

3rd AND 4th SUPERIOR RIGHT MOLARS EXODONTIA IN THE SAME SURGICAL ACT: CASE REPORT

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ABSTRACT

Supernumerary teeth are those that develop in the jaws in number beyond the teeth of the normal series they may be bilateral, especially when related to a syndrome, or unilateral. Its etiology is not fully understood and its prevalence is greater in the permanent dentition and maxilla. They are classified according to their morphology and location. The fourth molar, like any extra tooth of the oral cavity, is a supernumerary, receives a specific denomination, being called distomolar or distodent. This study aimed to report a clinical case of an upper 4th molar discovered by means of a radiographic examination during a consultation for extraction of the 3rd Molars; Highlighting the importance of diagnosis and its treatment. The study concluded that the radiographic examination of the 4th molar is paramount for the planning and the predictability of the surgical act. Thus, avoiding future aesthetic, functional and pathological disorders.

KEYWORDS: 4th Molar; Supernumerary Tooth; Oral Surgery.

1. INTRODUCTION

In dentistry, there are numerous dental anomalies that influence in various ways the formation and eruption of teeth. The evolution of the teeth is a continuous and progressive process, where the physiological growth and the variable morphological stages, together, form the final dental structure. Events occurring during the dental development process may result in single or multiple supernumerary teeth¹. The supernumerary teeth are those teeth that affect the jaw and the maxilla in a greater number than the normal dentition, being unilateral or bilateral^{1-2,18-19}.

Several denominations have been used when it comes to supernumerary teeth, varying according to the place where their origin is most common. A supernumerary tooth in the region of the upper central incisor is called mesiodent; A fourth molar accessory is called distomolar; And a posterior supernumerary tooth located lingually or buccally on a molar tooth, or in an interproximal position between the first and second or

third upper molars is called paramolar¹⁻¹⁹.

The fourth molar is an extra tooth of the buccal cavity, called a distomolar or paramolar, and most molar quarters are rudimentary, multicuspid and smaller than the third molars. However, these can also be conical or as normal as the third molars^{3,10}.

The etiology of supernumeraries, especially of the molar quarters, has not yet been fully elucidated. In this context, there are several theories trying to explain this event, such as: atavism or reversion, heredity, dichotomy and hyperactivity of the dental blade in the initiation phase; We also cite theories about the appearance of molar quarters resulting from embryological malformations such as: epithelial debris theory, supernumerary tooth germ theory, additional dental blade proliferation theory, and histochemical interruption theory^{3-5,7,19}.

The occurrence of impacted fourth molars is much greater than that of fourth erupted molars, up to 5: 113. When these teeth are erupted they can cause malocclusion and are more prone to the development of caries and periodontal problems due to their location and difficult access, thus making hygiene difficult. When impacted, they may be responsible for problems such as: obstacle to orthodontic movement, crowding, root resorption, retardation or impediment in the eruption of neighboring teeth, pericoronitis, symptoms of neurological lesions such as paralysis and pain, development of odontogenic cysts and tumors, Bone grafts and implant placement^{2-3,7}.

Because it is classified as a number anomaly, it can be diagnosed by radiographic examination, computed tomography or by clinical examination^{5,9,11,19-20}.

Early diagnosis, self-assessment and appropriate treatment for supernumerary teeth are essential measures for successful treatment^{3,5,9,11-12,20}.

Obviously, the treatment depends on the type and position of the supernumerary tooth and its effect on the adjacent tooth. When it does not affect the chronology of eruption, the supernumerary tooth must be removed after the complete formation of the roots of adjacent permanent teeth^{1-3,5-6,9,16}.

Treatment can be done in two ways: removal of the supernumerary tooth; Or in special cases, maintenance of the tooth in the arch under constant observation. It is suggested that in some situations, the fourth molar should be maintained and positioned in the arch by

means of an orthopedic appliance^{3,13,19-20}.

The early surgical removal of a tooth can be a major problem for some patients, especially when these cases are not emergency, among them are malocclusion. In the case of a fourth molar it can injure nerves and arteries causing paresthesia, hemorrhage and etc. A complete treatment plan for evaluation should be made, and surgery should be used only in cases where it is extremely indispensable^{3-12,15,19}.

As a general rule, all impacted teeth should be removed. Exodontia should be performed as soon as the dental surgeon determines that the tooth is impacted and that it is interfering with the chronology of eruption, occlusion or interfering with orthodontic treatment^{4-5,7-9,15,20}.

This study aimed to report a clinical case of an upper 4th molar discovered by means of a radiographic examination during a consultation for extraction of the 3rd Molars; Highlighting the importance of diagnosis and its treatment.

2. CASE REPORT

A 28-year-old male patient, leucoderma, was referred to the Neves Barbosa Dental Clinic Surgery service for assessment and removal of the sisses.

After careful anamnesis and intra-oral clinical examination, third molars were superior in the cavity and inferiors were included. Panoramic and periapical radiographs were then requested (Figures. 1 and 2) which showed the presence of 4th molars on both sides. According to the complementary exams, the 3rd and 4th molar extraction was planned in the same surgical act. We chose to perform the right upper quadrant in the first surgical act.



Figure 1. RX Panoramic.

Scheduled the surgical procedure, a pre-operative medicamental protocol with Amoxicillin 500 mg, 2 caps and Decadron 4mg, 1 comp was been made VO, 2 hours before the procedure.

On the day of surgery, asepsis and face antisepsis were performed with topical 2% chlorhexidine digluconate and mouthwash with 0.12% chlorhexidine digluconate. The mucosa was anesthetized with topical Benzocaine, then pterygomaxillary anesthesia was performed and anesthesia was anesthetized the major palatine nerve (all on the right side) with Lidocaine (1: 1000.000) (Figure 3). Shortly thereafter, the Newman

incision was performed with a distal tooth 18 to a mesial tooth 17 (Figure 4).



Figure 2: RX Periapical.



Figure 3: Local anesthesia.



Figure 4: Incision of Newman with relaxant.



Figure 5: Gingival tissue.

Then, the divulsion of the gingival tissue was performed with Molt detachment and flap folding

(Figure 5). Then, syndesmotomy was performed, and then dislocation of teeth 18 and 19 with the apical lever (Figure 6).



Figura 6. Teeth 18 and 19.



Figure 7. Suture



Figura 8. Rx Periapical Final.

The cavity was then cured with a Lucas curette and irrigated with ice cold 0.9% Physiological Serum.

Subsequent to irrigation, the tissue was repositioned, and simple sutures were made with 4.0 silk thread (Figure 7). Shortly thereafter, the final radiographic outlet was taken (Figure 8). The patient was instructed in regard to the standard post-operative care and medicated with Amoxicillin 500 mg, 1 capsule, oral, 8 / 8hs, 5 days and Nimesulide 100mg, 1 tablet, orally, 12/12 hours, 5 Days. One week later the patient returned for removal of the suture.

3. DISCUSSION

The supernumerary teeth are additional teeth that occur in the dental arch in excess of the normal dental formulas for each quadrant²⁰. Some hyperdysplasia may be associated with the heredity or association of developmental disorders¹⁷⁻¹⁸. The molar or distomolar quarters are almost always impacted, being rare in all quadrants³. In this study the presence of supernumerary teeth (molar quarters) was bilateral, distally to the third upper molars.

Distomolares are found five times more in the permanent dentition than in the decidua, with a significant propensity for the male and the upper arch^{2,18}. Corroborating with the literature, the clinical case was performed in a male patient and in the upper arch.

In Brazil, a study was conducted on the occurrence of supernumeraries in 4,915 patients and a prevalence of 3.8% was found in men and 2.0% in women, 3.3% in the permanent dentition and 0.7% in the decidua. The incidence in the maxilla is much higher, reaching a ratio of 8:1 in relation to the mandible, almost 90% located in the region of maxillary incisors¹⁹.

During a study carried out in Caruaru (Brazil), 1,800 panoramic radiographs were used. The presence of 35 supernumerary teeth was observed in 25 of these radiographs, representing a prevalence of 1.4%. Of the 25 patients, 14 were female (56%) and 11, male (44%). As the occurrence of supernumerary teeth was low, the female sex was the most affected, with no significant predominance between the maxilla / mandible and with a more discreet frequency in the region of the lower premolars^{6,11}. The case described disagrees with this literature since the patient was male and the supernumerary was located in the maxilla distally to the third molar.

Literature has been debating the fact that supernumerary teeth are influencers of malocclusion, although it is a long-standing debate, and there is still much controversy. The presence of these teeth can influence the appearance of pericoronaritis, gingivitis, periodontitis, abscesses, cysts and tumors. This is because it is close to important facial spaces. These interurrences may extend to the amygdala region, disseminated to the upper region causing orbital cellulitis and / or cavernous sinus thrombosis requiring attention in diagnosis and treatment¹⁴⁻¹⁵.

Supernumerary teeth are usually asymptomatic and diagnosed on a routine radiographic examination or are

discovered as a result of eruption disorders, dental rotation, displacement of neighboring teeth, as well as the formation of diastema^{3,5,9,11-12}. The study corroborates with the statement, since the extra case of the clinical case was a radiographic finding.

The studies found in the literature show that cases of supernumerary multiples are much more frequent in the mandible and in the premolar region. And when they occur in the mandible and maxilla of combined forms also appear more frequently in the region of premolars¹⁹. The clinical case in question disagrees in part with this statement, since the study presented a patient with a fourth molar superior and distally to the third molar, bilaterally being able to consider multiple supernumerary ones.

The most indicated treatment in these cases is the extraction of the third and fourth molars in the same surgical act in order to prevent the appearance of other complications and the development of pathologies, such as odontogenic cysts and tumors^{2,9,17}. Before any surgical intervention, it is important to perform a careful clinical and radiographic analysis of the type and positioning of the supernumerary tooth to avoid any involvement of adjacent teeth and tissues. In cases where the petri-gopalatine ganglion is imminent, the best treatment is to remove the third molar and wait for the fourth molar to move to a more favorable position for its extraction, or extract it near the third molar^{3,8,14,17,20}. During the study, double extraction was chosen because the important anatomical structures were not in close contact with the teeth in question.

Regarding the surgical technique, the removal of molar quarters requires the same care for the surgery of included third molars, since they occur at the end of the series of molars; Being the treatment guided by the location, type and position of the tooth 9. In most cases it is agreed that prophylactic extraction is indicated^{2-9,14,20}.

Extractions should be performed cautiously by experienced dental surgeons to avoid damage to the dental follicle or reduction of the enamel epithelium in the roots of adjacent permanent teeth, which can cause ankylosis or "bad" eruption of these teeth. The dental surgeon should also be aware of all likely complications: damage to the inferior alveolar artery and the nerve; Fracture of the mandible; Perforation of the pterygomaxillary space, maxillary sinus or orbit²⁰. Taking into account also that the greater the complexity of the case, the more facility will have to occur a post-surgical complication such as alveolitis, trismus and paraesthesia, especially in cases that it is necessary to perform osteotomy or odontossection. The care also goes through good planning, biosafety and a good execution of the surgical technique⁴.

The contraindications for the removal of supernumerary teeth are: patients with advanced or very young age, compromised systemic condition and possibility of excessive damage to noble structures. In these situations it is preferable to just follow it to avoid injuries and fractures, for example¹⁸. In the clinical

case, the patient did not present any of these contraindications.

4. CONCLUSION

The study concluded that a careful anamnesis, accompanied by complementary exams (Panoramic and Periapical RX) is fundamental for the diagnostics and planning of the clinical case to be performed. And that the choice of treatment to be followed depends on the analysis of the position of the supernumerary tooth, its effect on the adjacent tooth and the complications that may happen.

Taking into account what was mentioned above the study opted for the simultaneous removal of the two teeth, since they did not offer risk to the patient.

5. REFERENCES

- [1] Bezerra PKM, Bezerra PM, Cavalcanti AL. Dentes supranumerários: revisão da literatura e relato de caso. *R Ci Méd Biol*. 2007 set-dez; 6(3):349-356.
- [2] Brêda Júnior MA, Araujo MM, Antonini F, Santos MBP, Vale DS. Quarto Molar retido nos quatros quadrantes: revisão da literatura e relato de caso. *Rev Odontol Araçatuba*. 2008 jul-dez; 29(2):57-61.
- [3] Santos MJP, Barbieri CM, Ferreira L, Aguiar SMHCA. Quarto molar: relato de caso clínico em paciente portador de deficiência. *Rev Odontol Araçatuba*. 2009 jul-dez; 30(2):19-23.
- [4] Seguro D, Oliveira RV. Complicações pós-cirúrgicas na remoção de terceiros molares inclusos. *Rev Uningá Review*. 2014 out-dez; 20(1):30-34.
- [5] Fernandes AV, Rocha NS, Almeida RAC, Silva EDO, Vasconcelos BCE. Quarto molar incluso: relato de caso. *Rev Cir Traumatol Buco-Maxilo-Fac*. 2005 abr-jun; 5(2):61-66.
- [6] Martins Filho PRS, Pereira JC, Piva MR, Ribeiro AO, Dantas LP. Contribuição ao estudo dos quartos molares: relato de caso. *Rev Port Estomatol Cir Maxilofac*. 2008; 49(3):149-152.
- [7] Amaral S, Andrade FS, Lima AP, Osório SG, Franzim LCS, Osório A. Dentes supranumerários: relato de caso. *Rev Uningá Review*. 2014 out-dez; 20(1):64-66.
- [8] Silva HF, Costa DG, Martins Filho PRS, Santos TS, Santos JS. Distomolares superiores inclusos bilateralmente – relato de caso. *Odontol Clín-Cient*. 2011 jan-mar; 10(1):99-101.
- [9] Fardin AC, Gaetti-Jardim EC, Aranega AM, Jardim Júnior EG, Garcia Júnior IR. Quarto molar retido: a importância do diagnóstico precoce. *RFO* 2011; 16(1):90-94.
- [10] Dubuk AN; Selvig KA; Tellefsen G; Wikesjö UM. Atypically located paramolar. Report of a rare case. *Eur J Oral Sci* 1996; 104:138-40.
- [11] Segundo AVL, Faria DLB, Silva UH, Vieira ITA. Estudo epidemiológico de dentes supranumerários diagnosticados pela radiografia panorâmica. *Rev. Cir. Traumatol. Buco-Maxilo-Fac*. 2006 jul-set; 6(2):53-56.
- [12] Segundo AVL, Saboia RSC, Sampaio DO, Bezerra RCL. Iatrogenic mandibular fracture associated with third molar removal: cases report. *BJSC*. 2015 mar-may; 10(2):22-26.

- [13] Oliveira KFM, Freitas KMS, Valarelli FP, Cançado RH, Menezes CC. Molar extraction severe open bite treatment. JSCD. 2015 jul-sep; 6(1):11-16.
- [14] Vasconcellos RJH, Oliveira DM, Melo Luz AC, Gonçalves RB. Ocorrência de dentes impactados. Rev Cirur Traumatol Buco-Maxilo-Fac. 2003 jan-març; 3(1):1-5.
- [15] Moura WL, Cravinhos JCP, Moura CDVS, Freire SASR, Monteiro AMO, Pinheiro SDA et al. Prevalência de dentes supranumerários em pacientes atendidos no Hospital Universitario da UFPI: um estudo retrospectivo de cinco anos. Rev Odontol UNESP. 2013 may-jun; 42(3):167-171.
- [16] Moruzzi-Lima PD, Raitz R, Fenyo-Pereira M, Gaubier VCR. Quarto e quinto Molares em maxila: relato de um raro caso clínico. Rev Bras Cien Saúde. 2005 jul-dez; 6(1):13-17.
- [17] Schneider LE, Lima PVP, Grasselli SG^{1,2,3}, Galvagni LE, Quoos A, Hoffmann M et al. Tratamento cirurgico radical de terceiro e quarto molares fusionados: relato de caso. R Ci Méd Biol. 2006 jan-abr; 5(1):80-84.
- [18] Nadal L, Pilatti AF, Schwade FMS, Poletto AC, Lopes LC, Fosquiera EC. Exodontia simultânea de terceiros e quartos molares inferiores e superiores: relato de caso clínico. Rev Uningá Review. 2015 out-dez; 24(1):40-44.
- [19] Beckhauser AC, Oliveira RV. Supranumerário na região de mandíbula semi-irrompido e irrompido: planejamento e tratamento de um caso clínico. BJSCR. 2015 set-nov; 12(3):46-49.
- [20] Clementini M, Ottria L, Pandolfi C, Agrestini C, Barlattani A. Four impacted fourth molars in a young patient: a case report. Rev Oral & Implantology. 2012; 4(1):100-103.