

A rare case of tooth impaction Kissing Molars associated to dentigerous cyst-Case report

Um caso raro de impacção dentária. Kissing Molars associada a cisto dentígero -Relato de caso

Un caso raro de impactación dental. Kissing Molars asociada a quiste dentígero- Reporte de caso

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Abstract

Kissing Molars is a term used to describe impacted teeth that contact occlusal surfaces in a single follicular space. The occurrence of this phenomenon is extremely rare and of unknown etiology. Therefore, the present study aimed to present a case report of Kissing Molars associated with dentigerous cyst where a surgical procedure was needed under general anesthesia due to the atrophied jaw. On the left side, of the mandible, and fracture after the removal of the impacted teeth happened and a 2.4 mm reconstruction plate was installed. After the extraction of impacted molars, the lesion with a cystic aspect was removed and sent to histopathological analysis which confirmed the diagnostic hypothesis of dentigerous cyst. Thus, it was concluded that despite the rare impaction and unknown etiology, with a little report in the literature, clinically the case behaves like any impacted tooth, and inflammation may occur if it partially erupts. Radiographically, it presents with the occlusal surfaces in contact and a single follicle, usually associated with the dentigerous cyst.

Keywords: Dentigerous cyst; Mandibular fractures; Surgery, oral; Tooth, impacted.

Resumo

Kissing Molars é um termo usado para descrever dentes impactados que entram em contato com superfícies oclusais em um único espaço folicular. A ocorrência deste fenômeno é extremamente rara e de etiologia desconhecida. Portanto, o presente estudo teve como objetivo apresentar um relato de caso de *Kissing Molars* associados a cisto dentígero onde foi necessário procedimento cirúrgico sob anestesia geral devido à mandíbula atrofada. No lado esquerdo, da mandíbula, ocorreu a fratura após a remoção dos dentes impactados e foi instalada uma placa de

reconstrução do sistema 2.4mm. Junto com as exodontias, a lesão de aspecto cístico foi retirada e enviada para análise histopatológica que confirmou o cisto dentígero. Assim, concluiu-se que apesar da rara impacção e etiologia desconhecida, com pouco relato na literatura, clinicamente o caso se comporta como qualquer dente impactado, podendo ocorrer inflamação se houver erupção parcial. Radiograficamente, apresenta-se com as superfícies oclusais em contato e um único folículo, geralmente associado ao cisto dentígero.

Palavras-chave: Cisto dentígero; Fraturas mandibulares; Cirurgia bucal; Dente impactado.

Resumen

Kissing Molars es un término que se usa para describir los dientes impactados que contactan con las superficies oclusales en un solo espacio folicular. La ocurrencia de este fenómeno es extremadamente rara y de etiología desconocida. Por lo tanto, el presente estudio tuvo como objetivo presentar un reporte de caso de Kissing Molars asociado a quiste dentígero donde se requirió un procedimiento quirúrgico bajo anestesia general debido a la atrofia mandibular. En el lado izquierdo, de la mandíbula, se produjo una fractura esperada después de la extracción de los dientes impactados y se colocó una placa de 2.4. Junto con las exodoncias se extirpó la lesión de aspecto quístico y se envió a estudio histopatológico que confirmó el quiste dentígero. Así, se concluyó que apesar de la rara impacción y etiología desconocida, con poco reporte en la literatura, clinicamente el caso se comporta como cualquier dente impactado, pudiendo presentarse inflamación si erupciona parcialmente. Radiográficamente se presenta con las superficies oclusales en contacto y un folículo único, generalmente asociado al quiste dentígero.

Palabras clave: Quiste dentígero; Fraturas mandibulares; Cirugía oral; Diente impactado.

1. Introduction

Kissing Molars is a term used to describe impacted teeth that contact occlusal surfaces in a single follicular space, with roots pointing in opposite directions and is an extremely rare phenomenon with very limited cases in the dental literature and the etiology unknown (Nakamura et al., 1992; Boffano & Gallezio, 2009; Shokouhi & Webb, 2014; Ghosh et al., 2017). There is a high incidence of cystic formation, and the maintenance of these teeth can cause complications, such as reduction of the mandibular bone, which increases the risk of fracture, resorption of the roots of adjacent teeth, pericoronitis, pain at the site and occurrence of cysts (Nishikawa et al., 1996; Gulses et al., 2012; Zerener et al. 2016).

Treatment varies depending on classification, clinical features, patient age and eruptive potential of impacted teeth. The most common protocol is the surgical one involving the extraction of both Kissing Molars teeth, however, there are also other treatment options such as orthodontic therapy when there is the possibility of aligning the teeth involved, follow-up of the patient in cases without symptoms and without follicle thickening or a combination of treatments, such as surgical-orthodontic (Oliveira et al., 2021).

The maintenance of these teeth can cause complications, such as the reduction of the mandibular bone, which increases the risk of fracture, resorption of the roots of adjacent teeth, pericoronitis, pain at the site, and occurrence of cysts (Nishikawa et al., 1996; Gulses et al., 2012).

However, the effect of dentigerous cysts on Kissing molars is unclear. The formation of a dentigerous cyst can occur during or after the tooth eruption (Ghosh et al., 2017). Thus, it is not clear whether the cyst of permanent teeth causes impaction or impacted teeth result in dentigerous cysts (Nishikawa et al., 1996, Alberto 2020). Therefore the present work aimed to present a case report of Kissing Molars associated with a dentigerous cyst.

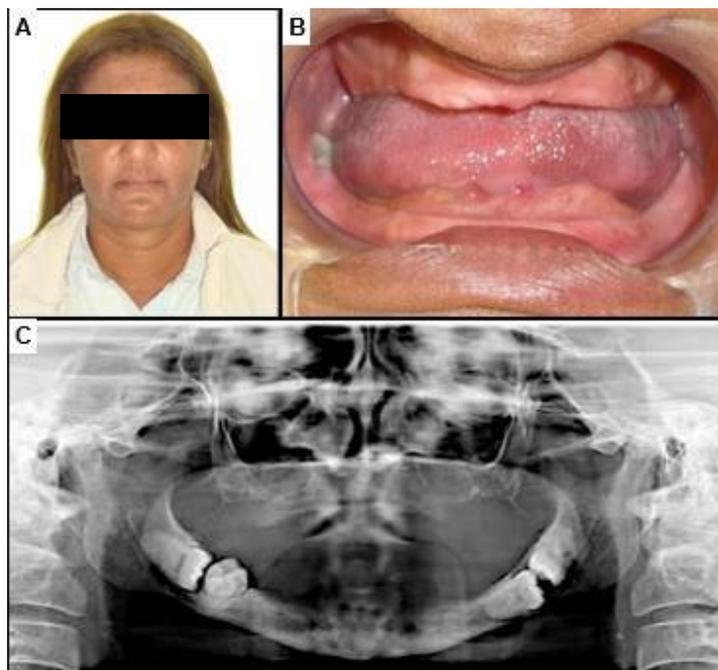
2. Methodology

The present case study consists of a case report of Kissing Molars associated a cystic lesion in patient evaluated in Hospital Prefeito Edivaldo Orsi at Campinas, São Paulo, Brazil. This study applied the methodology described in Pereira et al., 2018 and a Free and Clarified Term Consent was sign by the patient, prepared in easy-to-understand language, so that it intelligently disposes of the personal information collected, as well as the associated risks and benefits and it was also sent to the CEP/CONEP.

3. Results

In the present case, a 52-year-old female, black patient (Figure 1A) went to the maxillofacial sector of Hospital Prefeito Edivaldo Orsi at Campinas, São Paulo, Brazil, reporting pain in the right mandibular region. On intra-oral clinical examination, pericoronitis in the right mandibular second molar was found, number 47 (Figure 1B). Panoramic radiography was requested, in which the presence of included teeth was observed bilaterally. On the right side, tooth number 47 was included, and tooth 48 semi-vertical. On the other side teeth, number 37 and 38 were included, horizontal with the occlusal surfaces contacting each other and roots pointing to the opposite side, characteristic of Kissing Molars (Figure 1C). A radiolucent image was also observed around the crowns of the impacted teeth, suggestive of a cystic lesion.

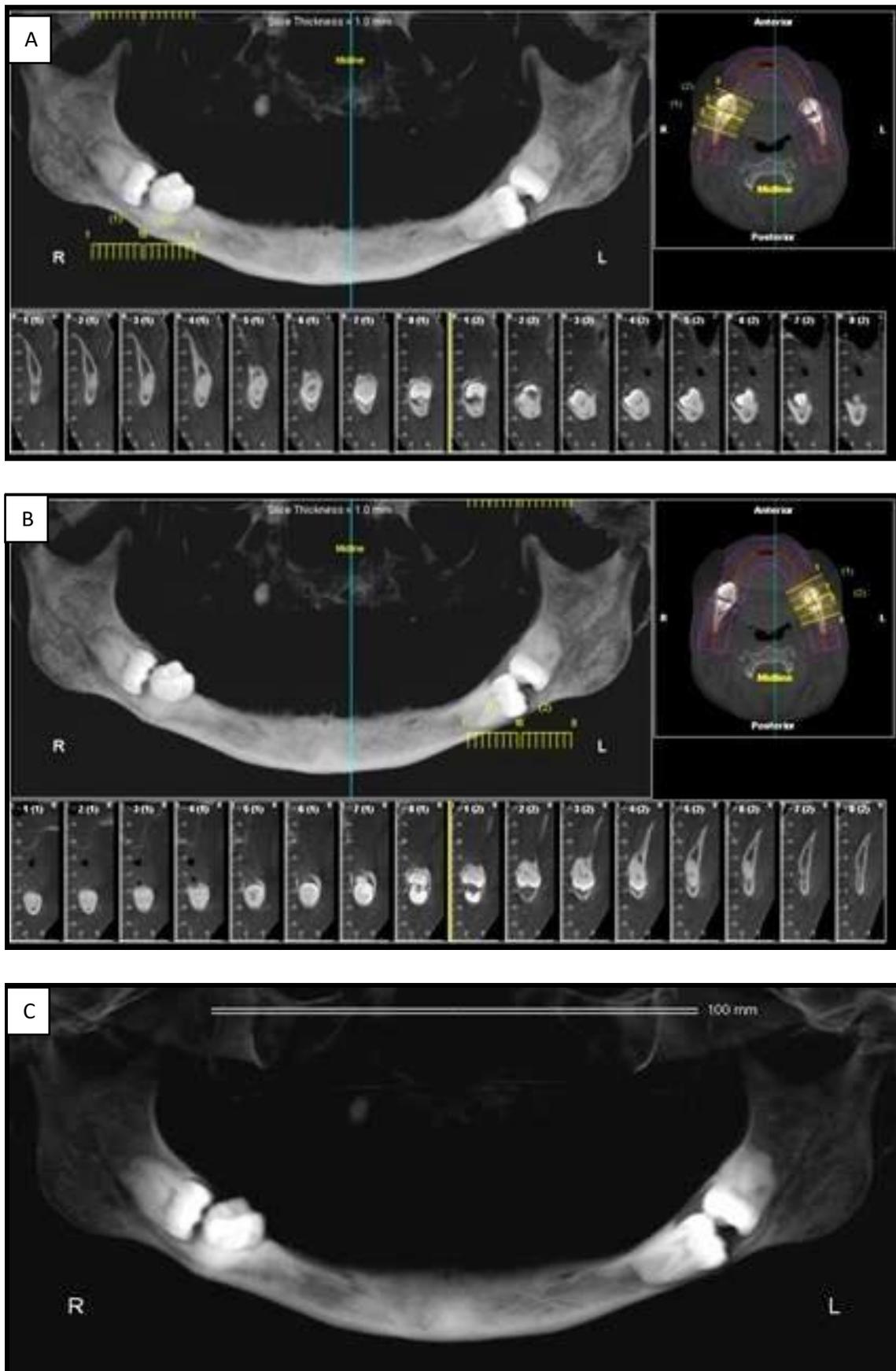
Figure 1 – (A) Clinical examination front view. (B) Intra-oral examination. (C) Panoramic radiography.



Source: Authors.

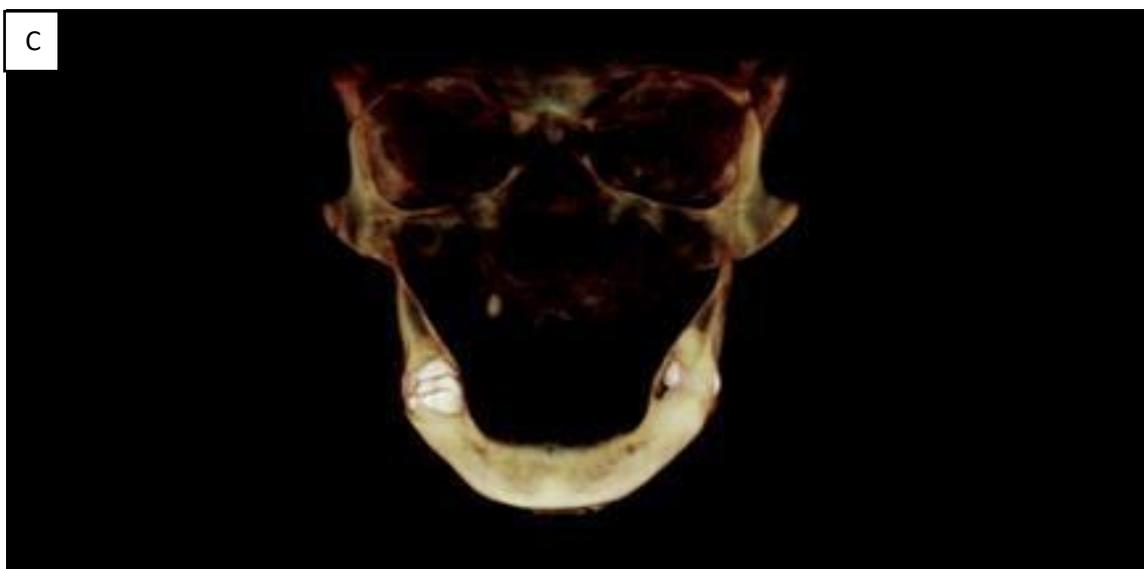
The surgery was performed under general anesthesia where a computed tomography scan was requested for better surgical planning (Figure 2 and 3).

Figure 2 – (A) Computed tomography of the right side. (B) Computed tomography of the left side. (C) Computed tomography on the front view.



Source: Authors.

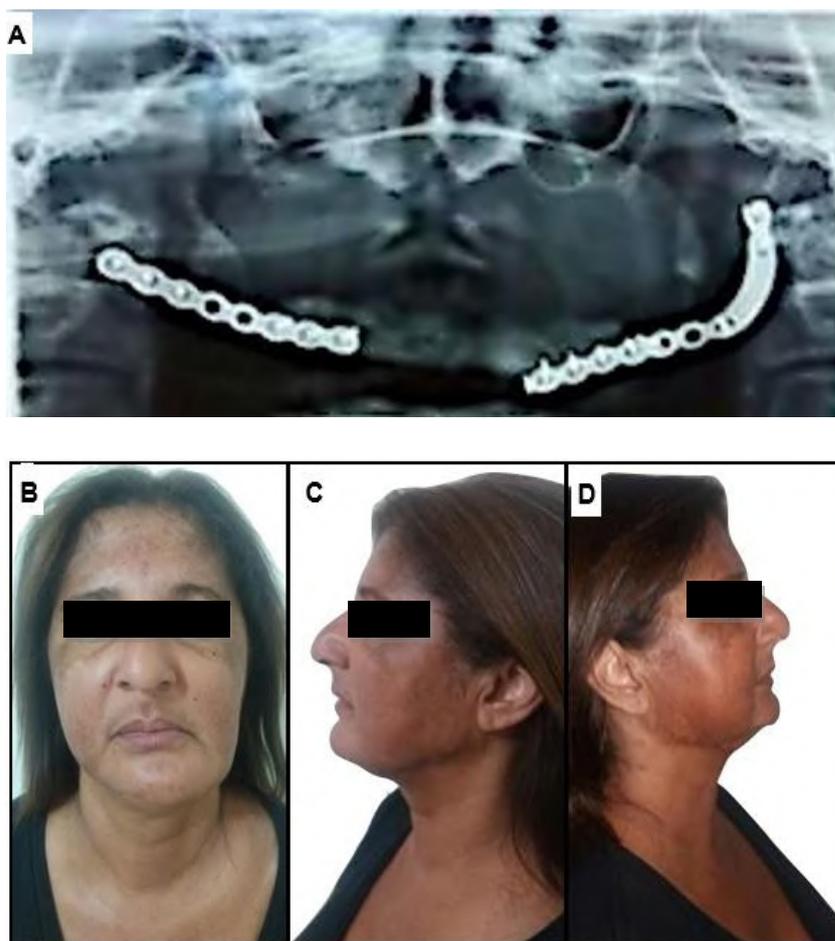
Figure 3 – Computed tomography 3D reconstruction (A) right side view, (B) left side view (C) on the front view.



Source: Authors.

On the right mandibular side, the elements were extracted and the lesion with a cystic appearance was removed, and a 2.4mm reinforcement plate installed (Figure 4A). On the left mandibular side, there was a fracture after removal of the impacted teeth and a 2.4mm reinforced plate was also installed. The cystic-looking lesion was removed and sent for histopathological analysis, which confirmed a dentigerous cyst. The patient has been followed up annually for 4 years, and healing is within normal limits and compatible with surgery. There is postoperative asymmetry in the lower third of the left hemiface (Figure 4B; Figure 4C; Figure 4D).

Figure 4 – Postoperative images. (A) Panoramic radiography showing 2.4 plates installed. (B) Patient front view, (C) the left side and (D) the right side.



Source: Authors.

4. Discussion

Kissing Molars refers to the contact of occlusal surfaces of impacted permanent mandibular molars and in a single follicle, a rare occurrence in the dental literature (Neto et al., 2012; Dhuvad & Kshirsagar, 2015; Yanik et al., 2017; Jannu et al., 2014). Cases of Kissing Molars occur in the mandibular region and are more frequently unilateral, with a greater predilection for the right side, with only 15 bilateral cases actually reported. Among the most affected teeth are the second and third molars (Silva et al., 2020).

Some authors classified this type of impaction into three groups, depending on which molars were involved. Type I first and second molars, type II second and third molars, type III third and fourth molars (Neto et al., 2012). In this case report,

the type of impaction on the left side is type II. CT is considered the gold standard in most cases and should be used to assess the position of the mandibular nerve to avoid injury (Gulses et al., 2012).

Few treatment options have been described in the literature, requiring further investigation. The surgical approach to this condition requires an exhaustive understanding of the region's anatomy, advanced surgical skills, and a rigorous planning process. Surgical extraction of these teeth is indicated when there is a history of recurrent infection or cystic lesions associated with inclusions. Fact that occurred in this case report. In the present case, our treatment was by the literature suggestions, proceeding with the surgical removal of both impacted teeth and mandibular reinforcement using reconstruction plates due to the atrophic mandible (Anish et al., 2015, Amo et al., 2016).

5. Conclusion

Cases of Kissing Molars are rare clinical conditions, with few treatment options described. The option chosen in this case was in accordance with the literature, as it is associated with a cystic lesion. The imaging exams together with the knowledge of the oral and maxillofacial surgeon are essential in these cases for a good prognosis for the patient.

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