



**Case Report**

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## Ectopic eruption of maxillary central incisor in the nasal cavity: A rare case report

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### Abstract

The ectopic eruption of teeth into the nasal cavity is a rare phenomenon. Ectopic tooth eruptions commonly occur in the palate and maxillary sinus, but have also been reported in the mandibular condyle, coronoid process, orbit, and nasal cavities. The clinical manifestations of intranasal teeth are quite variable; however, intranasal teeth can be an incidental finding during routine examination in patients without nasal discomfort. Herein we report a unique case of an intranasal ectopic tooth that erupted into the nasal cavity and caused significant nasal symptoms in an otherwise healthy patient. The intranasal tooth was removed surgically.

**Keywords:** Ectopic Eruption, Nasal Cavity, Dog Bite.

### INTRODUCTION

Eruption of teeth into the nasal cavity is a rare clinical entity. However, the identification of such teeth is important because they have the potential to cause considerable morbidity.

Ectopic eruption of teeth can occur in a variety of locations in the head region and in other regions of the body. Teeth have been reported to erupt into the maxillary sinus, mandibular condyle, coronoid process, orbit, palate, chin and skin, and have also been found in the ovaries, testes, anterior mediastinum, retroperitoneal area, and the presacral and coccygeal regions<sup>[1,2]</sup>. However, teeth erupting into the nasal cavity are rare. Intranasal teeth may present with a variety of symptoms, or they may be asymptomatic. Clinical examination and radiographic digital imaging are extremely helpful in making the diagnosis. Treatment by surgical removal of the symptomatic intranasal tooth alleviates symptoms and prevents complications.

We report a unique case of intranasal ectopic tooth eruption into the nasal cavity following trauma around the oral cavity due to a dog bite, which caused significant nasal symptoms in an otherwise healthy patient and was removed surgically.

### CASE REPORTS

An 11 year-old boy referred from the Otorhinolaryngology clinic to department of Orthodontics and Dentofacial Orthopaedics with the chief complaint of ectopic eruption of right maxillary central incisor into the right nasal cavity. There was history of facial trauma due to dog bite and the presence of the scar on the face depicts it well (Fig 1). Ectopic eruption and an abnormal final position of permanent incisors are the possible outcomes following traumatic injuries to their predecessors. This can be explained by the physical displacement of the permanent tooth bud or germ at the time of the injury<sup>[3-7]</sup>. Another possible explanation is the lack of eruption guidance from the prematurely lost primary incisor, leading to eruption of the permanent incisor in abnormal position<sup>[6-9]</sup>. No cleft palate or congenital abnormalities were noted, and the patient was otherwise healthy.

The patient was initially examined in an outpatient clinic where a white mass in the right nasal cavity was identified (Fig 2). On palpation, the mass was firm and fixed on the floor of the nasal cavity (Fig. 2). On intraoral dental examination, the right upper central incisor was absent from its normal position (Fig 3).

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**Figure 1:** Showing scar following Dog bite



**Figure 2:** Extraoral examination



**Figure 3:** Intraoral Examination

Panoramic radiograph (Fig 4), lateral cephalograms (Fig 5) and occlusal view (Fig 6) & computed tomography (Fig 7) were taken after orthodontic consultation, which showed radiopaque mass on the floor of the right nasal cavity below the inferior turbinate, and one ipsilateral upper central incisor was missing from the oral cavity. Radiologic examination may be helpful in the pre-operative patient assessment, assisting in the differential diagnosis and evaluation of the exact depth of the eruption site. Lateral views of the skull, panoramic radiography,

and computed tomography may guide diagnosis and management. Panoramic radiography has the added advantage of giving a detailed view of the normal dentition and computed tomography can be useful in evaluating the depth of the eruption site.

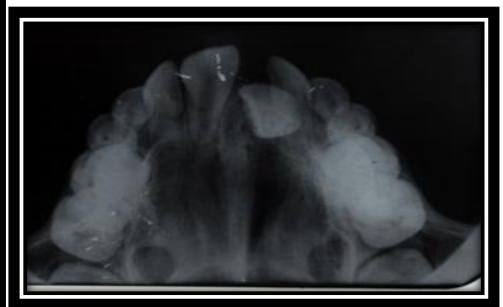
The ectopic tooth was extracted under local anaesthesia (Fig 8). The tooth was removed through the anterior naris. Post-operative haemostasis was achieved. The patient had an uneventful recovery.



**Figure 4:** OPG showing radiopaque intranasal mass



**Figure 5:** Lateral cephalogram showing radiopaque intranasal mass



**Figure 6:** Occlusal view showing radiopaque intranasal mass



**Figure 7:** CT showing radiopaque intranasal mass



**Figure 8:** Maxillary right central incisor after extraction

## DISCUSSION

Ectopic eruption refers to teeth that have erupted in an abnormal location. Ectopic teeth are commonly seen in the palate and maxillary sinus, but have also been reported in the mandibular condyle, coronoid process, orbit, and nasal cavities<sup>[10-14]</sup>. Intranasal teeth are particularly rare, and can be supernumerary, deciduous, or permanent. Ectopically

erupted deciduous or permanent teeth have normal-shaped dental elements, but supernumerary teeth are deformed in appearance, with cone, peg, or triangular-shaped crowns<sup>[14]</sup>. Supernumerary teeth occur more commonly intranasally than deciduous or permanent teeth. Our case is an ectopic eruption of permanent maxillary right central incisor following trauma around the oral cavity due to dog bite.

Based on other case reports, most intranasal teeth appear as a unilateral single tooth in the nasal cavity rather than multiple teeth in the nose or teeth in both nasal cavities<sup>[12]</sup>. There are slightly more cases of intranasal teeth in male subjects (60%) than in females (40%), may be due to contact sports and other extracurricular activities, but warrants further investigation. There is no predilection for the right or left side<sup>[15]</sup>.

The etiology of ectopic nasal teeth remains obscure, although many different explanations exist, including developmental disturbances, such as cleft palate; teeth displaced by trauma or cysts; displacement of a developing tooth secondary to a maxillary infection, either odontogenic or rhinogenic, hereditary factors, including Gardner's syndrome and cleidocranial dysostosis, obstruction of downward eruption secondary to crowding of dentition, persistent deciduous teeth, or exceptionally dense bone; and the root of an unusually long tooth projecting into the nose<sup>[10,13,16]</sup>.

In our case, ectopic eruption of maxillary right central incisor has occurred following trauma around the oral cavity due to dog bite, which has led to displacement of the permanent tooth bud or germ into the nasal cavity at the time of the injury<sup>[3-7]</sup>. Another possible explanation is the lack of eruption guidance from the prematurely lost primary incisor, leading to eruption of the permanent incisor in abnormal position<sup>[6-9]</sup>; i.e. into the nasal cavity.

If symptomatic, the clinical manifestations of ectopic teeth in the nasal cavity are varied and can include unilateral nasal obstruction, epistaxis, chronic nasal discharge, nasal or facial pain and headache, chronic localized ulceration, deviation of the nasal septum, necrotic or granulation tissue in the nasal cavity, a rhinolith, signs of paranasal sinusitis, and chronic intraoral fistulas. Ectopic nasal teeth may also be asymptomatic and only incidentally recognized during routine clinical or radiologic examinations<sup>[11,13]</sup>.

The diagnosis of ectopic nasal teeth is based mainly on clinical and radiologic findings. Careful inspection of dentition is necessary in the differential diagnosis of supernumerary, deciduous, or permanent teeth. The differential diagnosis should include a foreign body, rhinolith, inflammatory lesion due to syphilis, tuberculosis, or fungal infection with calcification, benign or malignant tumours, exostosis, odontomas, osteomas, or cystic lesions<sup>[10,13,16]</sup>.

In our case, the patient was completely asymptomatic, so our initial plan was to find means to bring it down into the oral cavity by orthodontic means. However it was clinically not possible, because after careful clinical and radiological examination, we found that the tooth was embedded within the soft tissue of nasal cavity with a malformed root form. This was further emphasised in various case reports that these teeth have never been brought down by orthodontic means and the removal of tooth was advocated<sup>[11,12,13,17,21]</sup>.

In our case, since the tooth could be visually located and more or less accessible. It was decided to extract it through transnasal approach<sup>[11,21]</sup>, which happened to be successful without any untoward sequelae.

Post-extraction orthodontic strategy involves creation of space for prosthesis by orthodontic means so that a proper prosthesis would be instituted at the proper place with adequate space and to restore aesthetics of the patient.

## CONCLUSION

A rare case of intranasal tooth in 11-year-old boy was presented. The ectopic eruption might have occurred due to trauma around the oral cavity following dog bite.

Nasal teeth are a result of ectopic eruption of teeth due to migration of the tooth bud from its original site. Early loss of primary teeth and trauma seem to be the most probable causes of this eruption. Nasal teeth should be diagnosed early. Since their clinical and radiographic/CT scanning is as characteristic as a diagnostic tool. They should be managed early to alleviate variety of symptoms and complications.

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