Rhinolithiasis Due to Supernumerary Ectopic Tooth: Very Rare Case

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Abstract An ectopic supernumerary tooth causing the formation of rhinolith was never reported before in the medical literature. A 30 years old male patient presented to our hospital with one sided nasal obstruction, recurrent epistaxis, and nasal discharge. Anterior rhinoscopy, nasal endoscopy and X-ray paranasal sinuses revealed a rhinolith in the left nasal cavity. Preoperative evaluation and post operative examination of the specimen proved that the nidus of rhinolith was a supernumerary ectopic tooth.

Keywords Supernumerary teeth · Ectopic tooth · Rhinolith

Case Report

A 30 years old male patient presented with left sided nasal obstruction, recurrent epistaxis and nasal discharge. There is no history of trauma to nose or insertion of a foreign body into the nose. Anterior rhinoscopy and nasal endoscopy revealed a yellow black colored, irregular surfaced 2×3 cm sized hard mass in the left nasal cavity. X-ray paranasal sinuses showed a radioopaque lesion with central slit like radiolucency indicating a tooth with its pulp cavity (Fig. 1). All the teeth were found intact on oral cavity examination.

Endoscopic removal of rhinolith was performed under general anesthesia. Calcareous material seen deposited over the crown of the tooth (Fig. 2). After scraping of external layer of calcareous material a fully formed ectopic tooth with its root and crown was noticed (Fig. 3).

Discussion

A calcareous concretion in the nasal cavity is called rhinolith. It is formed by the deposition of salts on an organic or inorganic nidus in the nose. Rhinoliths can occur at any age between 6 months and 82 years; but are more common in third decade of life [1]. Chronic inflammation occurring around the nidus, deposition of mineral salts, and enzymatic activity of bacterial pathogens are the factors that cause formation of rhinolith [2]. Nasal packings, dental impressions, fruit seeds, beads, buttons, pebbles, parasite are the examples of exogenous nidus [1]. Dried blood clots, desquamated epithelium, dried purulent material, bone fragments and rarely ectopic tooth may act as endogenous nidus for rhinolith [1].

Common presenting symptoms of rhinolithiasis are purulent rhinorrhea, nasal obstruction, epistaxis, headache and localized pain [2]. Endonasal endoscopy and X-ray para nasal sinuses are the basic investigations. CT scan paranasal sinuses is recommended in some cases to determine the definite location and size of the rhinolith [1, 2].

The treatment of rhinolith is the surgical removal, usually performed through transnasal way. Large rhinoliths can be crushed into pieces and then taken out [2].

Ectopic tooth may be permanent, deciduous or supernumerary [3]. Ectopic tooth may be present in nasal cavity, maxillary sinus, coronoid process, condyle of mandible, palate, skin of face and orbit [4]. Various theories have been

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proposed to explain the presence of supernumerary teeth. It may be derived from excessive growth of the dental lamina, or by the dichotomy of tooth germ or from the clumps

Fig. 1 X-ray skull for sinuses, *red circle* showing the rhinolith formed with tooth inside

Fig. 2 Post operative specimen of rhinolith

Fig. 3 Fully formed ectopic tooth seen after scraping the external layer of the specimen

of epithelium that remained after the breaking up of the tooth band [5].

Eventhough the cause of ectopic growth is not well understood, it has been attributed to obstruction at the time of tooth eruption secondary to crowded dentition, persistent deciduous teeth, or exceptionally dense bone. Other proposed pathogenic factors include a genetic predisposition, developmental disturbances, such as cleft palate, rhinogenic or odontogenic infection, and displacement as a result of trauma and cysts [6]. Additionally some ectopic tooth may also develop from aberrant, extraodontogenic epithelium.

A case of rhinolithiasis with ectopic tooth as a nidus was reported in the literature, the cause for the ectopic tooth in that case was traumatic displacement of the tooth, and not a supernumerary tooth [7].

In our case an ectopic supernumerary tooth caused the formation of rhinolith. There is no traumatic displacement of tooth and all the teeth were found intact. Finally this type of case was never reported previously and this will be definitely contributory to the existing medical literature.

Conflict of interest We state that there are no financial or personal implications relating to this work neither with any person nor with any organization.

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