



Impacted Mandibular Distomolars, Clinically Hidden but Radiographically Evident Entity: A Rare Case Report with Literature Review

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Abstract

Aim: To increase awareness among clinicians about the enigmatic entity to be considered during diagnosis of unknown source of pain and its intervention.

Materials and Methods: Local anesthesia, syringe, diagnostic instruments (mouth mirror, probe), no.15 bard parker blade and no.3 handle, molts no.9 periosteal elevator, Austin retractor, micromotor handpiece attachment with straight fissure bur, Warwick James elevator, 10% betadine, 0.9% normal saline, 3-0 silk, needle holder and suture cutting scissors, sterile gauzes.

Results: The conclusion of total of 12 articles which had mentioned the occurrence of mandibular distomolars, stated that the incidence of supernumerary tooth is 0.1-3.8% and still lower, 0.021% chance of occurrence of mandibular distomolar in population.

Conclusion: The impacted distomolars are a completely separate entity which is accidental radiographic finding if asymptomatic. In symptomatic cases where source of pain is enigma Orthopantomography is indicated to rule out the presence of such entity. Thorough anatomical knowledge plays huge role in the diagnosis and treatment relies on the risk benefit ratio and patient consent.

Keywords: Distomolar; Impacted; Supernumerary

Introduction

The most common supernumerary teeth listed according to their prevalence are mesiodens, maxillary fourth molar, maxillary premolar, mandibular premolars, maxillary lateral incisors, mandibular fourth molar and maxillary premolars [1]. The prevalence of supernumerary molars was reported as 2% as per Kokten., et al. [2] and 0.57% as per Arslan, A., Altundal, H. and Ozel, E [3]. A very rare accidental radiographic finding, impacted distomolar commonly called as fourth molar has occurrence from 0.02 to 0.16%, being 1.15% in the upper jaw and 0.021% in the lower jaw [4]. Supernumerary teeth are found twice as often in the permanent dentition compared with the primary dentition [2]. If perfectly secured in the bony crypt, patient is asymptomatic and is diagnosed during routine dental radiography especially Orthopantomographic imaging. Impacted mandibular distomolars are thus imperceptible entity and needs diagnostic digging.

Case Report

A 49 year old male patient reported to out-patient department of Oral and Maxillofacial surgery, with chief complaint of pain in right back region of lower jaw since 1 month. The pain was continuous, radiating to right preauricular region. Systemic history was non-contributory.

Patient had habit of bruxism since 8 years. Patient had generalised attrition but nature of pain was not pointing towards attrition, Orthopantomogram was advised which revealed horizontally impacted distomolar on right side in the mandibular ramus with ill-defined roots. The crown of which was impinging on 32, with estimated 1-2 mm covering bone.

As patient had chronic pain in the same area, objective was to extract the impacted distomolar. With all the routine investigations

within normal limits patient was planned for trans-alveolar extraction of distomolar.

With all aseptic precautions extended crevicular incision was made posterior to 32, mucoperiosteal flap was raised and bone guttering was done with bur to expose the crown of distomolar in ascending ramus of mandible. Warwick James elevator was applied to elevate the tooth and extract it. After irrigation closure was done with 3-0 silk suture and postoperative instructions and medications were given. Satisfactory healing was observed after 7 days and suture removal was done.

Discussion and Conclusion

Table 1 summarises the incidence of supernumerary teeth in population.

Author	Incidence (%)
Lind., <i>et al.</i>	3.6
Castaldi., <i>et al.</i>	3.1
Shafer., <i>et al.</i>	0.5-1
Rodríguez Romero., <i>et al.</i>	0.5-3.8
Leco Berrocal., <i>et al.</i>	1.05
Salcido García., <i>et al.</i>	0.3-3.8
Paula Fernández., <i>et al.</i>	0.5-3.8
Gopakumar D., <i>et al.</i>	0.1-3.8

Table 1: Incidence of supernumerary teeth in population.

Amongst various theories of their origin most commonly accepted are:

Hyperactivity of embryonic epithelial cells: This theory suggests that due to following factors there is hyperactivity of embryonic epithelial cells and they give rise to supernumerary teeth.

- **Local factors:** Trauma, infection, irritant factors.
- **General factors:** Genetic or enzymatic dysfunctions, hereditary factors [5].

Hyperactivity of dental lamina or its remnants

During 6th week of intrauterine life overzealous proliferation of dental lamina or remnants during apoptosis of completely formed crown of permanent tooth give rise to supernumerary teeth. The lingual extension forms the eumorphic tooth whereas remnants form heteromorphic teeth [5].

Over-activity of epithelial cord

During 8th week of intrauterine life during cap stage the tooth bud starts to separate from the dental lamina which forms gubernacular cord or epithelial cord, hyperactivity of which causes formation of supernumerary teeth.

Overactivity of the external layer of Hertwig’s sheath and Cell rests of Malassez’s

The extension of Hertwig’s epithelial sheath give rise to root after formation of first dentin layer it degenerates, the remnants of which are found in periodontal ligament in adult life and any alteration in these processes give rise to supernumerary teeth.

Phylogenetic theory (Atavism)

Modern dentition is regressed form of primate dentition with more number of teeth. It is least accepted theory because of the lack of evidence.

Dichotomy theory

Excessive division of dental lamina causes supernumerary teeth.

Supernumerary teeth are 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 odontoma or eumorphic (similar to normal tooth) and heteromorphic (atypical); topographically (based on location) as mesiodens, para-molar, distomolar and para-premolar; and according to orientation, as vertical, inverted and transverse [6].

Among the nomenclatures most widely used is by IDF (International Dental Federation), Sarjeev Singh Yadav and Sapna Sonkurla [7]

- p - Paramolar
- dm - Distomolar
- f - Fused tooth
- g - Gemination
- M – Mesiodens.

Table 2 [5] summarises the syndromes associated with supernumerary teeth.

Serial Number	Syndrome	Genetics	Genes
1	Cleidocranial dysplasia	Chromosome 6p21, autosomal dominant	RUNX2
2	Familial adenomatous polyposis, including Gardner’s syndrome	Chromosome 5q21-q22, autosomal dominant	APC
3	Type III Ehlers-Danlos	Chromosome 6p21.3 and 2q31, autosomal dominant	Tenascin-XB or COL3A1
4	Nance-Horan syndrome	Chromosome Xp22.13 linked to dominant chromosome X	NHS
5	Fabry’s disease	Chromosome Xq22 linked to chromosome X	a-Galactosidase A
6	Ellis-Van Creveld syndrome	Chromosome 4p16, autosomal recessive	EVC or EVC2
7	Tricho-rhino syndrome of the thumb	Chromosome 8q24.12 autosomal dominant	TRPS1
8	Robinow Syndrome	Autosomal dominant or autosomal recessive	ROR2

Table 2: Syndromes associated with supernumerary teeth.

This case presents a eumorphic, supplemental, distomolar which was horizontally impacted in the ramus of mandible. The supernumerary teeth can cause numerous complications such as cysts like odontogenic kerato-cyst, dentigerous cyst, tumours like ameloblastoma. Mucous cells can give rise to mucoepidermoid carcinoma. *Peptostreptococcus*, *Fusobacterium*, *bacteroides* give rise to severe periodontal pathologies. Rhyzolysis is seen due to the pressure of dental sac. This may cause destruction of surrounding bone as was seen in this case. Neuropathic pain is seen if the tooth lies in the vicinity of inferior alveolar canal. Because of all these probable complications the trans-alveolar extraction was advocated and chief complaint of pain was addressed.



Figure 2: Extracted tooth specimen.



Figure 1: Orthopantomogram

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