

Carious Nasal Tooth: A Case Report from the Oral and Maxillofacial Unit of Komfo Anokye Teaching Hospital

Alexander Acheampong Oti^{1*}, Sabbah Daniel Kwasi², Siale Edem Edward²,
Gyimah Nana Tuffor Ampem²

¹Kwame Nkrumah University of Science and Technology Dental School, Kumasi, Ghana

²Komfo Anokye Teaching Hospital, Kumasi, Ghana

Email: *aotiacheampong@yahoo.com

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Abstract

Ectopic teeth erupting in the nasal cavity are a rare occurrence. This may present with varying degree of morbidity. We present a very rare occurrence case report of an ectopic carious tooth in a nasal cavity. The upper left central incisor was congenitally missing and patient thought it was a form of diastema. Her chief complaint was painful whitish growth in the floor of her left nose with foul smelling mucoid discharge. The learning experience in this case report is that, in conducting examination for a missing upper incisors, the floor of the nose must be included. A further research is needed to establish the actual pathogenesis involved in cariogenesis in the nasal cavity.

Keywords

Ectopic, Tooth, Nasal Cavity, Caries

1. Introduction

Tooth eruption is a process whereby the developing tooth migrates from its intraosseous location in the jaw to its functional position within the oral cavity. A variety of problems with eruption may arise during this transitional dentition phase and one such problem is ectopic eruption.

An ectopic eruption is a disturbance in which the tooth does not follow its usual course and erupts in an abnormal position [1]. The ectopic eruption of teeth in non-dental sites is a rare phenomenon [2].

Ectopic teeth have been observed in the palate [2] and maxillary sinus [3] [4]. They have also been reported in

*Corresponding author.

the nasal cavity, orbit, mandibular condyle [5] and ovarian teratoma [6].

Intranasal teeth are particularly rare, and can be supernumerary, deciduous, or permanent. Supernumerary teeth occur more commonly intranasally than deciduous or permanent teeth [7].

The aetiology 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 [8].

Smith *et al.* [7], in a review of the world literature on nasal teeth, identified 17 supernumerary teeth from a total of 27 well documented intranasal teeth cases.

Nasal teeth may present with symptoms such as nasal discharge, nasal or facial pain, necrotic or granulation tissue around the suspected tooth amongst others. They may be completely asymptomatic and may be noticed as incidental findings on x-rays.

The diagnosis of nasal teeth is made on the basis of clinical and radiographic findings. Various imaging techniques have been employed including the use of CT scans [2] and panoramic radiography [8]. Clinically, an intranasal tooth may be seen as a white mass in the nasal cavity surrounded by granulation tissue and debris. Radiographically, the nasal teeth may appear as radiopaque lesions with the same attenuation as that of the oral teeth.

Removal of an intranasal tooth is the main treatment modality employed by majority of individuals with the aim of alleviating symptoms and preventing complications. The endoscopic approach has been employed by some authors [9].

2. Case Report

We present a 32-year-old lady from Kumasi in the Ashanti Region, and a hair dresser by profession. She complained of a whitish solid growth in her left nostril which had been progressively increasing in size. The swelling was associated with nasal irritation, an offensive mucoid discharge as well as occasional pain for duration of 4 weeks. On extra-oral examination, there was no facial asymmetry or palpable lymph nodes.

Intra-oral examination revealed that all teeth were present except tooth 21 (**Figure 1**). No carious lesions were observed in the teeth present. There was no previous history of trauma or tooth extraction during childhood.

Examination of the nose revealed that the left nostril contained a whitish solid mass protruding from the floor of the nose (**Figure 2**). The mass was surrounded by granulation tissue and mucus. The mass was hard in consistency and looked similar to the crown of an incisor. Interestingly, there was an obvious carious lesion on portions of the crown of the tooth. An initial impression of a nasal ectopic tooth was made. Radiographic imaging (OPG), showed a missing tooth 21 and a radiopaque substance in the floor of the nose.

An extraction of the nasal tooth was carried out under local anaesthesia. The extracted tooth appeared to be a smaller than normal central incisor which had a dilacerated root (**Figure 3**). An explorer was used to determine the depth of the carious lesion and this showed that the carious lesion was in the dentine of the tooth.

There was complete disappearance of presenting symptoms after the extraction and the patient is doing well now.

3. Discussion

Intranasal teeth are particularly rare, and can be supernumerary, deciduous, or permanent. Supernumerary teeth occur more commonly intranasally than deciduous or permanent teeth [7].

The aetiology of ectopic nasal teeth remains not clear, although many different explanations exist, including developmental disturbances, such as cleft lip and 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 [2] [7]. But in the current case the patient could not confirm any evidence of trauma, extraction or infection to the site. All she could confirm was that she has never had the upper left central incisor.



Figure 1. Picture showing missing left central incisor.

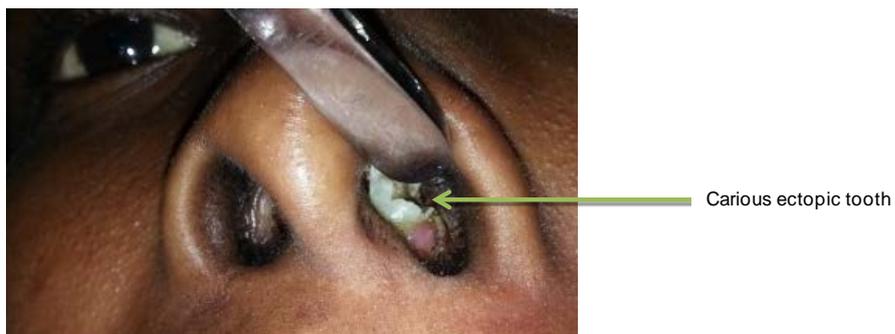


Figure 2. Picture showing carious ectopic tooth.

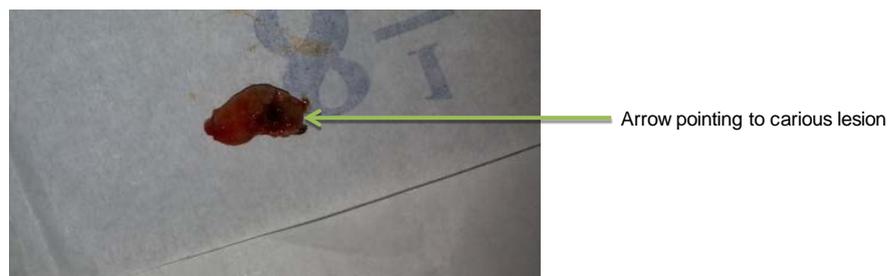


Figure 3. Picture showing the carious extracted tooth.

If symptomatic, the clinical manifestations of ectopic teeth in the nasal cavity are varied and can include unilateral nasal obstruction, epistaxis, chronic nasal discharge, facial pain and headache, chronic localized ulceration, necrotic or granulation tissue in the nasal cavity, a rhinolith and signs of paranasal sinusitis [1]-[3] [7] [8] [10]. In this present case, she complained of a whitish solid growth in her left nostril which had been progressively increasing in size. The swelling was associated with nasal irritation, offensive mucoid discharge as well as occasional pain in the left nasal floor.

The diagnosis of nasal teeth is made on the basis of clinical and radiographic findings. Clinically, an intra-nasal tooth may be seen as a white mass in the nasal cavity surrounded by granulation tissue and debris [7]. Radiographically, the nasal teeth in our patients appeared as radiopaque lesions with the same attenuation as that of the oral teeth.

The pain complaint by the patient in the left nostrils could be as a result of the carious or ectopic tooth. During our literature review of ectopic nasal tooth, there was no case of a carious nasal tooth. The possible explanation for this phenomenon could come from the fact that, the ectopic tooth crown was partly surrounded by mucous and granulation tissue. According to a recent study, the nostrils of health adults harbours microorganisms

similar to the oral cavity. These organisms include staphylococcus aureus and other organisms which are known cariogenic organisms [11] [12].

In a study of the bacterial flora of the nose and nasopharynx in 86 healthy young men. Common pathogens (*Haemophilus influenzae* and *Streptococcus pneumoniae*) were isolated from only 6% of all 172 nasal cavities. The same pathogens were isolated from 27% of 86 nasopharyngeal samples. *H. influenzae* dominated over *S. pneumoniae* both in the nose and the nasopharynx [12].

In addition to the above microorganism, the human nasal mucous is known to be composed of fermentable carbohydrate [13]. The possible pathogenesis could be that, the presence of the carbohydrate could be a source of substrate for the microorganisms for the production of acid to cause demineralization of the crown of the ectopic tooth in the nostrils.

The main treatment of nasal tooth is by extraction which could either be under local or general anaesthesia. In this case, the extraction was done using upper anterior forcep and the use of rotational force to the tooth.

4. Limitation

The major limitation in this presentation is that, at the time of writing this report, the x-ray of the patient was not available to serve as additional evidence to support the presence of an ectopic nasal tooth.

5. Conclusion

Ectopic permanent nasal tooth is very rare. The nasal microbiology and the presence of nasal mucous may be enough to cause tooth decay to an ectopic tooth in the nasal cavity. The learning experience in this case report is that, in conducting examination for a missing upper incisors, the floor of the nose must be included. A further research is needed to establish the actual pathogenesis involved in cariogenesis in the nasal cavity.

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