The patient presented for debridement five days later. After induction, the site was anaesthetised with 2% lidocaine with 1:100,000 adrenaline and 0.5% bupivacaine hydrochloride with 1:200,000 adrenaline. Erich arch bars were placed on maxillary and mandibular teeth using 26-gauge interdental wiring. A full thickness mucoperiosteal flap was reflected and the site was curetted. Scar and granulation tissue were removed and sent for histopathologic evaluation. The bone was scored on all walls with a round surgical bur until observable pinpoint bleeding indicating adequate bone vascularisation.

The area was irrigated with chlorhexidine and a clindamycin-soaked haemostatic agent was placed in the bony defect. Primary closure was achieved with 4-0 vicryl sutures. Blood loss was less than 20 mL, and extubation was uneventful. Intraoperative clinical impressions indicated a diagnosis of OM pending confirmation by culture analysis.

Five weeks post-debridement showed significant improvement. Gingiva appeared well healed, no bony exposures present nor swelling or drainage observed. Arch bars were removed under general anaesthesia. Follow-up evaluation of the surgical site indicated full healing with no signs or symptoms of infection. A final six-month follow-up appointment presented a patient with no complaints and well-healed intraoral gingiva without evidence of drainage. Post-operative CT scans displayed complete bone filling without defect (Fig. 2).

The biopsy specimen revealed granulation tissue with both acute and chronic inflammation and areas of viable reparative bone, signed out as 'consistent with localised osteitis'. The patient demonstrated localised bone loss with soft tissue oedema, however the histopathology specimens create room for debate about whether or not requirements for OM diagnosis were fulfilled. His antibiotic regimen helped to a degree, however a more aggressive, interventional approach may be indicated in scenarios such as the one described in the presentation. We contend the patient presented an elevated risk for developing OM had he not undergone debridement and advocate for the utilisation of surgical strategies to prevent OM where onset is of high likelihood.

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Dental radiography

Anatomy in panoramic image interpretation

Sir, panoramic radiographs are a common imaging modality used in primary and secondary dental care. Being able to interpret panoramic radiographs is an important skill for all dental practitioners using these images as part of their practice. Understanding the technique of panoramic radiography as well as a good knowledge of anatomy is important for accurate diagnosis.[1]

A request was made for CBCT imaging of the lower left third molar to assess its relationship to the inferior alveolar canal. The panoramic radiograph suggested an intimate relationship. In addition, the panoramic radiograph showed a radiolucent outline overlying the inferior aspect of the body of the mandible. This is consistent with the submandibular gland fossa. We use the panoramic/CBCT combination to explain the cause of this appearance.

Fig. 1 Panoramic radiograph taken to assess the proximity of 38 to the inferior alveolar canal. A distinct line is seen, separating the radiopaque and radiolucent appearances of the body of the mandible

An x-ray beam is variably attenuated depending on the structure it passes through, its thickness and density.[2] In this case the mylohyoid ridge separates the crestal (thicker) mandible from the apical (thinner) submandibular gland fossa. As the beam travels through the mandible, less attenuation occurs in the submandibular gland fossa, resulting in a more radiolucent appearance.

Pawar and Makdissi highlighted that distinguishing artefacts from pathological conditions remains a challenge in panoramic radiography. This is the main limitation of the technique.[3] In this case the submandibular gland fossa has given rise to a more radiolucent appearance which could have imitated the presence of pathological condition. The use of CBCT has helped in explaining its appearance.

These images demonstrate the thicker bone coronally which becomes narrower apically in the region of the submandibular gland fossa. This is responsible for the differing radiopacity of the body of the mandible seen on the panoramic radiograph. A good understanding of the technique and anatomy in panoramic radiography remains an essential skill for practitioners in order to establish good diagnostic ability.

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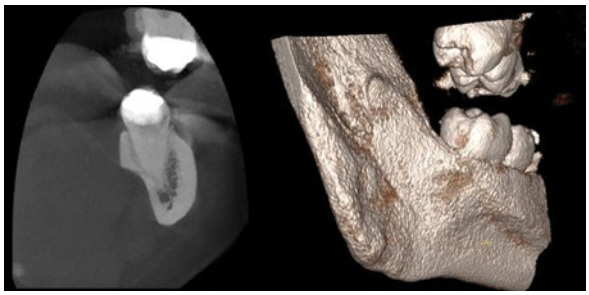

Fig. 2 CBCT image and 3D reconstruction showing the varying bone thickness