Case Report
DOI: 10.22037/jds.v41i1.43200 ISSN 2645-4351

A Rare Presentation of Distomolar Teeth: Report of a Case

Hamed Mortazavi [a], Ali Dalil [b]

[a]Professor, Dept. of Oral Medicine, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
[b]Undergraduate Student, Dept. of Oral Medicine, School of Dentistry, Shahid Beheshti University of Medical Sciences, Tehran, Iran.
Correspondence to Ali Dalil (email: ali80dalil@gmail.com).
(*Submitted: 5 September 2023 – Revised version received: 10 October 2023 – Accepted: 15 October 2023– Published online: Autumn 2023*)

Objectives A distomolar tooth, also known as a distodens, is a supernumerary tooth located distally to the third molars. It is an uncommon phenomenon with a reported prevalence of 0.02% to 0.16% across various countries. Distomolars can manifest as singular or multiple, erupted or impacted, and can occur unilaterally or bilaterally. To the best of our knowledge, very few cases of three distomolars in one patient have been reported in the English literature.
Case This study presents the case of a healthy 22-year-old male who was found to have three impacted distomolars. These distomolars were located bilaterally in the maxilla and unilaterally on the left side of the mandible. They were discovered incidentally during a routine radiographic examination. As the patient expressed no discomfort or complaints related to this condition, no treatment was administered. Instead, the patient was placed on a regular follow-up.
Conclusion Although the occurrence of distomolars is rare, clinicians should regard it as a potential risk factor for the development of intraosseous lesions, which are often associated with an impacted tooth.
Keywords Tooth abnormalities; Supernumerary teeth; Fourth molar; Distomolar

Introduction

Supernumerary teeth are estimated to be five times more frequent in permanent dentition compared to primary dentition. [1] Although the main etiology of supernumerary teeth is unclear, both genetic and environmental factors have been considered. [1-3] A distomolar tooth, also known as a distodens, is a supernumerary tooth that is situated distally to the third molars. [2] There is a male predilection for this condition, and it is more frequently observed in the maxilla, with a prevalence of 1.15%, compared to a lower rate of 0.021% in the mandible. [3, 4] The frequency of this rare phenomenon ranges from 0.02% to 0.16% in different countries. [1, 3]

Distomolars can fully erupt or undergo partial eruption or impaction. [5] In terms of shape and size, these teeth are either heteromorphic or eumorphic. Heteromorphic distomolars, also referred to as rudimentary teeth, typically exhibit a peg or conical shape. On the other hand, eumorphic distomolars bear a resemblance to regular teeth. [5] In almost all cases, distomolars are smaller than normal third molars. [3] This phenomenon can manifest as a single occurrence or multiple ones, and it can appear either unilaterally or bilaterally. [6, 7] The bilateral occurrence of distomolars is an extremely rare phenomenon. Multiple instances may or may not be associated with various syndromes, including cleidocranial dysplasia, Down syndrome, Leopard syndrome, Gardner syndrome, Ellis-van Creveld syndrome, Crouzon syndrome (also known as craniofacial dysostosis), Hallermann-Streiff syndrome, and Sturge-Weber syndrome. [6-8]

Given that the eruptive force of distomolars is typically not substantial, they often do not cause any significant issues within the jawbones. Consequently, they may remain undetected until discovered during a routine radiographic examination. [5] The approach to treating these supernumerary teeth is contingent upon their location and the potential adverse impact they may have on the surrounding hard or soft tissue structures. [6, 7] A survey of English literature reveals that instances of a single patient having three distomolars are quite rare. [4-7] Therefore, the aim of this paper was to introduce a new case of three distomolars in one patient, found in a routine panoramic radiography.

Case Report

A 22-year-old male patient visited the department of oral medicine with a complaint of mild pain in the mandibular left posterior area in the past several weeks. On clinical examination, there were no significant changes in the left premolars or molars. To enhance our understanding and facilitate the case study, a panoramic radiograph was recommended. The radiograph revealed inter-dental caries in the first left mandibular molar. Additionally, the radiograph detected the presence of impacted distomolars in both quadrants of maxilla and an impacted distomolar on the left quadrant of mandible (Figure 1).

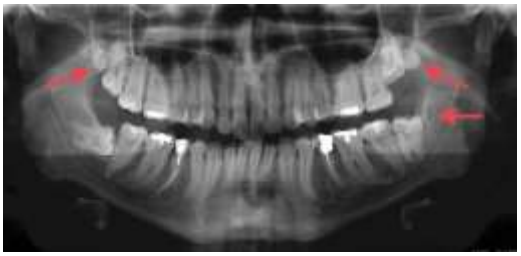

Figure 1: Panoramic view shows three impacted distomolar teeth which have been located bilaterally in the maxilla and in the left side of the mandible (red arrows)

The patient was a dental student who was unaware of his supernumerary teeth. Upon reviewing his medical and dental histories, no relevant issues were reported. These

supernumerary teeth were discovered incidentally during a radiographic examination. Since the patient had no complaints related to this condition, he was informed about it, but no treatment was administered. Instead, he was placed under observation.

Discussion

The exact etiology of distomolars remains unclear. However, several theories have been proposed to explain their occurrence. One such theory suggests that the hyperactivity of embryonic epithelial cells could be a contributing factor. This hyperactivity could manifest in various ways, such as an overactive dental lamina or its remnants, an overactive epithelial cord, or an overactive external layer of Hertwig's sheath and epithelial cell rests of Malassez. [3, 8] Factors that can stimulate epithelial hyperactivity include local factors, such as trauma or infection, as well as systemic factors, including genetic predisposition, enzymatic dysfunctions, or hereditary elements. [8] Another theory, known as the phylogenic theory or atavism, was one of the first attempts to explain the formation of supernumerary teeth, such as distomolars. However, due to a lack of supporting information, it is among the least accepted and defined theories. [1, 2, 8] Additionally, the dichotomy theory suggests that the division of the dental bud results in the cleavage of dental follicle. Various factors, such as traumatic events or evolutionary mutations, can inadvertently cause the dental follicle to divide into two or more fragments. [8] Meanwhile, interactions between a variety of environmental and genetic factors have been postulated as another theory in the formation of distomolars. [3]

In this paper, the case of a 22-year-old non-syndromic male patient was described who had three impacted distomolars, located bilaterally in the maxilla and unilaterally in the mandible. In three out of four previously reported cases, distomolars were dysmorphic in shape and smaller than normal molars. The patients' ages ranged from 25 to 37 years, with no observed sex predilection. [4-7] In all but one of the three cases, distomolars were found bilaterally in the maxilla, with the majority being impacted. According to the literature, the occurrence of bilateral distomolars is rare, with a prevalence of only 0.07% in general population.[1] Additionally, the ratio of impacted distomolars to erupted ones is estimated to be 5:1. [1]

Similar to the present case, distomolars are often discovered inadvertently during routine dental checkups. Regular clinical and radiographic assessments are crucial for the early identification of such supernumerary teeth. [3] A panoramic radiograph is widely recognized as the preferred screening method for these cases, as it provides a comprehensive view of both the maxilla and mandible. Advanced imaging modalities, such as cone-beam computed tomography (CBCT), enable clinicians to accurately evaluate the intraosseous location, inclination, and morphology of impacted distomolars. [9]

In the majority of cases, much like the present case, impacted distomolars typically do not lead to any significant complications within the dental arch. However, it is important to note that all types of impacted teeth have the potential to cause cystic or neoplastic jaw lesions, root resorption, or pulp necrosis of the neighboring tooth, as well as orofacial pain and infection. In erupted cases, malocclusion, ectopic eruption, and periodontal disease have been also reported. [3] Overall, there are two primary treatment options suggested for these cases: surgical extraction or regular clinical and radiographic monitoring. The treatment decision depends on a risk-benefit analysis for each individual case, as well as the patient's personal choice. [8]

Conclusion

Despite the rarity of multiple distomolars, clinicians should regard them as a potential risk factor for the development of intraosseous lesions, often associated with an impacted tooth. Consequently, regular radiographic examinations are crucial for early detection and timely treatment.

Conflict of Interest

No Conflict of Interest Declared ■

References

1. Gichki AS, Ahmed K, Moeen M, Arif S, Mansoor S. Prevalence and Characteristics of Distomolar Teeth Among Dental Patients of Dental Section Sandeman Provincial Hospital, Quetta. LNJPC.2021;3(1):72-76.

2.Rajaram Mohan K, Pethagounder Thangavelu R, Fenn SM. Impacted Molariform Distomolar Double Tooth: A Case Report. Cureus. 2022;14(4):e23780.

3. Arandi NZ. Distomolars: an overwiew and 3 case reports. Dent Oral Craniofac Res. 2017;4(1):34-37.

4. Kurt H, Suer BT, Senel B, Avsever H. A retrospective observational study of the frequency of distomolar teeth in a population of 14.250 patients. Cumhuriyet Dent J. 2015;18(4):335-342.

5. Ali FM, Aridhi WH, Hommadi AM, Altharawi RA, Khan MA. A Rare Case Series: Impacted Distomolars. Open Access

Maced J Med Sci. 2019;7(23):4078-4081.
6. Rasheed MJ F, Somili AM, Rubaydi G A, Masmali L M H, Ali FM. Three Distomolar in Single Patient: A Unique Case Report. J Pharm Res Int. 2012; 33(58A): 585–588.
7. Dăguci C, Burlibașa M, Mărgărit R, Tănăsescu L. Daguci L. Bătăiosu M, et al. Maxillary distomolars: case reports, differential diagnosis and literature review. Rom J Morphol Embryol. 2017;58(4):1617-1622.
8. Mosquerira VMV, Meléndez MTE, Flores FH. Presence of the fourth molar . Literature review. Revista Odontol Mexican. 2018;22(2):103-117.
9. Leung YY, Hung KF, Li DTS, Yeung AWK. Application of Cone Beam Computed Tomography in Risk Assessment of Lower Third Molar Surgery. Diagnostics. 2023;13:919.

How to cite:
Mortazavi H, Dalil A. A Rare Presentation of Distomolar Teeth: Report of a Case. J Dent Sch 2023;41(1):35-37.