Differential Diagnosis of a 10-year-old Presenting with Unerupted Maxillary Central Incisor: Review of the literature and report of a case.

*Patel D, Onikul R, Burleson A, Bohaty B, Sparks J, Patel N, and Naidu A.

Children's Mercy Hospital and UMKC School of Dentistry, Kansas City Missouri.

Children's Mercy Kansas City

UMKC School of Dentistry

ABSTRACT/INTRODUCTION

Delayed eruption of permanent teeth can be caused by numerous factors including nutritional deficiencies, tooth positioning, presence of supernumerary tooth, or presence of a cyst impeding eruption[1]. The keys to identifying the cause of delayed eruption are good clinical and radiographic exam, along with obtaining a complete and accurate history from the patient and parent. This case report details a 10-year-old female presenting to the Children's Mercy Kansas City Dental Clinic with chief concern for an unerupted upper anterior tooth. The patient's medical history is noncontributory, and she has no known allergies. This case report will include the patient's clinical and radiographic exam, differential diagnosis, and appropriate referral for definitive care.

CASE REPORT

A 10-year-old female presented to the Children's Mercy Kansas City (CMH) Dental Clinic for a limited oral evaluation after being referred from an outside dental facility. The patient and parent's chief concern was "The adult tooth in the front on top still has not come in." Medical history was obtained and was noncontributory. Extraoral exam was WNL. Intraoral clinical exam revealed mixed dentition and existing stainless-steel crowns that were clinically intact. Soft tissues were WNL with no swelling noted. #8 was fully erupted, whereas the contralateral tooth (#9) was unerupted. Space loss was noted between tooth #8 and #10. A periapical radiograph was taken of the maxillary anterior region, and it revealed unerupted #9 with associated unilocular radiolucency (Figure 1). A Cone Beam CT (CBCT) scan was taken to further evaluate the unerupted tooth. Axial and sagittal views of the CBCT reveal the unerupted #9 associated with a unilocular radiolucency originating near the CEJ of the tooth (Figure 2 and 3). Volume render shows unerupted #9 superiorly positioned and associated with a radiolucency stretching from the CEJ and enveloping the crown of the tooth.

A consult with oral pathology was performed and the following differential diagnosis was reached: dentigerous cyst vs. adenomatoid odontogenic tumor. The patient was referred to University Health Oral and Maxillofacial Surgery Clinic for biopsy and definitive diagnosis. As of this time, the patient has not had the biopsy performed.

Figure 1: Maxillary Anterior PA

Figure 2: CBCT Axial Slice

Figure 3: CBCT Sagittal Slice

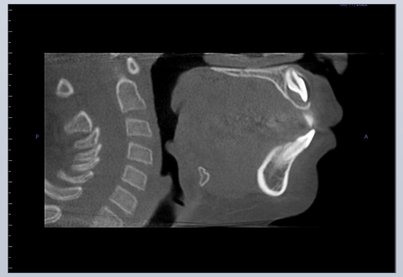
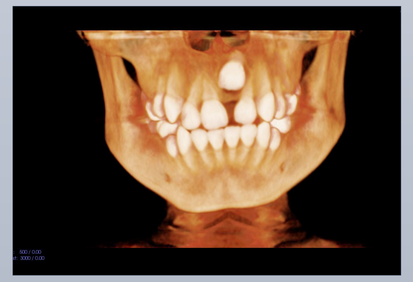


Figure 4: CBCT Volume Render



DISCUSSION/CONCLUSION

Dentigerous cysts are the second most common odontogenic cyst and makes up 20% of all epithelial lined cysts in the jaws. They are the most common developmental lesion found in the anterior maxilla and are often associated with unerupted or impacted teeth[2]. Treatment for dentigerous cysts include marsupialization which allows for either spontaneous eruption of the permanent tooth or eruption with the aid of orthodontics. In cases where cystic lesions are extensive or a tooth is severely impacted, extraction of the offending tooth and removal of all cystic lining is required.

Adenomatoid odontogenic tumor (AOT) is a slow-growing tumor that is often associated with impacted teeth. It is less common than dentigerous cysts, with a prevalence of 0.1% of cysts and tumors of the jaw. Aggressive surgical intervention is needed to treat AOT.[3]

Early recognition of unerupted teeth is vital to identify possible etiology and initiate prompt treatment. Although both lesions are slow growing, if they are left undetected, they can cause severe damage to adjacent structures. Obtaining a good history and performing a thorough clinical and radiographic exam are key in identifying possible unerupted teeth and providing patients the appropriate referral for treatment.

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