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Clinical Image

Ankylosis of the lower first molar and its impact on orthodontic treatment: a case report

Dieiferson Tiers Oliveira Carneiro [1], Diego Thiers Oliveira Carneiro [1, 2, *]

[1] OralDents, Fortaleza, CE, Brazil.
[2] Post-graduate Program in Pathology, Federal University of Ceara, Fortaleza, CE, Brazil.

* Correspondence: diego_thiers@hotmail.com.

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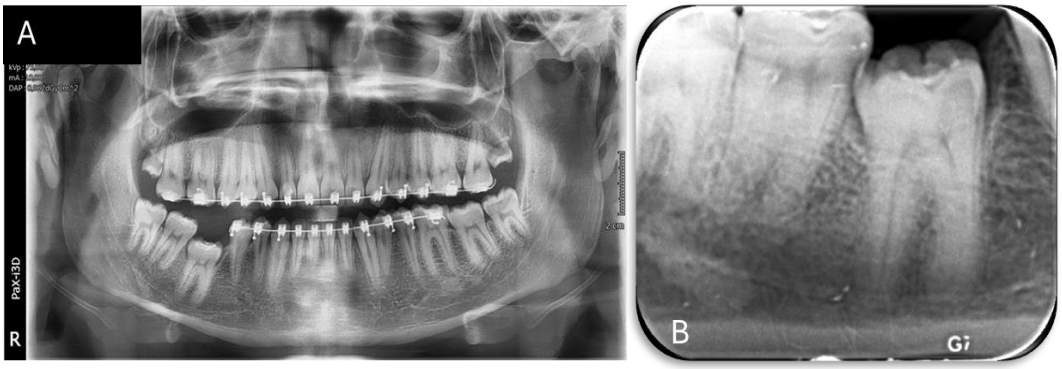

Figure 1: A. Panoramic radiograph revealing an ankylosed lower right molar. **B.** Periapical radiograph showing the absence of a radiolucent image compatible with the periodontal ligament.

In the radiograph images (Figure 1A and 1B), one can observe the lower right first molar of a 19-year-old male patient undergoing orthodontic treatment. Radiographic evidence points to the presence of ankylosis, a pathological fusion between the root of the first molar and the surrounding alveolar bone. Radiographic analysis highlights characteristic signs of ankylosis, especially evident in the loss of periodontal space around the affected molar. Radiographically, the indicative radiolucent aspect of the periodontal ligament is not observable. This aspect serves as a crucial diagnostic marker for the ankylosed condition of the tooth. The complexities of ankylosis are further emphasized by the absence of the expected periodontal space, underscoring the challenge it imposes on orthodontic treatment objectives [1].

The clinical narrative takes a turn when attempts are made to address ankylosis through orthodontic traction. Despite the application of orthodontic force, the low-er right first molar resisted movement, demonstrating the severity of the ankylosed condition. The complexity of the case reaches its peak when orthodontic traction proves ineffective. Consequently, the clinical decision is made to perform the ex-traction of the ankylosed first molar. This final therapeutic option is grounded not only in the failure of orthodontic attempts but also in the consideration of potential repercussions that an ankylosed tooth may impose on adjacent dentition and the overall stability of orthodontic

treatment. Additionally, there was a planned installation of dental implants to restore masticatory function compromised by the ankylosed condition [2].

A radiographic image becomes a crucial diagnostic tool, providing a view of the intricate anatomical and pathological relationships involved. It serves as a visual guide for clinicians, offering a comprehensive understanding of the challenges faced during the attempt to manage orthodontically an ankylosed lower right first molar. Furthermore, this clinical scenario highlights the importance of interdisciplinary collaboration, emphasizing the need for cohesive efforts between orthodontic specialists and maxillofacial surgeons. Collaborative approaches are vital to address the inherent complexities of cases involving ankylosis, ensuring that treatment decisions are well-informed and optimized for short-term and long-term patient outcomes [3].

The visual narrative serves as a testament to the challenges faced, the interventions attempted, and ultimately, the judicious decision to extract the ankylosed tooth. This comprehensive clinical account underscores the importance of meticulous evaluation and interdisciplinary cooperation when dealing with complex cases in the field of surgical dentistry.

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