

## A Disappearing Radiolucency of the Mandible Caused by Inadvertent Trauma Following IMF Screw Placement

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**Abstract :** A 29-year-old male was a referral to the maxillofacial unit following a referral from his general dental practitioner via a routine pathway regarding a large periapical lesion on the LR4 with root resorption. The patient was asymptomatic, the LR4 vital and unrestored, and this was an incidental finding at a routine check-up. The patient's past medical history was unremarkable. Examination revealed no extra or intra-oral pathology and non-mobile teeth. No focal neurology was detected. An orthopantomogram demonstrated a well-defined unilocular corticated radiolucency associated with the LR4. The root appeared shortened with the radiolucency between the root and a radio-opacity, possibly representing the displacement of the apical tip of the tooth. It was recommended that the referring general practitioner should proceed with orthograde root canal therapy, after which time exploration, enucleation, and retrograde root filling of the LR4 would be carried out by a maxillofacial unit. The patient was reviewed six months later where, due to the COVID-19 pandemic, the patient had been unable to access general dental services for the root canal treatment. He was still entirely asymptomatic. A one-year review was planned in the hope this would allow time for the orthograde root canal therapy to be completed. At this review, the orthograde root canal therapy had still not been completed. Interestingly, a repeat orthopantomogram revealed a significant reduction in size with good bony infill and a significant reduction in the size of the lesion. Due to the ongoing delays with primary care dental therapy, the patient was subsequently internally referred to the restorative dentistry department for care. The patient was seen again by oral and maxillo-facial surgery in mid-2022 where he still reports this tooth as asymptomatic with no focal neurology. The patient's history was fully reviewed, and noted that 15 years previously, the patient underwent open reduction and internal fixation of a left angle of mandible fracture. Temporary IMF involving IMF screws and fixation wires were employed to maintain occlusion during plating and subsequently removed post-operatively. It is proposed that the radiolucency was, as a result of the IMF screw placement, penetrating the LR4 root resulting in resorption of the tooth root and development of a radiolucency. This case highlights the importance of careful screw size and physical site location, and placement of IMF screws, as there can be permeant damage to a patient's dentition.

**Keywords :** facial trauma, inter-maxillary fixation, mandibular radiolucency, oral and maxillo-facial surgery

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