

Case Report**“BACK AND FOURTH”- Case reports on fourth molars**

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Abstract: Permanent human dentition is composed of three molars in each quadrant of maxilla and mandible. A fourth molar in the mandible is one of the rarest occurrences encountered so far according to earlier available literature, although it was prevalent in early humans. The phenomenon is interesting especially considering the fact that among contemporary humans, missing third molars are becoming a common finding. We report two cases of unilateral impacted fourth molars in female patients with review and update on supernumerary teeth in the molar region.

Key words: Supernumerary; Tooth; Impacted tooth; fourth molar; Mandible; Nonsyndromic.

INTRODUCTION

A supernumerary tooth is one that is additional to the normal series and can be found in almost any region of the dental arch. It is a developmental anomaly affecting the number of teeth. Four different morphological types of supernumerary teeth have been described, conical, tuberculate (rudimentary), supplemental and odontome.

The supplemental supernumerary refers to a duplication of teeth in the normal series and is found at the end of a tooth series. The most common supplemental tooth is the permanent maxillary lateral incisor, but supplemental premolars and molars also occur.¹ A distomolar (dens distomolar) is a supernumerary tooth that is located distally to a wisdom tooth and when fully erupted extends the dental arch. Such a tooth is called a fourth molar.² Supernumerary teeth are often associated with syndromes such as cleidocranial dysplasia, orofacial digital syndrome, Down's, Laband's, Sturge Weber's and Gardner's Syndrome.¹ Therefore, the aim of this article is to present a nonsyndromic case with presence of a fourth molar, which according to our knowledge is a rare case in literature.

CASE REPORT

Case 1: A 32 year female patient reported to the Department of Oral Medicine & Radiology with the chief complaint of pain in the lower left back tooth region since one week. On examination, 38 was carious and tender on percussion. An intra oral periapical radiograph

(IOPA) was done in which the presence of deep caries in 38 and presence of mesio-angular impacted fourth molar distal to 38 was detected. An Orthopantomogram (OPG) was done to check the presence of fourth molar in other quadrants as well [Fig 1].



Figure 1: OPG shows fourth molar distal to 38

The crown portion of the fourth molar was as large as a normal molar tooth and there was a single root with wide single pulp chamber extending from coronal portion to apex indicating taurodontism. Radiographically, the lower cortex of the mandible was very thick. Patient had no other systemic disorders or malformations.

Case 2: A 30 year old female patient reported to the Department Oral Medicine & Radiology with the chief complaint of pain and swelling in the lower left back tooth region since two days. As intra oral examination was not possible due to trismus, an OPG was done. OPG revealed the presence of impacted fourth molar distal to 18 [Fig 2].



Figure 2: OPG shows fourth molar distal to
18

DISCUSSION

Unilateral supernumerary tooth in the mandible has been reported very rarely in the literature. The first case of fourth molar tooth in the mandible was identified and published by Cepereulo et al. (2015)³ in a 40 year old male mandible dating 4200- 4760 years ago .

Stafne et al. (1935)⁴ reported the prevalence of fourth molar as 1% only while Gay et al (1999)⁴ reported a low prevalence between 0.13% and 0.6% for fourth molars. Gulseren Kokten et al. (2003)⁵ reported two cases of fourth and fifth molar in Caucasian Females, however according to Shahzad and Roth ⁶, fourth molars are notably common in black patients (6.4%) than in whites (0.9%). In the present cases, both females were from Kanpur city (Asian origin). Scheiner et al. (1997)⁵ revealed that fourth molars generally are radiographic findings and that 93.2% of patients come spontaneously and without associated pathology similar to the present case where the clinical examination was not all contributory.

Shahzad & Roth ⁶ reported that the prevalence of fourth molar was slightly higher in males (2.2%) than in females (2.1%) and tend to occur mostly in the maxilla unilaterally. Tochichara⁴ reported that the more frequent supernumerary molars are the maxillary fourth molars. Grimanis⁴ reported supernumerary molars are found with a percentage of 79% in the maxilla. Menardia et al.⁴ stated this

percentage is 86.8%, Spauge 91% while Stafne reported it as 88.9%⁴. However in the first case , it was reported in a female patient the mandible region and in the second case in the maxillary region. The reason could be racial, genetic, geographical or environmental.

Cortes et al. (2009)⁵ mentioned that 95% of cases of supernumerary teeth are impacted. In the present cases also, the fourth molar was impacted (Mesio Angular). Ichinglo et al. (2010)⁷ studied 3 siblings and found distomolar in them relating to the fact that such findings are often genetic, but in our case the patients had no familial or genetic background.

Various theories have been proposed towards the etiology of supernumerary teeth but the exact reason of their occurrence is still ambiguous. Some of these theories are:⁴

1. Atavism or reversion – This hypothesis suggests reversion to the ancestral human dentition with larger jaws, hence larger number of teeth.
2. Genetic factors – This theory suggests that supernumerary teeth result from mutant genes. This is supported by the fact that supernumerary teeth are often associated with syndromic anomalies such as Gardner's syndrome, Cleidocranial Dystosis .
3. Aberrations during embryonic formation – The several theories suggestive of aberrations are theory of epithelial remnants, theory of supernumerary dental germs, theory of duplication by dichotomy of tooth germs, theory of additional proliferation of the dental lamina, and theory of histochemical disruption.
4. Progress zone – This theory suggest that supernumerary teeth result from progress zone of the dental lamina at the end of every tooth series.
5. Unified etiologic explanation– This theory suggests unified etiology for anomalies of tooth number & size.

CONCLUSION: The occurrence of a fourth molar is a rare phenomenon which may remain undetected on clinical examination. Such cases may be identified on routine

radiographic examination. A panoramic radiograph is the best mode for diagnosis of such cases. The fourth molar in the mandibular molar region is a rare entity in females, as all available literature points out to a high prevalence of fourth molars in males and in maxillary molar region.

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