



Two Cases of Inverted Ectopic Teeth in Maxillary Sinus

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Abstract

Asymptomatic supernumerary ectopic teeth are usually found as incidental findings in panoramic radiographs. If present, symptoms mostly occur according to the localization of the ectopic teeth. Supernumerary inverted ectopic teeth in maxillary sinuses are rare. To overcome possible complications and to assess associated pathology, further radiographic examinations are recommended to evaluate the exact localization of tooth and peripheral tissues. Two cases of asymptomatic supernumerary ectopic inverted teeth are described in the present paper. Both cases are investigated further by tomographic examinations and are found in relation with maxillary sinus. Since the cases were asymptomatic no surgery was performed and the patients were called for routine follow-ups. The exact localization and peripheral tissues of ectopic teeth should be examined carefully to overcome possible associated pathologies and complications.

Keywords: Asymptomatic; Ectopic eruption; Inverted tooth; Maxillary sinus; Supernumerary tooth; Supplemental tooth

Abbreviations: CT: Computerized tomography; CBCT: Cone beam computerized tomography

Introduction

Teeth, impacted at unusual positions far from their normal anatomical location, are called ectopic teeth [1]. An extra tooth with an abnormal morphology is usually called as supernumerary tooth, whereas it is called as supplementary tooth if the morphology is normal [2,3]. The reported prevalence of supernumerary teeth varies between %0,45 and %3 and they might erupt ectopically. There is female predominance with a ratio of 2:1 [2]. Ectopic teeth may erupt in various sites such as mandibular condyle and coronoid processes, maxillary sinus, orbital floor, palate, facial skin, nasal cavity, inferior nasal concha and oropharynx. Most supernumerary teeth are located in the anterior maxillary region and ectopic eruption of teeth in maxillary sinus is rare [3-6]. The present paper reports one inverted supernumerary and one inverted supplemental ectopic tooth located in maxillary sinuses.

Case Reports

Case 1

A 16 year old girl was referred to Istanbul University Oral and Maxillofacial Radiology Department for orthodontic

complaints. Root fragments of 16 tooth and caries at 27,36 was seen in intraoral examination.



Figure 1: Radiopaque mass seen in right maxillary sinus initially considered as an anthrolith.

Panoramic radiography showed radiolucent lesion located at left ramus and a radiopaque body at right maxillary sinus (Figure 1). Radiopaque body was considered as an anthrolith. Computerized tomographic (CT) examination is performed for maxilla and mandible to investigate the radiopaque mass in right maxillary sinus and radiolucent area in left mandibular ramus area. CT images showed that radiopaque body located in right maxillary sinus has enamel like density at its periphery and looks

like a tooth crown. This body is considered as a supernumerary ectopic third molar because of its location and morphology (Figure 2).



Figure 2: The morphology of the calcified mass looks like a tooth and in relation with maxillary floor.

Surgery was planned for radiolucent area in left mandibular ramus area as extraction of 38 number tooth and removal of the radiolucent mass. Consequently there wasn't any symptom, sign of infection in sinus or cystic formation around impacted tooth, surgery was not planned and patient called-up for routine controls. During patient's routine control session after two years, the patient had started orthodontic therapy and control panoramic radiography revealed that the radiopaque body located in right maxillary sinus is still exists and the area in left mandibular ramus area after surgical extraction of 38 number tooth and its associated pathology was healed (Figure 3).



Figure 3: Patient's control panoramic radiography.

Case 2



Figure 4: Inverted supplementary tooth in left maxillary sinus area

A 36 year old systemically healthy Caucasian male patient was referred to Istanbul University Oral and Maxillofacial Radiology Department for pain at 27 number teeth. Intraoral examination revealed carious cavities at 14, 27, 38. Patient's panoramic radiography showed an inverted extra tooth (Figure

4). Because of its normal morphology the tooth was considered as supplemental ectopic tooth. Deficient root canal treatment at 15, overfilled root canal treatment at 16 teeth, apical lesions at 25, 35 were also observed in panoramic radiography. Cone beam computerized tomography(CBCT) was to assess the exact location of the tooth and its relation with peripheral tissues. Tomographic images showed that the tooth was located inside the sinus and nasal cavity partially. Only root of the ectopic tooth was surrounded by sinus mucosa locally and tip of the crown was located inside nasal cavity (Figure 5). Since the patient didn't have any symptoms like sinusitis, foul odor, no surgery was planned and patient was called for control examinations.



Figure 5: Inverted supplementary tooth located in the sinus and oral cavity. Tip of the tooth is inside the nasal cavity and a lateral border of the tooth is surrounded solely by mucosa.

Discussion

Abnormal tissue interactions during odontogenesis may lead to ectopic tooth development. The etiology may include developmental pathologies such as cleft palate, fusion deficiencies or cyst formations. Pressure by cystic enlargement may displace the tooth buds. Genetic factors, trauma, maxillary and odontogenic infections, high bone density, obstruction caused by supernumerous teeth formation are also involved [6]. Teeth located at maxillary sinus may cause sinusitis or ophthalmic symptoms but may also be remained undiagnosed for years and can be seen as an incidental finding. The symptoms include chronic or recurrent sinusitis, nasolacrimal duct obstruction, nasal polyps, osteomeatal complex disease, epistaxis, facial pain, headache, foul smell and elevation of the floor of the orbit [5-7].

Differential diagnosis should include foreign body, anthrolith, rhinolith, sinolith, bony sequestrum, exostosis and neoplasm [4,5]. In case 1, the first review of the panoramic radiography lead the authors assess the mass as an anthrolith. However, according to the morphology of the mass and the peripheral enamel like radiopacity, the mass was considered as ectopic tooth after CT examination. Although no histological examination of the tooth was performed, the connection of the apex dentis between the adjacent peripheral tissues was a strong support for our claim. Additionally the pulpal cavity at corona dentis and radical root canal could be seen. At the coronal side, two cuspes and considerable radiopacity at the crown which looked like enamel tissue were observed. This situation appreciates the importance of CT in the evaluation of masses in maxillary sinuses.

Panoramic radiography is not a suitable screening tool to determine the periphery and exact localization of ectopic tooth in maxillary sinus. Even though the ectopic tooth in maxillary sinus is asymptomatic, a CBCT examination is recommended to assess possible pathology and the certain localization of the ectopic tooth. The patient should be recalled periodically for evaluation of any alterations and prediction of complications.

Ectopic teeth may obstruct the osteomeatal complex of the maxillary sinus and cause mucocoeles [8]. A case of bilaterally placed ectopic molars in the maxillary sinuses is reported by Jude et al, in which the right ectopic molar in the maxillary right sinus was blocking the flow of fluid, which resulted in swelling and removed [9]. A literature review has revealed that only 30 cases have been reported in 30 years between 1980-2010 and only 6 of the cases were asymptomatic and noticed incidentally. Both cases in the present paper are asymptomatic [10].

For some authors, standard treatment for an ectopic tooth is extraction [11], whilst, for others, treatment of choice in asymptomatic ectopic tooth cases is continued observation [12]. Ectopic teeth tend to form a cyst or tumor if not managed [13]. Because both of the cases were asymptomatic, sole observation was preferred, and the teeth were left untouched.

Conclusion

Ectopic tooth in maxillary sinus should be taken into consideration whether it manifests symptoms or not, since it may cause pathological alterations within time.

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