

## Case report

# Supernumerary teeth - Fourth Molars: Bilateral maxillary distomolars An extremely rare case report

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## ABSTRACT

Supernumerary teeth are those dental structures which are present besides the normal series of deciduous or permanent dentition. Supernumerary teeth can present in various types and in any region of the maxilla or mandible. The precise etiology of supernumerary teeth is uncertain. Sometimes supernumerary teeth may produce complications while most of the times they are diagnosed as incidental radiographic finding. This article presents an extremely rare case of impacted fourth molars in maxilla present bilaterally in a 30 years old female. We have also discussed classification, prevalence, etiology, complications, diagnosis and management of this anomaly.

## Introduction

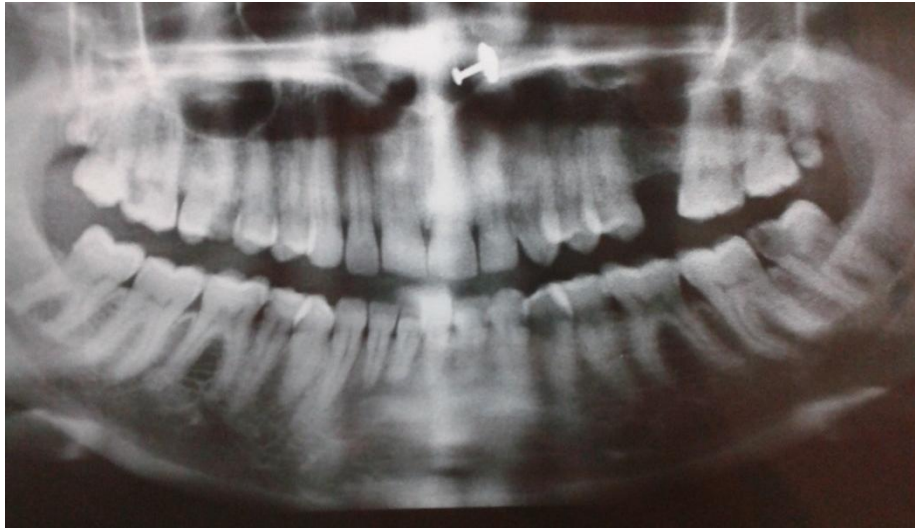
The dentition plays very important role in mastication, speech and esthetics of an individual. The normal series of permanent dentition consists of 32 teeth and that of deciduous dentition is 20 teeth. Extra teeth present in dentition are known as “supernumerary teeth and the presence of such teeth in oral cavity is not an uncommon phenomenon.” Supernumerary teeth are more prevalent in maxilla than mandible, specifically in incisor and molar regions. These extra teeth may appear in both deciduous as well as permanent dentition, but they are more prevalent in the permanent dentition.<sup>1,2</sup>

Supernumerary teeth may be classified according to chronology, morphology, topography and orientation. Chronologically, supernumerary teeth can be grouped as pre-deciduous, deciduous, permanent, post-permanent or complementary; morphologically (based on shape), as conical, tuberculate, supplemental and odontome; topographically (based on location) as mesiodens,

paramolar, distomolar and parapremolar; and according to orientation, as vertical, inverted and transverse.<sup>2</sup> The supernumerary teeth that appear between or just posterior to central incisors are known as “mesiodens”; those erupting on side of the molars are known as “paramolars”; and those that develop distal to the third molars are termed as “distomolars”. Supplemental teeth are those supernumeraries which have normal morphology and resemble normal dentition with essentially normal size, shape and alignment. The most common supplemental tooth is the permanent mandibular distomolars and permanent maxillary lateral incisor. The majority of supernumerary teeth seen in the primary dentition are of the supplemental type.<sup>3</sup> Odontoma is a hamartomatous malformation of dental tissues (enamel, dentin, cementum, pulp tissue). Odontomas are further classified as compound and complex odontome. Compound odontomas are rudimentary tooth-like structures and are commonly

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### Illustrations - figures



**Figure 1.** Orthopantomogram showing impacted maxillary distomolars bilaterally.

found in the anterior maxilla, whereas complex odontomas are totally disorganized mass of dental tissues and are often seen in the premolar and molar regions.<sup>4</sup>

The prevalence rate of these teeth for permanent and deciduous teeth is between 0.5- 5.3% and 0.2-0.8%.<sup>3</sup> Supernumerary teeth can develop singly or in multiple number, unilaterally or bilaterally, and in the maxilla, the mandible or both jaws. These anomalies are found more frequently in the maxilla than in the mandible and in males than females. As reported in literature, the ratio of presence of these extra teeth in male:female has been reported from 2:1 to 9:2. Supernumerary tooth erupts singly in 76-86% of cases, two supernumerary teeth occur in 12-23% of cases and multiple supernumerary teeth rarely occur in less than 1% of cases.<sup>1,4</sup>

A distomolar is that supernumerary tooth which is present distal to third molars and on complete eruption; the distomolar expands the dental arch posteriorly. Such tooth is also termed as fourth molar and sometimes may fuse with third molar or present as additional cusp

of third molar in residual form. A distomolar can have a normal morphology with a completely developed crown, single root and distinct from the adjacent third molar or it can differ from in its normal morphology. These fourth molars can erupt fully and align themselves in the dental arch or they can show partial or complete impaction. In most cases, undiscovered fourth molar does not cause any complications within the dental arch or oral cavity. However, they are not diagnosed until a routine radiological examination is performed. On radiographs, distomolars appear as clear radioopaque osteosclerotic foci. The reported ratio of erupted distomolars to impacted ones is 1:5.<sup>1</sup>

This article reports a very rare case of impacted supernumerary distomolars in maxilla present bilaterally which are diagnosed accidentally radiographically.

#### **Case report**

A 30-year old female reported to our clinic with chief complaint of pain in upper right back tooth region. Clinical examination revealed carious upper right first

and second molar teeth. Following clinical examination, orthopantomogram was taken which revealed carious upper right first and second molars. Surprisingly, there were impacted maxillary distomolars seen bilaterally on radiograph (Fig. 01). Both maxillary distomolars were vertically impacted and much smaller than the adjacent third molar teeth 18, 28. Clinically, there was no evidence of their presence. Patient was explained about the condition. Endodontic treatment of both molars was done. Distomolars were not extracted as patient became symptomless following endodontic treatment of first and second molars.

### Discussion

Supernumerary teeth is basically any teeth or tooth substance in excess of the usual configuration and series of the normal number of deciduous or permanent teeth. The most common supernumerary teeth, in order of occurrence, are the mesiodens, maxillary distomolars, maxillary paramolars, mandibular parapremolars, mandibular para – and disto molars and maxillary parapremolars. In the literature, the presence of fourth, fifth, sixth and seventh molars have been reported. Stafne reported that most of the upper fourth molars are blunt, multicuspid, and much smaller in size compared to the third molars.<sup>5,6</sup>

The etiology of development of such supernumerary teeth is still unknown and not completely understood. The ‘phylogenetic theory’ stated that these supernumerary teeth have originated and evolved as a result of atavism of the extinct ancestral tissues. Ancestor mammals had three incisors, one canine, four premolars and three molars in each quadrant of the jaw. During evolutionary phase, the total number of teeth decreased (from polyodonty to oligodonty) and the generations of teeth also reduced (from polyphyodonty

to diphyodonty); whereas the morphology of teeth became more complex (from homodonty to heterodonty). Over the course of evolution, the teeth in mammals disappeared in a sequence that is opposite to that of their eruption. The ‘tooth germ dichotomy theory’ stated that during development of tooth, the dental lamina may divide into two or more parts, thus leading to development of extra teeth with similar or different sizes. According to widely accepted ‘hyperactivity of the dental lamina’ theory, primary dental lamina forms the deciduous dentition. During the developmental stages of deciduous tooth, successional dental lamina forms from the lingual or posterior aspect of enamel organ of deciduous tooth. This successional lamina later proliferates and forms the successional (permanent) tooth or the posterior molar teeth. Once the crown of the permanent tooth has developed, the dental lamina undergoes programmed cell death and degenerates. However, remnants of undegenerated dental lamina may form eruption cysts, while their over proliferation may cause development of supernumerary tooth/teeth. ‘Heredity’ is also considered to be a significant factor as these teeth occur more frequently among the relatives of affected individuals when compared to the general population.<sup>4</sup>

The supernumerary teeth may lead to complications like delay eruption, non-eruption rotation or unfavourable displacement of permanent teeth; interfere during orthodontic treatment; abnormal root development or resorption of adjacent permanent teeth; complications associated with the supernumerary itself; cyst formation; loss of vitality of adjacent teeth and esthetic disturbances. Distomolars may also cause odontogenic inflammation, periodontitis, primordial or odontogenic cyst formation, periodontal diseases, traumatic bite when

buccally erupted causing injury to the buccal mucosa and neuralgic pains.<sup>2,4,7</sup>

The treatment of supernumerary teeth is still controversial – extraction or observational management. Treatment depends on the type and location of the supernumerary tooth and also on its potential adverse effect on adjacent hard and soft tissue structures. Extraction of the supernumerary teeth is indicated when there is presence of aforementioned complications. These supernumerary teeth may be kept under observation without extraction when there are no symptoms associated with them. If extraction is indicated, it should be done carefully to prevent any damage (ankylosis and maleruption) to the adjacent permanent teeth, to prevent any damage to nerve and blood vessels, to prevent perforation of the maxillary sinus, and to prevent fracture of the maxillary tuberosity. Sometimes supernumerary teeth may be fused with the adjacent tooth structure which may make extraction difficult.<sup>8,9</sup>

### Conclusion

Supernumerary teeth can lead to oral and dental complications or may be asymptomatic. Careful history taking, clinical and radiographic examinations can provide important information required for the diagnosis of such conditions. Extraction or observation is main modality of management of such abnormality. Long term follow up of treated case is mandatory. A distomolar occurs more frequently in the maxilla than mandible. Fourth molars occur very rarely in bilaterally whether in maxilla or mandible and this phenomenon has become very interesting especially when considering the fact that in contemporary humans, missing third molars have become a very common finding as part of evolution.

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