

## Bilateral Impacted Mandibular Distomolars – A Rare Case Report and Review of Literature

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**Abstract:** A distomolar is a supernumerary tooth which is located distal to third molars. Supernumerary teeth are developmental anomalies having various etiology. These teeth either erupt into the oral cavity or may be embedded in the jaw bones. They can cause impediment to the normal development and eruption of the teeth and sometimes may be associated with inflammatory processes. Supernumerary teeth are commonly found in maxilla. Here, we present a rare case report of bilateral impacted distomolars in mandible and their surgical removal.

**Key Word:** Impacted distomolars, supernumerary teeth, supplemental teeth, hyperdontia

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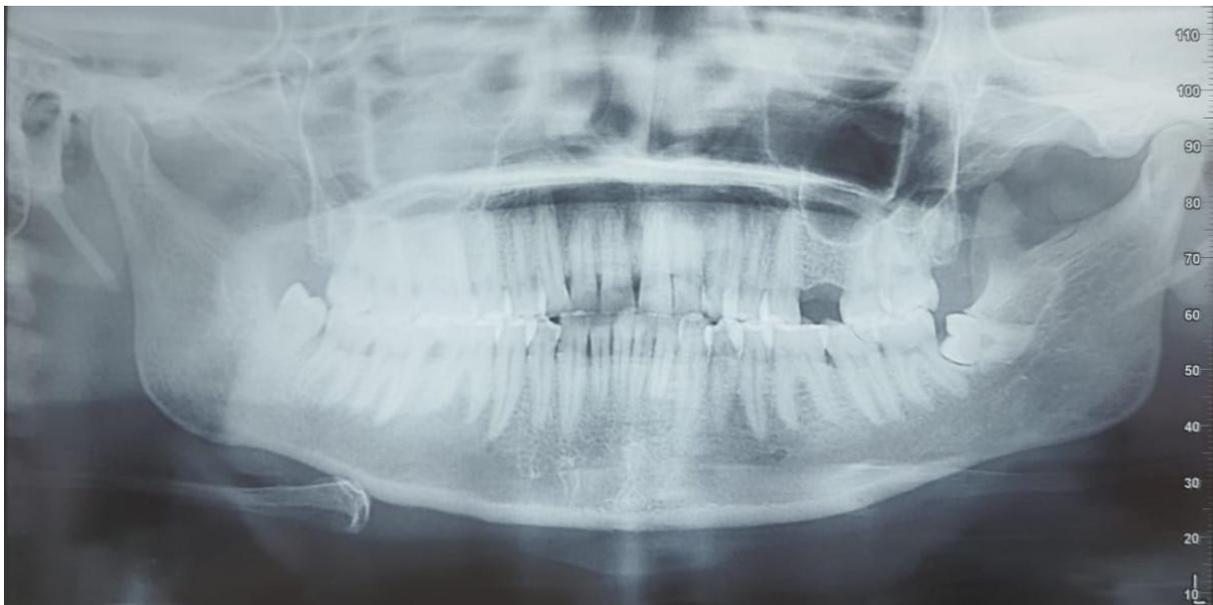
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### I. Introduction

Supernumerary teeth can be mainly classified according to morphology (form) and location in the dental arches. According to their locations, supernumeraries may be categorized into four types: Mesiodens, paramolar, distomolar, and parapremolar and into two types according to their morphology (form): rudimentary and supplemental.<sup>[1]</sup> Presence of additional teeth or hyperdontia is a relatively common phenomenon, where they are usually of simple conical shape but less frequently resemble teeth of normal series. These are frequently termed as supernumerary teeth. The etiology of hyperdontia is unknown. Nevertheless, various theories have been proposed. These theories include the phylogenetic theory (i.e., teeth that exist in primitive time and lost in the current time period), hyperactivity of the dental lamina, environmental and genetic factors, and the dichotomy theory (i.e., complete separation of the tooth bud). They are formed as a result of organized development and maturation under genetic control, not as a mere simple excessive growth of the dental lamina.<sup>[2]</sup> The incidence of hyperdontia in permanent dentition is reported to be 0.1–2.1%, and 0.3–0.8% in primary dentition.<sup>[2,3,4]</sup> On contrary supplemental teeth are usually extra teeth with normal morphology. Primosch<sup>[5]</sup> classified supernumerary teeth into two types according to shape. Supernumerary teeth of normal shape and size (eumorphic) are termed ‘supplemental’, or ‘incisiform’, whereas teeth of abnormal shape and smaller size (dysmorphic), are termed ‘rudimentary’ and include ‘conical’, ‘tuberculate’ and ‘molariform’ teeth. Supplemental teeth, as the name implies, refer to teeth that are duplications of teeth in the normal series. Supplemental teeth in both primary and permanent dentition are most commonly located in the anterior maxillary region; however, in permanent dentition they are most likely to appear as extra maxillary and mandibular lateral incisors. Supplemental primary teeth are most likely to appear as upper central incisors.<sup>[6,7]</sup> Supernumerary are frequently found in the incisor and molar region, and, occasionally in the midline. These additional teeth usually erupt in abnormal positions, labial or buccal to the arch (paramolar), or distal to the arch on rare occasion (distomolar). Paramolars and distomolars are less frequently found in mandible than maxilla. Bilateral cases of mandibular distomolars are rare. Kaya, et al. reported two cases out of 10111 patients to have bilateral maxillary distomolars and one case to exhibit distomolars bilaterally in the mandible and left maxilla.<sup>[3]</sup> This is a case of rare presentation of bilateral impacted distomolars found in mandible.

## **II. Case Report**

A 26-year-old female patient reported to the Dept. of Oral and Maxillofacial Surgery with chief complaint of pain in the lower right back teeth region. The patient's medical and dental history were non-contributory. Intraoral examination revealed inflammation of marginal gingiva in respect to a partially erupted supplemental tooth distal to the mandibular right third molar. The patient was not aware of the existence of the additional tooth and occurrence of it in any of her family members. The patient was advised for orthopantomogram and it revealed presence of bilateral distomolars in the mandible (Fig:1). On the left side the impacted distomolar was in horizontal position with respect to the third molar (Fig:3) whereas, the one on the right side (Fig:2) was in vertical position. Repeated food lodgment caused pericoronitis around the distomolar of the right side which necessitated the patient for undergoing extraction of the tooth. Surgical removal of the tooth was planned and the patient was advised for routine investigations, which were within normal reference ranges. Informed consent was taken from the patient. After achieving local anesthesia, a three-cornered flap was raised in respect to the tooth and it was removed by sufficient removal of bone and sectioning the tooth itself. After achieving proper hemostasis, the wound was closed by sutures. The patient was assessed on a 7<sup>th</sup> day follow-up and an uneventful healing of the wound was noted (Fig:6). The impacted distomolar on the contralateral side was planned for extraction under local anesthesia after one month of the previous one and was executed accordingly maintaining same protocols. Post-operative follow-up revealed uneventful healing of the soft tissue wound with mild degree of paresthesia on the lower lip, which found resolved in the subsequent follow-ups of the patient.



**Fig: 1**



Fig:2



Fig:3



Fig:4



Fig:5



Fig:6

### III. Discussion

Distomolars may erupt fully and align themselves in the dental arch or they can show partial or complete impaction. The indications for removal of these teeth include biomechanical, eruptive and pathophysiological factors. The mechanical factors include interference with the normal eruption of permanent dentition, with resulting malposition or impaction. The impediment to eruption can divert the eruption of the teeth or halt it entirely. The pathophysiological factors influencing the need for extraction of supernumerary teeth include inflammatory processes. Inflammation and exudates usually present when these lesions are near an external surface such as mouth or floor of the nose. In the mouth a condition similar to pericoronitis can develop. Inflammation may be the first symptom to bring about a diagnosis. Even the odontogenic epithelium in impacted supernumerary teeth can cause cystic transformation. Impacted supernumerary teeth are usually detected either by routine radiographic examination or when symptoms occur, or during efforts to determine the fate of unerupted teeth. After establishing their presence, localization is an important step for surgical planning to determine its orientation and position relative to the adjacent structures. Distomolars are defined as the supernumerary teeth that erupt distal to the third molar. In various studies, the prevalence of distomolar among the studied population varies from 0.03% to 2.1%.<sup>[8]</sup> The higher prevalence might be due to the association of supernumerary teeth with the autosomal recessive gene, which has a greater penetration in males.<sup>[8,9]</sup> A major percentage of distomolar has been observed with a male predilection by several authors in their research.<sup>[8,9,11-14]</sup>

Many literatures report that prevalence varies according to the population studied by authors in their studies. The difference seen in the prevalence could be due to the racial difference among the studied populations. Distomolars are more frequently seen in the maxilla than in the mandible.<sup>[3,8-13]</sup> In the maxilla, distomolars occur with almost equal frequency in the left and right quadrants<sup>[3,11,14]</sup>. Thomas, et al.<sup>[12]</sup> observed that distomolar were more common on the right side of the maxilla<sup>[12]</sup>. In the mandible, distomolars were reported to also occur with almost equal frequency in the left and right quadrants<sup>[12,14]</sup>. Yet Arslan and his colleagues<sup>[11]</sup> reported distomolars more common on the left side of the mandible. Jose *et al.* found a prevalence of 0.96% of supernumerary molars in 130 Spanish patients, out of which 87.3% were impacted, 79.2% alone represented distomolars, and 63.6% found in the maxillary arch.<sup>[9]</sup> Mitsea *et al.* conducted a retrospective study on 859 orthopantomograms (OPGs) of Greek Caucasian individuals and analysed a low prevalence of distomolar 0.95%–0.1%, which was more frequently seen in the maxilla.<sup>[14]</sup> Cassetta *et al.* did an epidemiological study on 25,186 Italian Caucasian populations and found 13 distomolar teeth with higher proportions found in the maxilla and erupted as well.<sup>[16]</sup> In Asian population, the estimated prevalence of supernumerary teeth is higher between 2.7% and 3.4%.<sup>[17]</sup> In a research study done by Rani *et al.* on 1025 OPGs of a North Indian population, the percentage of 0.4 was found ( $n = 4$ ), of which three cases exhibited left distomolar and one case revealed bilateral distomolar, and all were detected in the maxillary arch.<sup>[17]</sup> Gopakumar *et al.* estimated a value of 0.03% of distomolars in 11,141 individuals in Kerala, South Indian population, whereas Dara *et al.* assessed 14 (12.5%) of distomolars out of 112 supernumerary teeth in Chennai, South Indian population.<sup>[18]</sup> Maxillary fourth molars are conical and peg shaped, and mandibular fourth molars are miniature or as large as normal molars on panoramic radiographs. Distomolars are either eumorphic or dysmorphic in shape (i.e., conoid, tubercular, or mixed). They may have a rudimentary shape and are usually found as solitary and impacted teeth.<sup>[19]</sup> The crown morphology of distomolar is generally poor when located in the maxilla, with many being peg shaped, whereas in the mandible, distomolars are found to be similar to regular molars in configuration.<sup>[20,21]</sup> In general, the presence of fourth molars is detected coincidentally on radiographic examinations, and these supernumerary molars are usually found impacted. The ratio of erupted distomolars to impacted ones is 1:5.<sup>[8,22]</sup> The high percentage of impacted fourth molars can be attributed to the fact that the development of these hypergenetic teeth is somewhat delayed as compared to their “normal” predecessors.<sup>[8,9]</sup> Most often unnoticed distomolar does not create any problem within the dental arch; however, impacted distomolars may lead to several complications such as impaction, root resorption or pulp necrosis of the adjacent tooth, infection, pain in the molar region, follicular cyst due to degeneration of follicular sac, neoplasms, and compression of trigeminal nerve causing neuralgias. Nazif *et al.* estimated a 30% incidence of pathologies associated with impacted distomolars in their study.<sup>[23]</sup> In the present case bilateral impacted distomolars were involved in the inflammatory processes and caused recurrent suffering of the patient. Surgical removal of the distomolars were planned as soon as they were diagnosed clinically and radiographically. The planned execution of surgical removal yielded minimum per-operative and post-operative complications.

#### IV. Conclusion

Frequency of bilateral impacted distomolars in lower jaw is low and often are found in routine radiographs. Impacted distomolar may be associated with occult pathology within the jaw bone which are often asymptomatic for many years. Early diagnosis and treatment planning are helpful for reducing the progression of pathological process and prevent recurrent suffering of the patient.

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