

## ‘Missing Molars Caught Kissing’

<sup>1</sup>Dr. Anubhav A. Jannu , <sup>2</sup>Dr. Siva Bharani KSN, <sup>3</sup>Dr. Vivek G. K ,

<sup>4</sup>Dr. Veena G. C, <sup>5</sup>Dr. Rajay Kamath

<sup>1,2,3,4,5</sup>All the authors are Oral & Maxillofacial Surgeons affiliated to Rajiv Gandhi University of Health Sciences, Bangalore, INDIA.

---

**Abstract:** Kissing molars was first described by Van Hooper in 1973 but the term was coined by Robinson in 1991. Also termed ‘rosette’ formation, they are an extremely rare condition with cases reported few and far between. These molars have occlusal surfaces contacting each other with their roots pointing in the opposite direction in a single follicular space. This condition has been linked to metabolic diseases such as mucopolysaccharidoses (MPS) and related disorders and, therefore, patients presenting with ‘kissing’ molars need to be appropriately investigated.

So far, seven such cases have been documented in the literature. This case report highlights the fundamental tenet that conventional radiography, in routine case examination, still has great relevance especially in detecting dental anomalies. Optimal preoperative case preparation goes without saying, and the complications that follow require prompt recognition and appropriate management. However, due to the exceeding sporadic nature of this anomaly, it is extremely difficult to establish definitive management protocols.

**Key Words:** Mucopolysaccharidoses, Bilateral kissing molars.

---

### I. Introduction

Impacted teeth, most notably the third molars, have been discussed at length in the literature, the world over. However, reports relating to the incidence of kissing molars, where the second molars are concerned, are scarce.<sup>1</sup> The prevalence of impacted wisdom teeth is estimated to be as high as 25%.<sup>2</sup> where as the corresponding figure for impacted second molars is just 0.03%.<sup>3</sup> The term ‘kissing molars’ was first coined by Robinson in 1991<sup>4</sup>, but it was in 1973 that Van Hoof gave a succinct description of this extremely rare condition.<sup>5</sup> They are impacted permanent molars with their occlusal surfaces contacting each other in a single follicular space, with roots pointing in opposite directions.<sup>6</sup>

Disturbances in tooth position can be linked with conditions such as mucopolysaccharidoses, where multiple ‘rosetting’ of molars may occur either as a disease component or an isolated feature, as surmised by Nakamura in 1991.<sup>13</sup> Hence, the term ‘rosette formation’ has been synonymously employed for kissing molars. Thus far, seven reports have been documented in the medical literature.<sup>1, 4-10</sup> This report documents a case a bilateral lower ‘kissing molars’ and issues related to its management are briefly discussed.

### II. Case Report

An 18-year old female sought orthodontic treatment at a private clinic in Bangalore, India on January 5<sup>th</sup> 2014. As a preliminary measure, an OPT and a lateral cephalogram were routinely advised prior to the commencement of orthodontic work-up. Upon radiographic evaluation, the lower second and third molars were impacted with their occlusal surfaces in mutual contact in a single follicular space, bilaterally. The nature and depth of impaction significantly precluded the possibility of orthodontic realignment and post-treatment stability in the long run. Thus, the patient was referred to our clinic for further management. The history was noted but examination was redone.

The patient was well built and nourished and had no associated medical problems. A very diffuse swelling in the lower face was evident on both sides. The overlying skin was normal. There was no history of pain or recurrent fever or infection. Upon palpation, the swelling was bony hard and non-tender. Upon oral examination, hygiene was fair with mild generalized gingivitis present. Dentition was of the permanent type and the occlusion was class I. The lower second and third molars were missing and mild buccal cortical expansion was evident bilaterally. The alveolar ridge in the second molar regions appeared swollen up to the retromolar trigone but was non tender. The upper third molars were also missing but, owing to the patient’s age, this finding didn’t influence the clinical diagnosis.

An OPT revealed impacted lower second and third molars with their occlusal surfaces in intimate contact, surrounded by a radiolucent space limited at the CEJ. The upper third molars were also impacted and locked beneath the second molar crowns, but this was inconsequential. The inferior dental canal was significantly displaced on both sides making postoperative neurosensory problems strongly inevitable, more so with the left. Also, the significant depth of impaction together with the presence of follicular spaces appeared to

minimise the area of cross section of the jaw in that region, making this finding a serious concern as the chances of intra-operative jaw fracture were high. Inclusive of all the findings, a provisional diagnosis of 'kissing' molars was made. The patient was made aware of the condition and the potential complications following surgical intervention, but apprehension appeared the most influencing factor that discouraged us from performing the procedure under local anesthesia. Hence, we decided to perform surgery under GA for reasons stated earlier.

Bilateral inferior alveolar and long buccal nerve blocks were administered using 2% lignocaine hydrochloride containing adrenaline 1:80,000. Crevicular incisions, beginning from the lower first premolars, and continuing posteriorly, a release incision was incorporated along the anterior ramal border to facilitate greater exposure. Following full-thickness flap elevation, bone removal was done with a round 703 tungsten-carbide bur using copious amounts of normal saline to achieve maximum exposure of the crowns. At this stage, the teeth were sectioned to minimize further bone removal and great care was exercised while elevating them out the follicles. The follicular tissue was enucleated out and the cavities were rinsed thoroughly with 5% povidone-iodine mixed with physiological saline. Primary closure was achieved using 3-0 vicryl suture material in a vertical mattress fashion.

Post-operative recovery was uneventful, though the patient complained of mild pain and facial swelling that resolved with time. Post-operative medication included antibiotics (1.2g of amoxicillin with potassium clavulanate iv every 8 hrs for 5 d; 500mg of metronidazole iv every 8 hrs for 5 d), a non-steroidal anti-inflammatory drug (50mg of diclofenac sodium im every 8 hrs for 5 days), an antacid (50mg of ranitidine iv every 12 hrs for 5 d) and a steroid (8mg of dexamethasone iv every 8 hrs for 2 days). At discharge, oral medication was prescribed for the next two days. Chlorhexidine (0.2%) mouth rinses were advised to maintain good hygiene. At nine days, the sutures were removed and the patient expressed extreme satisfaction with the result of surgery.

### III. Discussion

It was only in 2008 that Juneja provided a more elaborate definition of 'kissing' molars, long after its first description by Van Hoof, in 1973. Accordingly, it refers to impacted permanent molars that have occlusal surfaces contacting each other in a single follicular space, with roots pointing in opposite directions.<sup>6, 10</sup> Though several studies pertaining to the frequency of impacted permanent third molars exist, the incidence of second molar impactions has been scarcely reported. Preece estimated the prevalence rate for impacted second molars at 0.03% in his study of 5000 cases.<sup>3</sup> Similar studies have also reported their respective prevalence rates.<sup>11, 12</sup>

Many factors that influence disturbances in tooth position are suggested but the actual cause is not yet understood. However, Nakamura et al in 1991, observed multiple 'rosetting' of molar teeth to occur in patients diagnosed with mucopolysaccharidoses and related disorders. He surmised that in such patients, though accordingly investigated for MPS, rosetting in an isolated form is only suggestive of MPS.<sup>13</sup>

Accurate assessment of surgical difficulty plays a pivotal role in the pre-operative planning of extraction of impacted third molars or for that matter impacted teeth. Factors such as the relative depth, relationship of the tooth to the ascending ramus, number, angulation and form of roots and their proximity to the inferior dental canal and the lack of periodontal membrane space, all need to be carefully evaluated as they influence the final outcome.<sup>14, 15</sup> Similarly, owing to the extreme depth and nature of impaction [(Class III, Level C),<sup>16</sup> general anaesthesia was the technique of choice to extract the impacted teeth. According to Krishnan, examination, more often than not, reveals a non-tender, diffuse swelling in the body of the mandible that has an egg-crackling consistency to palpation.<sup>10</sup> We had no signs of egg-crackling consistency to palpation; however buccal cortical expansion and swelling over the alveolar ridge in lower second molar region was evident. Radiological evaluation plays an adjunctive role in treatment planning. The most helpful and reliable radiograph is the periapical x-ray as it is known to minimise image distortion and magnification. Other views such as the mandibular occlusal and OPT would also serve as supplemental aids in radiographic diagnosis. However, CT scores over conventional radiography in terms of maximally providing accurate information.

Impacted molars, in most instances, are removed by the transalveolar method of extraction either under local or general anesthesia. We chose to operate under GA and great attention was paid in avoiding IAN damage and iatrogenic jaw fracture as far as possible. As a consideration, some authors suggest bone grafting to augment the weakened mandible,<sup>9</sup> but we chose not to use a bone graft as this would only increase morbidity in terms of an additional donor site and other associated problems.

The removal of lower impacted teeth, most notably the third molars, is associated with significant post-operative morbidity including alveolitis sicca dolorosa, lower jaw fracture and sensorineural impairment.<sup>1</sup> It is, therefore, imperative that all patients be informed of these possibilities, before surgery. Mild swelling and pain were the only problems that the patient faced following surgery. Great importance is attached in terms of the risks associated with removal of impacted third molars. However, it would only be wise to lay some emphasis

on the risks involved in removing impacted second molars, despite the fact that they have the propensity to cause similar problems as with other impacted teeth.

#### IV. Conclusion

Early detection of anomalies such as 'kissing' molars aids in precise and systematic planning prior to surgical intervention. Patients presenting with such an anomaly deem appropriate investigation as this condition, being a component of MPS and related disorders, is known to occur as an isolated feature. Owing to their exceedingly sporadic incidence, specific management protocols are not easy to devise and implement. Prior inform-consent is above all else, regardless of the type of anomaly. However, a customised, meticulous treatment approach is all that seems necessary in the management of such cases.

#### References

- [1]. Kissing molars: An unaccepted finding; Grant McIntyre: Dental update 1997; 24; 373-73.
- [2]. Robinson PD. The impacted lower wisdom tooth: to remove or to leave alone? Dent Update 1994; 21: 245-248
- [3]. Preece JW. The incidence of unerupted permanent teeth and related clinical cases. OOO 1985; 59: 420-425
- [4]. Robinson JA. Gaffney W Jr, Soni NN. Bilateral 'kissing' molars. OOO 1991; 72: 760
- [5]. Van Hoof RF. Four kissing molars. OOO 1973; 35: 284
- [6]. Juneja M. Not kissing. Br Dent Journal 2008; 204: 597
- [7]. Bakaeen G, Baqain ZH. Interesting case: kissing molars. Br J Oral Maxillofac Surg 2005; 43: 534
- [8]. Manani A. Kissing molars: unexpected finding. Dent Update 1998; 25: 219
- [9]. The Journal of Craniofacial Surgery 2009; 20; 4:1269-1270
- [10]. Kissing molars: B Krishnan; BDJ 204, 281-82: 2008
- [11]. Carrassi A, Weinstein R. Impacted molars. OOO 1989; 67: 612-613
- [12]. Kendell RL. Permanent molar impactions and odontogenic keratocyst: report of a case. J Dent Child 1990; 57: 452-453
- [13]. Nakamura T, Miwa K, Kanda S, et al. Rosette formation of impacted molar teeth in mucopolysaccharidoses and related disorders. Dentomaxillofac Radiol 1992; 21: 45-49
- [14]. Gbotolorun OM, Arotiba GT Ladeinde AL. Assessment of factors associated with surgical difficulty in impacted third molar extraction. J Oral Maxillofac Surg 2007; 65: 1977-1983
- [15]. Yuasa H, Kawai T Sugiura M. Classification of surgical difficulty in extracting impacted third molars
- [16]. Pederson GW. Oral Surgery. Philadelphia; WB Saunders, 1988 (Quoted by Koerner KR. The removal of impacted third molars-principles and procedures. Dent Clin North Am 1994; 38: 261. The book is out of print.)



Fig 1: Orthopantomogram revealing bilaterally impacted lower 2<sup>nd</sup> and 3<sup>rd</sup> molars with their crowns facing each other in single follicular space.



Fig 2: Bone cavity seen following extraction of the impacted molars and enucleation of the follicular tissue.

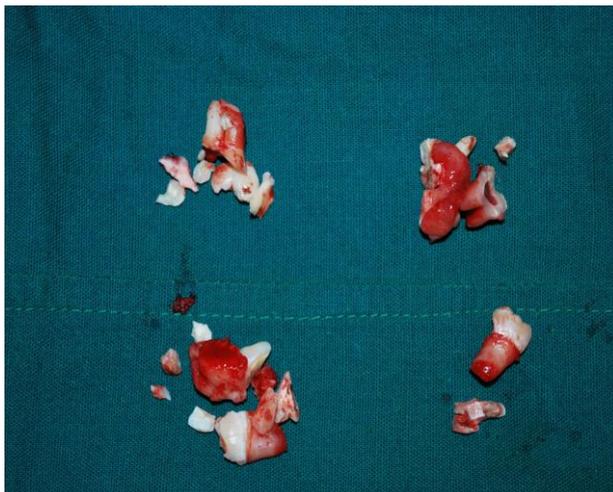


Fig 3: The four lower impacted teeth sectioned and removed.