DOI: 10.7860/JCDR/2015/13903.6733

Ectopic Supernumerary Tooth at the Anterior Nasal Spine- A Developmental Glitch

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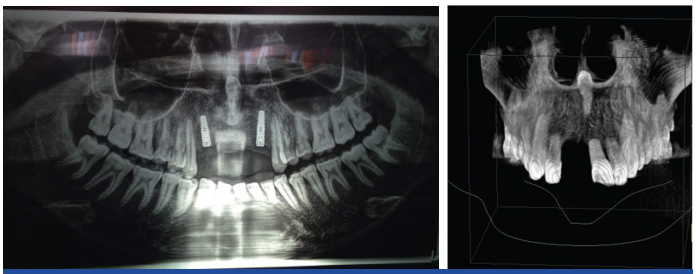
Keywords: CBCT, Inverted tooth, Mesiodens, Mesiodents, Nasal septum

A 25-year-old male reported to the dental clinic with a chief complaint of mobility in the upper front teeth following trauma. On clinical examination, the upper anterior teeth were proclined with grade-III mobility in 11 and grade-II mobility in 12, 21, 22. Orthopantomogram (OPG) revealed bone loss upto the apical third in the upper anterior teeth. Additionally, radio-opacity was seen in the anterior nasal spine which was missed as an artefact [Table/Fig-1]. The anterior teeth were planned for extraction followed by implant placement for which a Cone Beam Computerised Tomogram (CBCT) was taken which showed the panaromic [Table/Fig-2], images of the anterior nasal spine. An inverted tooth like structure was seen in the 3D image. The cross sectional image confirmed the radio-opacity to be a tooth since the enamel, dentin and the pulp were clearly distinguished [Table/Fig-3-5].

Supernumerary tooth or an addition to the regular number of teeth is a rare developmental anomaly that can occur in any area of the dental arch. When it occurs in between the maxillary central incisors, it is termed as mesiodens. Mesiodens can be presented as labio- palatal impacted, vertical impacted, angular erupted, vertical erupted or inverted. The prevalence of supernumerary teeth in deciduous dentition is 0.3% to 0.8% and 1.5% to 3.5% in the permanent dentition [1]. Supernumerary teeth can be a part of various syndromes like cleft lip/ palate, cleido-cranial dystostosis, Gardner's syndrome.

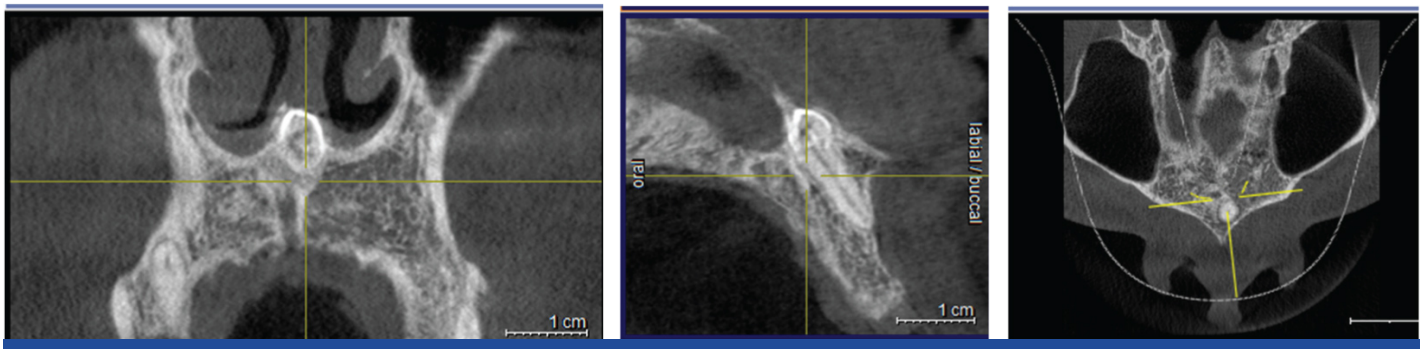


[Table/Fig-1]: Panaromic View showing a radio-opacity at the lower border of the anterior nasal septum
[Table/Fig-2]: 3D View showing a distal inclination of the root of the supernumerary tooth

The most common complications of mesiodens is crowding, malalignment of teeth, dilacerations of permanent teeth, cyst formation like dentigerous cyst and rarely eruption into the nasal cavity and antrum. Among the supernumerary teeth, the rarest presence is in the anterior nasal spine and anterior septum. These may serve as the nidus for developing rhinoliths. Ectopic teeth in the anterior nasal spine and nasal septum can lead to future complications like rhino-sinusitis, nasal septum abscess, septal perforation, oro-nasal fistula and nasal deformity. Supernumerary teeth may or may not be removed depending on the complications associated with it. A supernumerary tooth warrants its removal if it leads to pathologies like formation of cyst, sinusitis, delay in the eruption of permanent dentition, dental mal-alignment, compromised aesthetics and if it is present in the bone designed for implant placement. [Table/Fig-6] reports the various positions of ectopic supernumerary teeth reported in the literature [2-6].

The embryology of the formation of mesiodens is an ongoing debatable topic over centuries. Three theories have been postulated favouring its developmental glitch. The first and the earliest theory of phylogenic reversion postulates that mesiodens could be a phylogenic appearance from our extinct ancestors since they possessed three maxillary incisors, however this theory has now been discarded [7]. The second theory known as the theory of dichotomy suggests that there could be a split in the tooth bud to create two different teeth [8]. The third and the most widely accepted theory is the hyperactivity theory which suggests that mesiodens can occur due to local, independent and conditioned hyperactivity of the dental lamina which results in the proliferation of remnants of dental lamina or the palatal offshoots of the dental lamina which results in an additional tooth bud [9].

The current case presents an inverted mesiodens located at the anterior nasal spine which has been asymptomatic. This was an incidental finding during implant planning of the upper anterior teeth on CBCT and was missed in the routine 2D radiograph OPG. The tooth was however chosen not to be extracted as it was asymptomatic and no associated pathology or developmental defect



[Table/Fig-3]: Tangential View confirming the presence of the radio-opacity at the inferior border of the anterior nasal septum
[Table/Fig-4]: Cross Sectional View which justifies the radio-opacity to be a tooth since the enamel, dentin and pulp structure of the tooth is clearly differentiated
[Table/Fig-5]: Axial View depicting a slight shift of the ectopic inverted tooth from the midline to the left side

Author	Position of tooth	Appearance	Complication
Chen [2] (Report of 3 cases)	Floor of the left nasal cavity between the inferior turbinate and the nasal septum	Straight	Rhinitis
	Right nasal cavity	Straight	Purulent discharge from the nose
	Left hard palate	Inverted	Aspergillus rhinitis
Mohebbi [3]	Intraseptal tooth with nasal obstruction and septal deviation	Inverted	Recurrent sinusitis
Clementini [4]	Floor of the right nasal cavity	Inverted with distal inclination of the root	Asymptomatic
Dhafeeri [5]	Left nasal cavity touching Little's area	Straight	Epistaxis, recurrent tonsillitis
Prasad [6]	Lateral to the nasal septum in the nasal cavity	Inverted	Swelling in the nose, nasal obstruction, pain in the upper labial frenum and philtrum

[Table/Fig-6]: Ectopic supernumerary tooth reports from the literature

had been noticed. The patient was informed about the ectopic tooth and was informed for a yearly check-up to monitor the position of the tooth and to manage the complexities if present then.

CONCLUSION

Ectopic supernumerary teeth have a very rare incidence of being present in the anterior nasal spine which can be missed on a routine radiograph. However in the interest of the patient's health, we need to be aware and make the patient aware about its presence and the need for its periodic check.

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FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Mar 08, 2015**
Date of Peer Review: **Jun 08, 2015**
Date of Acceptance: **Sep 05, 2015**
Date of Publishing: **Nov 01, 2015**