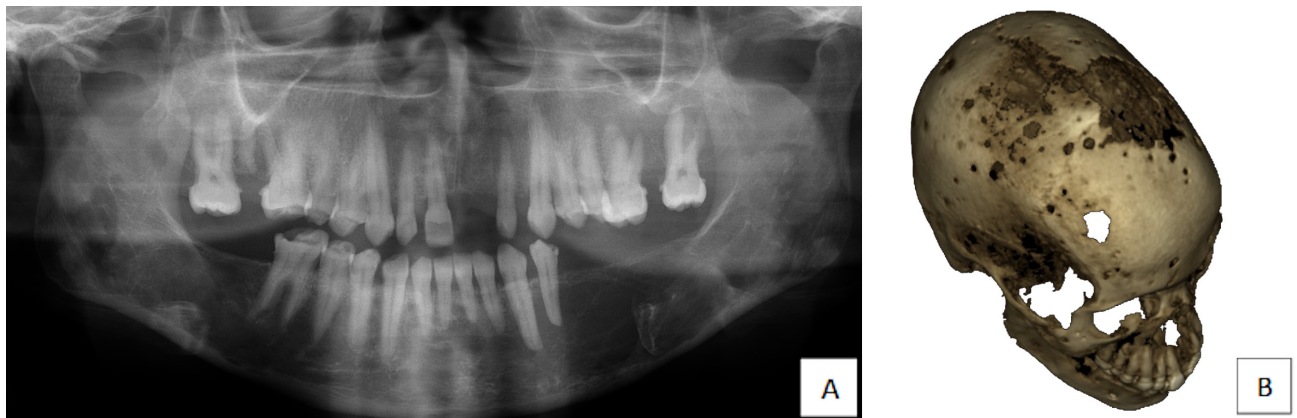
Two female patients presented with multiple radiolucent lesions noted on panoramic radiography. Cone-beam computed tomography (CBCT) scans confirmed multiple “punched-out” lesions affecting the skull.

### Patient 1:



**Figure 1:** Panoramic radiograph (A) of a 57-year-old female patient who presented with painless lesions that were detected incidentally by a general dental practitioner. Three-dimensional (3D) reconstructed CBCT imaging (B) showing bilateral involvement of the mandibular, frontal, parietal and occipital bones.

### Patient 2:



**Figure 2:** Panoramic radiograph (A) of a 50-year-old female patient who presented with an expansile soft tissue lesion in the left mandible. 3D reconstructed CBCT imaging (B) showing bilateral involvement of the mandible and extensive involvement of the entire calvarium.

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#### Authors contribution:

Chané Smit: 50%  
Liam Robinson: 50%

## INTERPRETATION

Both patients presented with multiple synchronous punched-out radiolucencies affecting multiple skull bones. In both cases, the lesions were biopsied with a confirmed diagnosis of a plasma cell neoplasm in keeping with multiple myeloma.

Multiple myeloma (MM) is a haematolymphoid malignancy of plasma cells that presents with multifocal destructive bony lesions. The focal/singular lesion is referred to as a plasmacytoma. MM represents 0.8% of all cancer diagnoses worldwide and often affects patients over the age of 40 years.<sup>1</sup> Accepted risk factors include advanced age, male gender, black ethnicity and positive family history.<sup>1</sup> The clinical signs and symptoms are related to

the uncontrolled growth of the malignant cells and their abnormal secretions.<sup>2</sup> The overgrowth of malignant cells in the bone marrow results in the underproduction of other cell types, resulting in anaemia, neutropenia, and thrombocytopenia. Therefore, fatigue, immunosuppression paired with frequent opportunistic infections, and petechial haemorrhages, are common presenting signs and symptoms. The extensive amount of bony destruction by the multiple bone lesions results in bone pain, pathological fractures, and increased serum calcium resulting in metastatic calcifications. Abnormally secreted proteins may cause renal damage and can be detected in the urine where they are referred to as Bence-Jones proteins. They may also be deposited in soft tissue as amyloid, which may be seen in the tongue as a cause of macroglossia. Patients with MM are usually treated by multiple cycles of combination

chemotherapy followed by stem cell transplant with long-term maintenance therapy to prevent relapse.<sup>3</sup> The median duration of survival is 33 months<sup>2</sup>, with early diagnosis and treatment initiation being paramount. This emphasises the need for early detection by dental practitioners during routine radiographic examinations.

#### REFERENCES

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