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ORTHODONTIC AND ORAL SURGERY APPROACH IN CASES OF SUPERNUMERARY TEETH

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Supernumerary teeth

Hyperdontia are teeth **additional** to the standard primary or permanent dentition, or

- Extra teeth in comparison to normal dentition.
- **Hyperdontia** is an anomaly in the number of individual teeth and is manifested by a greater number of teeth in the jawbones than the normal number

Terminology

- The term **supplemental tooth** may be used when the supernumerary tooth resembles its associated normal tooth
- the term **peridens** may be used for an ectopically erupted (buccal or lingually) supernumerary tooth. **Mesiodens** refers to a supernumerary tooth in the midline between the central incisors.



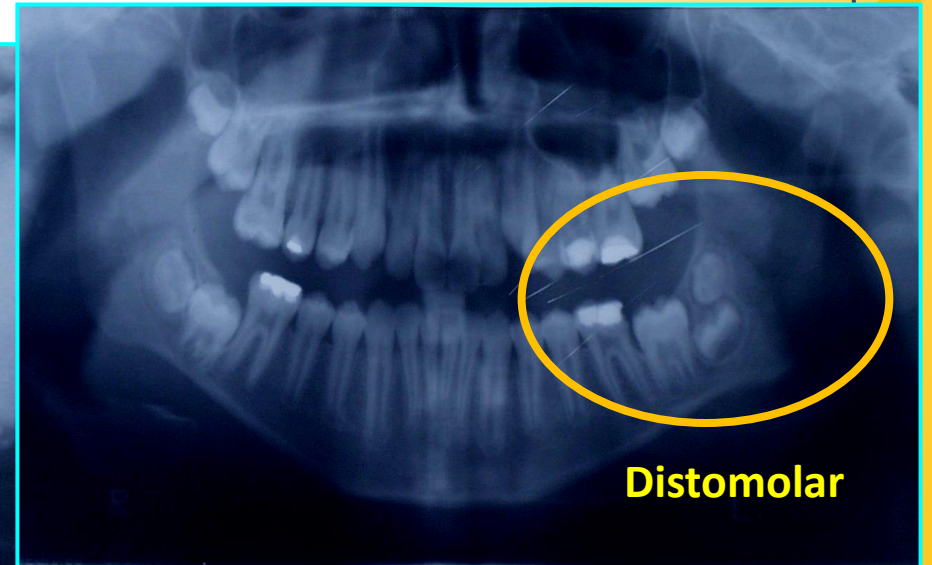
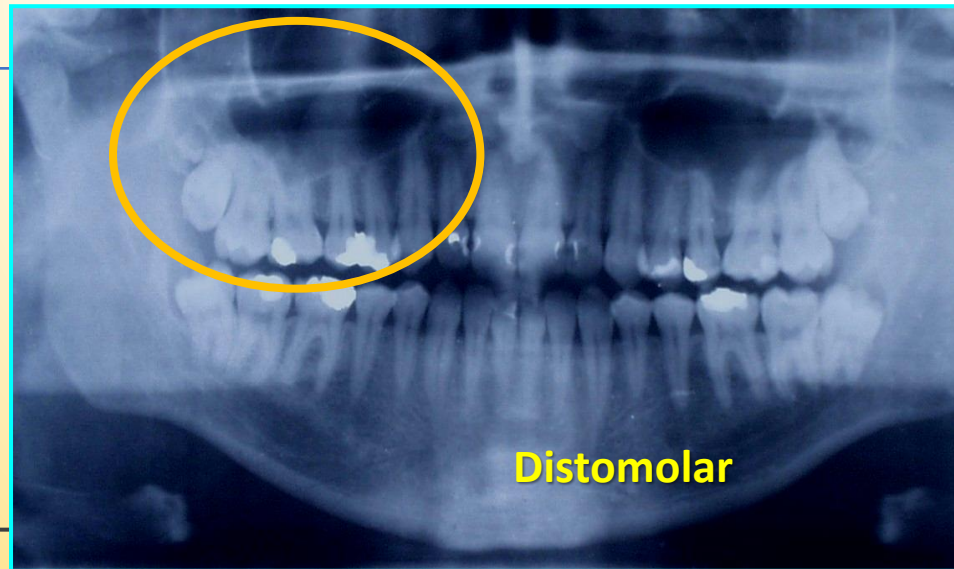
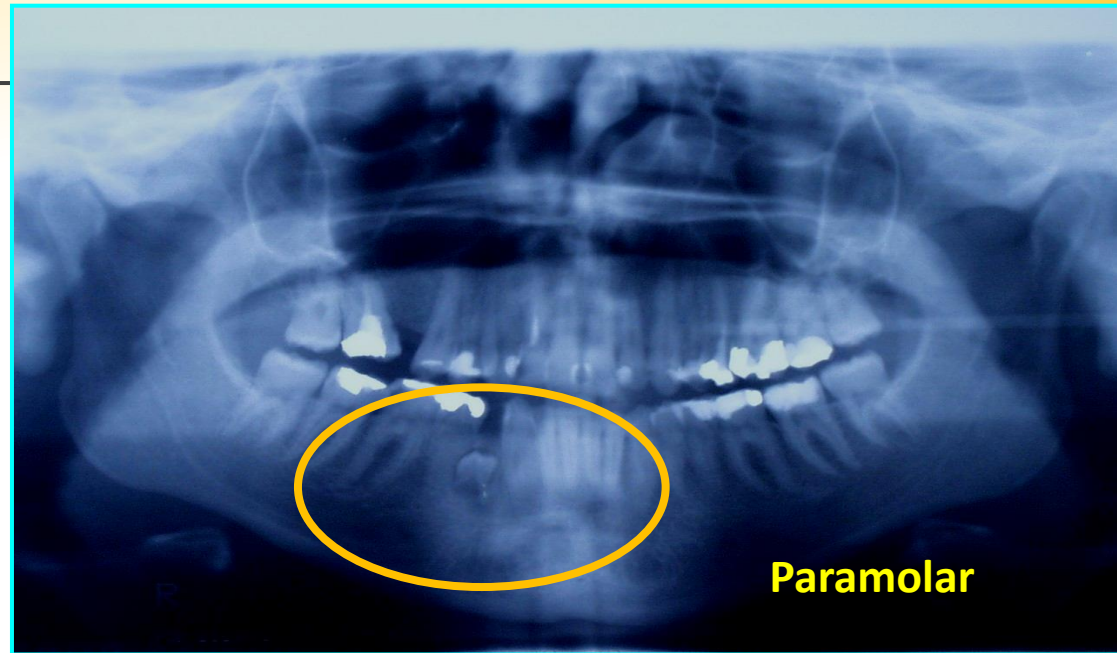
Terminology - localization

Paramolar

Distomolar

Peridens

Mesiodens



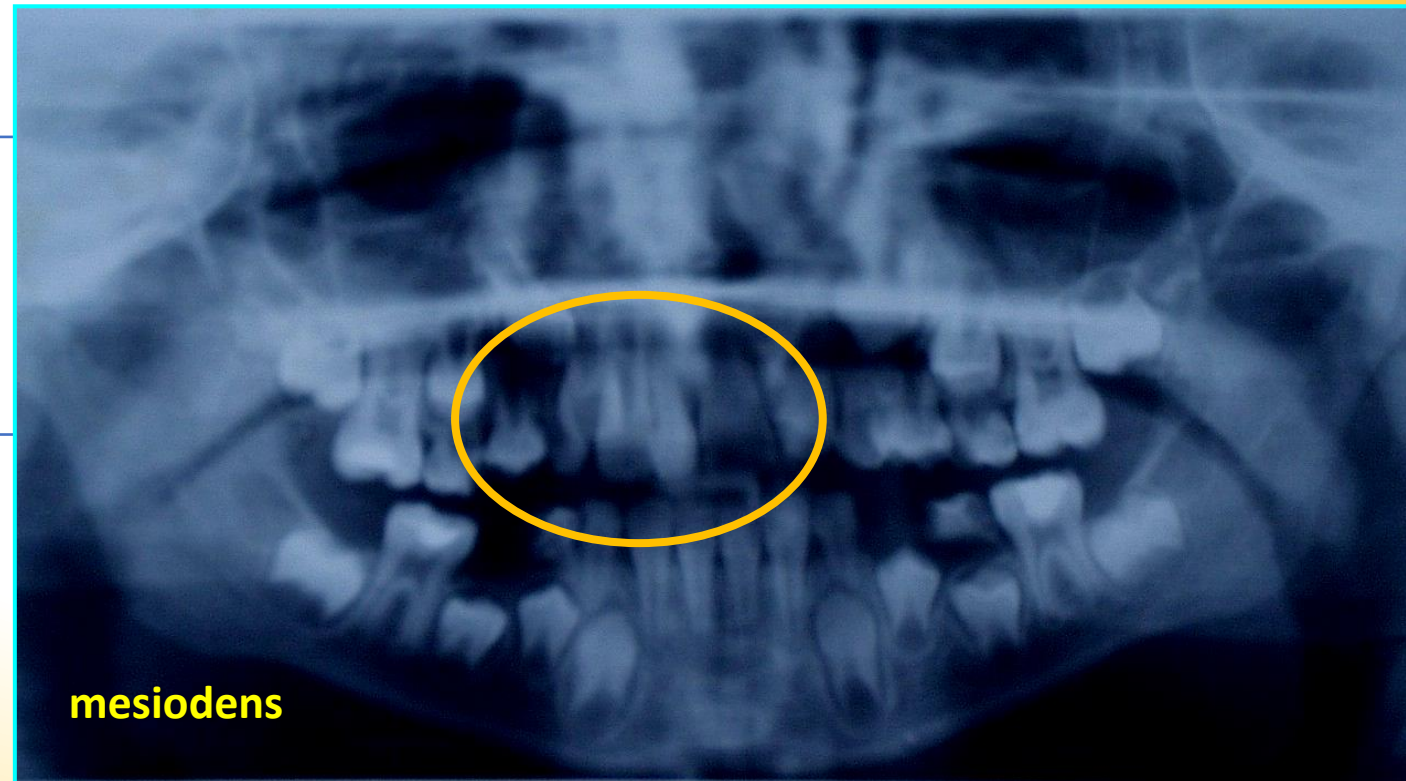
Terminology - localization

Paramolar

Distomolar

Peridens – orally or vestibular of a dental arch

Mesiodens



AIM

to present the:

- etiopathogenesis,
- clinical examination,
- diagnosis and differential diagnosis,
- as well as the prognosis, t
- herapeutic treatment, and
- clinical outcome of supernumerary teeth

Epidemiology

- Supernumerary teeth occur in ~2.5%
- (range 0.1-5.3%) of the population
- with a 2:1 (M:F) in adults with permanent teeth

Prevalence

- The prevalence of supernumerary teeth
- in deciduous dentition is 0.3-0.8%, and
 - in permanent dentition 1.5- 3.5%

- **Garvey MT, Barry HJ, Blake M.** Supernumerary teeth--an overview of classification, diagnosis and management. *J Can Dent Assoc.* 1999;65:612-6.
- **Mahabob MN et al.** Prevalence rate of supernumerary teeth among non-syndromic South Indian population: An analysis. *J Pharm Bioallied Sci.* 2012;4:S373-5.



Etiology

Rao and Chidzonga* state that the etiology of supernumerary teeth is **multifactorial**:

- a combination of environmental and genetic factors

Types

- **Supplemental** - duplicate typical anatomy and morphology of posterior and anterior teeth
- **Rudimentary** - dysmorphic and can assume conical or tuberculated forms
- **Odontoma like** - mechanical obstacle - in some cases odontoma may be form in place of supernumerary tooth



Radiology report

The following information should be included:

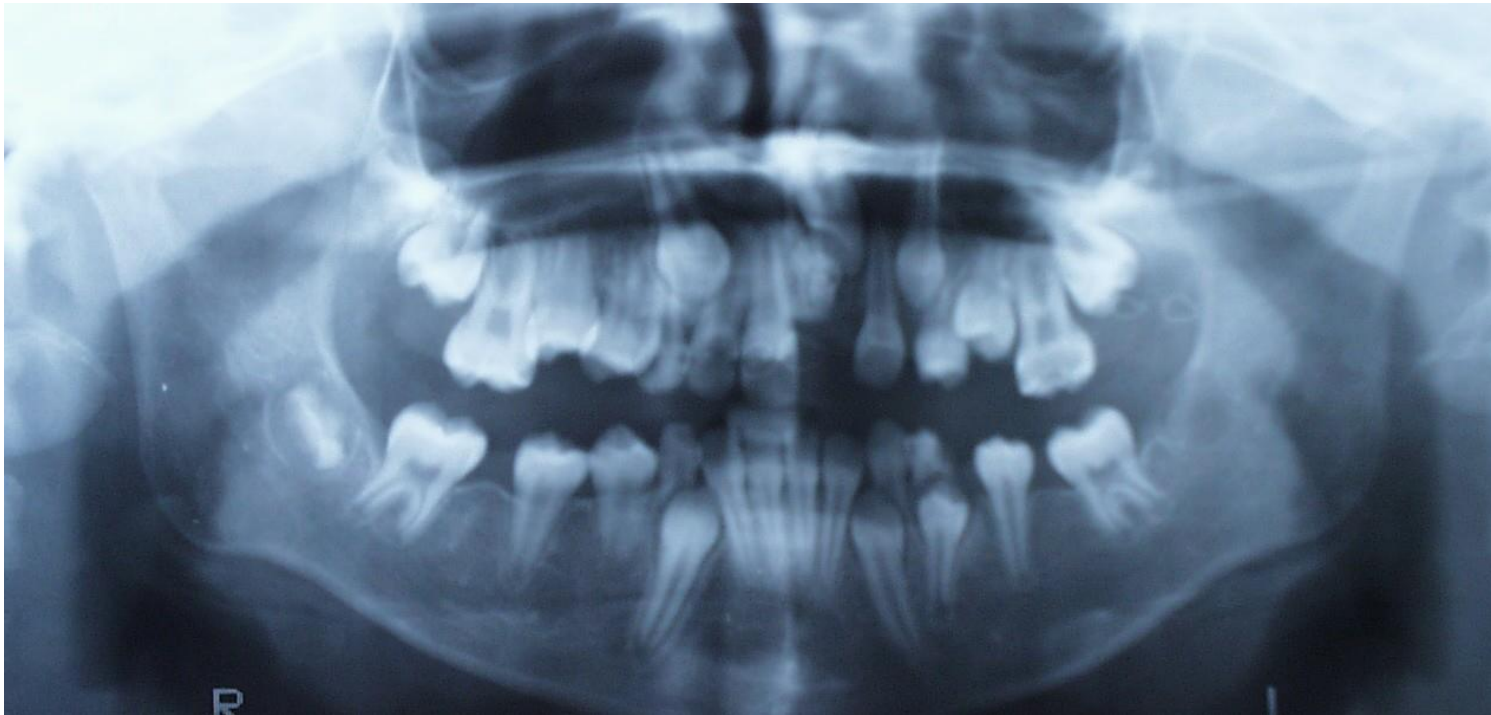
- type and location
- shape
- position in relation to normal tooth eruption
- erupted or impacted
- affect on adjacent teeth, e. g. root resorption, malposition, dysmorphia
- for mesiodons: relationship with nasal cavity floor, nasopalatine canal, alveolar cortical plates



Clinical presentation

Supernumerary teeth can be **asymptomatic**, although can become complicated with failed eruption, root resorption, cyst formation, and/or displacement / impaction / crowding of adjacent teeth

Differential diagnosis - odontoma



- ✿ odontoma (complex, compound)
- ✿ dentinoma
- ✿ enameloma
- ✿ cementoma
- ✿ osteoma
- ✿ impacted teeth
- ✿ radix relicta
- ✿ corpus alienum
- ✿ sialolithiasis
- ✿ dens in dente

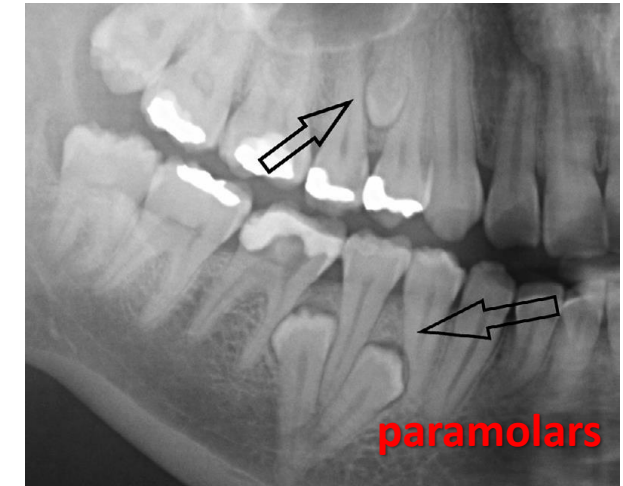
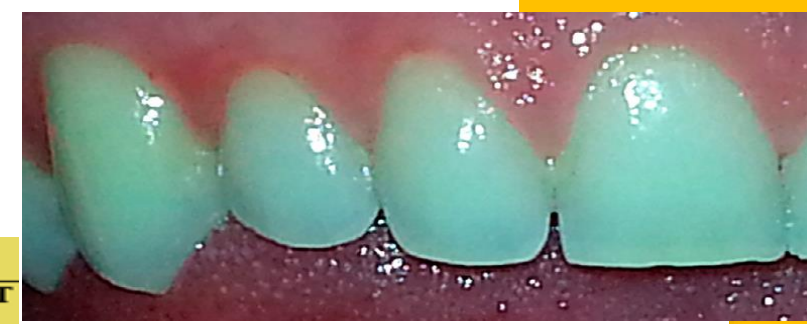
Clinical features

- It may occur in both dentition frequently more found in permanent dentition and more often in the lower jaw
- Common seen in the anterior maxilla and followed by mandibular premolar region
- Supernumerary teeth are mechanical obstacles and frequently prevent the primary tooth from eruption
- They may be crowding the root resorption adjacent tooth and malformation of teeth
- Associated with syndromes

Review of recent studies

Study	Year	N° patients	Gender prop. M:F	Age-range (years)	Average age	N° ST	1 ST	2 ST
Patchett et al. (7)	2001	159	2.2:1	4-13	9 years and 4 months	215	110	43
Rajab and Hamdan (8)	2002	152	2.2:1	5-15	10 years and 3 months	202	117	28
Salcido-Garcia et al. (9)	2004	72	1.1:1	2-55	14 years and 4 months	102	63	-
Fernyez Montenegro et al. (10)	2006	102	1.4:1	5-56	17.6 years	147	77	14
Liu et al. (6)	2007	487	2.6:1	5-44	-	626	351	133
Leco-Berrocal et al. (11)	2007	21	2.4:1	7-34	20 years and 2 months	24	-	-
Ferres-Padro et al. (12)	2007	79	1.8:1	5-19	10 years and 3 months	113	52	22
Anthonappa et al. (13)	2008	208	3.1:1	2-16	7.3 years	283	128	-
De Oliveira et al. (5)	2008	305	2.1:1	3-16	9.3 years	460	192	94
Hong et al. (14)	2009	431	4:1	-	8.8 years	471	-	-
Küchler et al. (15)	2011	27	2:1	6-12	8.9 years	29	25	2
Mukhopadhyay(16)	2011	64	1.78:1	4-14	-	78	50	14
Kara et al. (17)	2011	288	1:1.29	14-43	23.45	351	227	59
Minguez-Martinez et al. (18)	2012	200	2.3:1	2-14	8.1 years	303	135	51
Ramesh et al. (19)	2013	55	1:2.05	14	14	82	28	-

N° patients= number of patients; Gender prop. M:F= Proportion of men to women; N° ST= number of supernumerary teeth; 1 patients with single supernumerary tooth; 2 ST= number of patients with two supernumerary teeth; >3 ST= number of patients with more than three supernumerary teeth.



- **Fadi Ata-Ali et al.** Prevalence, etiology, diagnosis, treatment and complications of supernumerary teeth. Clin Exp Dent. 2014; 6(4): e414-8.
- **Kamil Tworkowski, et al.** Supernumerary Teeth - Literature Review Journal of Pre-Clinical and Clinical Research 2020, Vol 14, No 1

Generalized features of anterior supernumerary teeth according to location.

Features	Mesiodont	Palatodont
Shape	Conical	Tuberculate
Size	Smaller	Larger
Root Formation	Complete	Incomplete
Position	Single	Multiple
	Midline	Bilateral
	Erupted	Unerupted
Adjacent Eruption	Normal / Delay	Delay / Failure

Di Blase, DD. Midline supernumeraries and eruption of the maxillary central incisor, *Dent Practit*, 1969 20:35-40,

Indications for Supernumerary Removal

Removal of the supernumerary tooth is recommended where:

- Central incisors eruption has been delayed or inhibited
- Altered eruption or displacement of central incisor is evident
- There is associated pathology
- Active orthodontics alignment of an incisor in close proximity to the supernumerary is envisaged
- Spontaneous eruption of the supernumerary has occurred

Cases report

Several clinical cases from its own casuistry, emphasizing the

- indications and contraindications for operative oral-surgical
- therapeutic treatment,
- emphasizing the criteria,
- conditions and factors that are of great importance in the definitive solution of supernumerary teeth.



Conclusion

In addition to interdisciplinary cooperation, for the realization of oral-surgical interventions, the correct assessment of the expediency and determination of the most suitable time for treatment is of great importance.



Thank you for your attention