Case of Inverted Supernumerary Tooth in Nasal Cavity

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Abstract

The eruption of a tooth into the nasal cavity is a rare clinical entity. We report a case of an inverted supernumerary tooth in the nasal cavity. A 2-year-old boy was referred to our institution after examination at a local otorhinolaryngology department for otitis media. Radiological examination revealed a tooth-like structure in the right nasal cavity. The tooth was protruding from the floor of the nasal cavity along with granulation tissue. The diagnosis was an inverted tooth in the right nasal cavity. Forceps extraction was performed under general anesthesia.

Key words: Inverted tooth — Nasal cavity — Ectopic tooth — Tooth extraction — Supernumerary tooth

Introduction

Inverted supernumerary teeth occur at a wide variety of sites, including the nasal cavity and maxillary sinus. Although inverted supernumerary teeth are frequently encountered in clinical dental practice, intranasal incidence is rare, occurring in only 0.1–1% of the general population⁶. In this report, we present a case of an inverted supernumerary tooth in the nasal cavity.

Case Presentation

Patient: A 2-year-old boy.
Chief complaint: No subjective symptoms.
Current medical history: On examination at the otorhinolaryngology department of a different institution for otitis media in May 2012, a tooth-like structure was observed in the right nasal cavity and the patient was referred to our institution for detailed examination and treatment.
Initial findings: A hard tooth-like mass was observed in the right nasal cavity.
Imaging findings: The inverted tooth was not clearly depicted on panoramic X-ray.
Although evaluation of the successional permanent teeth was difficult due to the young age of the patient, no missing deciduous teeth or marked abnormalities of the tooth germs of the successional permanent teeth were observed. Cone-beam computed tomography revealed a hard, tooth-like mass in the region of the right nasal cavity floor (Fig. 1A, B). The morphology of the tooth crown was distinct, but the root was incomplete and encased in a hard, tooth-like mass. No neoplastic lesions or destruction of the surrounding tissue were observed and no continuity with the maxilla was evident.

Clinical diagnosis: Inverted supernumerary tooth in the nasal cavity.

Clinical course: Due to the asymptomatic condition and age of the patient, the need for treatment was debated. However, due to the strong wishes of his family and the risk of infection, extraction was performed under general anesthesia in August 2012.

Following induction of general anesthesia, infiltration anesthesia was administered in the right nasal cavity using 2% xylocaine with 1:80,000 adrenaline (approximately 1.0 ml).
Extraction was first attempted using dental forceps. As the patient was so young, however, the small size of the nostrils made forceps insertion difficult. A mosquito clamp was therefore used to grip and extract the tooth (Fig. 2A, B).

The extracted supernumerary tooth was 10 mm in length, and the crown was oriented toward the nasal cavity. The morphology of the root was unclear, while that of the crown resembled that of a deciduous canine (Fig. 3). The nasal cavity mucosa was left unsutured and pressure was applied with ointment gauze for hemostasis. The postoperative course was uneventful, with progressive epithelialization resulting in the formation of normal nasal cavity mucosa at the site of tooth extraction.

**Discussion**

Inverted supernumerary teeth are frequently encountered in the maxilla in general clinical dental practice, but reports of cases involving the nasal cavity are comparatively rare in the field of dentistry. Furthermore, reports seem to be commonly published in the field of otorhinolaryngology rather than dentistry, as abnormalities first become apparent with the onset of nasal symptoms, which are often initially investigated at otorhinolaryngology departments.

The etiology of inverted teeth in the nasal cavity is unclear, but may be associated with cleft lip and palate, maxillofacial trauma, congenital teeth, intranasal infection, or symptomatic diseases such as Gardner’s syndrome and cleidocranial dysostosis. Inverted teeth in the nasal cavity are thought to originate in an aberration of a tooth germ in the normal dentition or a supernumerary tooth germ. In either case, the pathological, biological, and genetic mechanisms remain to be clarified.

The present patient had no history of disease and there were no abnormalities in the deciduous teeth or the tooth germs of the successional permanent teeth. This case was thus suspected to involve an inverted tooth originating in a supernumerary tooth germ.

Extraction and other treatment strategies for inverted supernumerary teeth in the oral cavity are determined in consideration of the age of the patient and the predicted effects on occlusion and the surrounding teeth. For inverted supernumerary teeth in the nasal cavity, follow-up observation alone may suffice if the patient is asymptomatic. Conversely, if an exposed inverted supernumerary tooth in the nasal cavity is left untreated, there is a risk of rhinolith formation or inflammatory lesions due to bacterial infection of the surrounding mucosa. Therefore, proactive surgical extraction is generally preferred. In the present patient, the tooth was exposed within the nasal cavity and extraction was performed due to the risk of potential infection.

Extraction via intranasal endoscopy has occasionally been reported, but extraction with forceps or tweezers is preferred if the inverted tooth is small and easy extraction is anticipated. If the tooth is large with poor mobility, use of intranasal endoscopy or more invasive procedures such as inferior turbinate surgery may be appropriate, depending on the situation. In the present patient, insertion of dental forceps was difficult, so extraction was attempted with smaller tools, including tweezers and general forceps. As the inverted tooth was small and mobile, extrac-
tion was easily achieved using a mosquito clamp. As the tooth surface is smooth and slippery, a mosquito clamp and other tools offering strong grip force were found preferable to tweezers.

Inverted supernumerary teeth arise not only within the jawbones, but also at sites such as the maxillary sinus and nasal cavity. This should be borne in mind during routine examinations in general clinical dental practice.

References


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