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Case Report

Clinical consequence of mesiodens – A case series

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ABSTRACT

Mesiodens is the most common type of supernumerary tooth encountered in general dental practice. The clinical presentation may be varying depending on the position, number and relation to the adjacent tooth. Four cases of mesiodens with different patterns of presentation and clinical outcomes are presented here. Early detection by thorough clinical and radiographic evaluation allows adoption of less-complex and less-extensive treatment.

1. Introduction

The term mesiodens refers to a supernumerary tooth present in the maxilla between the two central incisors. They are frequently associated with problems like disturbance in tooth eruption, midline diastema, crowding, resorption of roots of adjacent permanent tooth, rotations or inclination of permanent tooth, development of dentigerous cyst and so on. Early diagnosis and treatment prevents orthodontic and pathologic complications. This article presents four cases of mesiodens with different clinical scenario.

2. Case reports

2.1. Case 1

An 8-year-old boy presented with a complaint of an unerupted right maxillary central incisor. He had a normal eruption pattern and all remaining maxillary and mandibular incisors were erupted. His skeletal and dental developments were age appropriate. The clinical examination revealed sufficient spacing between the erupted 21 and 12 (Fig. 1A). A small palpable swelling over the region of 11 was evident which was hard in consistency. Intraoral periapical radiograph showed evidence of an impacted 11 with almost 2/3rd of the root formation (Fig. 1B). The crown was overlapped by an impacted mesiodens. Based on these findings, the region was surgically explored and the mesiodens was removed. Orthodontic extrusion of 11 was subsequently planned.

2.2. Case 2

A 9-year-old boy came to the department with a fractured upper right central incisor due to fall from bicycle 2 days before. Clinically, a gross fracture of the crown with pulpal exposure was found in relation to 11 (Fig. 2A). He had the entire complement of tooth for his age. An intra-oral radiograph was taken to assess the fracture and evaluate the restorability of 11. Surprisingly, radiographs demonstrated presence of two impacted mesiodens inversely positioned overlapping the roots of the centrals (Fig. 2B). Considering the poor prognosis of 11, it was advised to extract 11 along with the mesiodens.

2.3. Case 3

A 32-year-old female patient reported a complaint about a discolored artificial crown in the upper front tooth that was placed 7 years before. She had no other relevant complaints or findings except for mild tenderness on 21. The bridge which was spanning from 21 to 13, had partly worn out. Radiographic examination revealed presence of an impacted mesiodens invertedly positioned apical to 11 and 21. A well-defined radiolucency attached to the

☆ Asian AOMS: Asian Association of Oral and Maxillofacial Surgeons; ASOMP: Asian Society of Oral and Maxillofacial Pathology; JSOP: Japanese Society of Oral Pathology; JSOMS: Japanese Society of Oral and Maxillofacial Surgeons; JSOM: Japanese Society of Oral Medicine; JAMI: Japanese Academy of Maxillofacial Implants.

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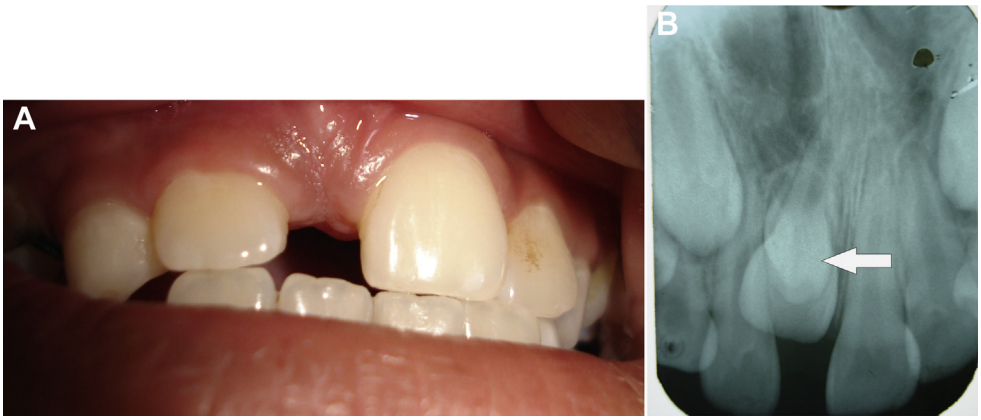

Fig. 1. (A) Maxillary anterior region showing unerupted 11. (B) Radiograph revealing the presence of a mesiodens obstructing eruption of 11.

crown of the mesiodens that was circular in shape, with a sclerotic border was also evident (Fig. 3). These findings concluded the diagnosis of dentigerous cyst arising from the impacted mesiodens. The impacted tooth along with the cystic lesion was removed under local anesthesia. The patient was placed on regular observation and assessment of pulp vitality of 21.

2.4. Case 4

A 20-year-old boy was referred by his physician for opinion of his discolored upper front tooth. Mild yellowish discoloration of left central incisor was noticed with grade 1 mobility. Radiograph showed presence of two impacted mesiodens each corresponding to the roots of the permanent tooth (Fig. 4). The root of 21 was considerably resorbed and root canal was sclerosed. The second mesiodens located in relation to 11 was not very clearly evident probably due to overlapping of anatomic structure (anterior nasal spine). The patient was instructed to extract 21 with the impacted tooth, but the patient was lost to follow-up.

3. Discussion

The most common type of supernumerary tooth is mesiodens which may occur as single, multiple, unilateral or bilateral [1]. The presence of multiple supernumerary teeth is called 'mesiodentes'. According to the shape and size, two subclasses are considered in the classification of mesiodens, namely, eumorphic and dysmorphic [2]. The eumorphic subclass is usually similar to a normal-sized central incisor, whereas the dysmorphic teeth have different shapes and sizes and are categorized into conical, tuberculate, supplemental and odontomes.

The clinical complications of mesiodens reported in the studies include delayed eruption of permanent incisors, midline diastema, axial rotation or inclination of permanent incisors, resorption of adjacent tooth, root anomaly, cyst formation, intra-oral infections and mesiodens pulpitis [3].

The presence of a supernumerary tooth is the most common cause for failure of eruption of maxillary incisors. It has been stated that the tuberculate type of mesiodens more likely causes delay in eruption due to its position, which is mostly located palatal to the

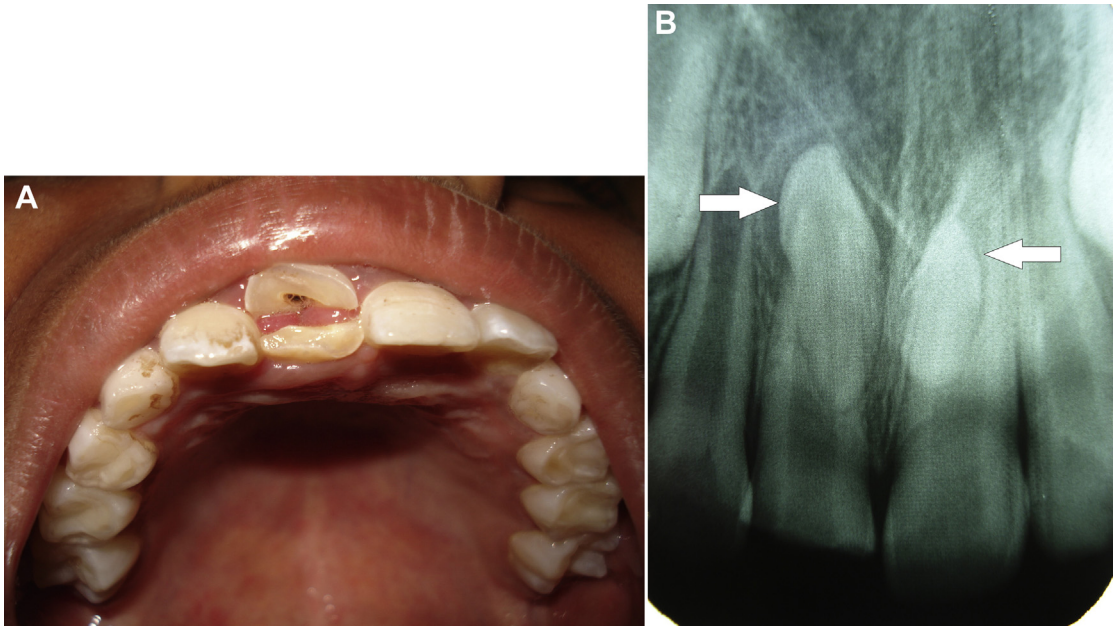

Fig. 2. (A) Fractured right maxillary central incisor. (B) Radiograph demonstrating presence of two impacted and inverted mesiodens.