



## MESIODENS: An atypical case report of 53-year-old male patient

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### General Note



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### ABSTRACT

Supernumery teeth can be defined as excessive quantity of teeth as compared to regular dentition. A 53-year-old male patient visited Riyadh Elm University Muneseya campus with chief complaint was pain in lower anterior region, which included a mesiodens having pain for one month. The diagnosis was mesiodens having root canal treatment and crown placed. Two methods are usually

adopted for the removal of the mesiodens; Extraction prior the formation of root and delayed removal after root formation of the permanent incisors. Few extracts also indicate the removal of the mesiodens during early mixed dentition in relation to help voluntary eruption and positioning of the anterior. The diagnosis was mesiodens having root canal treatment and crown placed. Treatment included two options, with extraction and orthodontic treatment being one option, and root canal retreatment, post and core with crown being the second. The effectiveness of the management lies in the proper evaluation and management of the patient for better outcome.

**Keywords:** Mesiodens, Extraction, orthodontic treatment, Dentition.

## 1. INTRODUCTION

Supernumerary teeth can be defined as excessive quantity of teeth as compared to regular dentition. Mostly this condition occurs in the central area of lower or upper jaw. Nevertheless, it rarely occurs in the mandible area. Mesiodens is the most common type of supernumerary teeth and widely acceptable. It may occur as multiple, single, bilateral or unilateral (Acharya, 2015). Mesiodens can appear as single, multiple, unilateral or bilateral. They are also called as Mesiodentes in existence of numerous supernumerary teeth (Zakirulla et al. 2019). One of the predisposing factors is family history but may also be associated with certain syndromes (Eskiocak et al., 2016).

According to Alberti et al. 0.38% of supernumerary teeth were depicted in 1577 children. Among them, 83% of children with supernumerary teeth had mesiodens with a ratio of male: female 2:1. The occurrence was widely seen in the maxillary region in 9 years old children. It exists in the midline distal jaw between 11 and distal 21, delineating 80% of most of the supernumerary teeth (Akgun et al., 2015).

## 2. PATIENT INFORMATION

A 53-year-old male patient visited Riyadh Elm University Muneseya campus with chief complaint was pain in lower anterior region, this included a mesiodens having pain for one month. As far as the patient's medical history and clinical examinations were concerned, he had controlled hypertension and TMJ, skin, lymph nodes and neck were found to be within normal limits. As far as intraoral examination was concerned, floor of the mouth, palate, cheek, lip and tongue were also within normal limits.

### Diagnosis

The abstract reports that the prognosis can be better with early diagnosis. The early diagnosis and ultimate the prevention of the further complications depends upon the clinician's information of regularly occurring anomalies and their position in the primary and mixed dentition. Some authors indicate the diagnosis can be achieved at the earliest age of 2 and later on. Mesiodens can be a major reason for the occurrence of asymmetry (Figure 1, 2, 3). The diagnosis was mesiodens having root canal treatment and crown placed. Treatment included two options, with extraction and orthodontic treatment being one option, and root canal retreatment, post and core with crown being the second (Figure 4, 5).



**Figure 1** Radiographic presentation of mesiodens



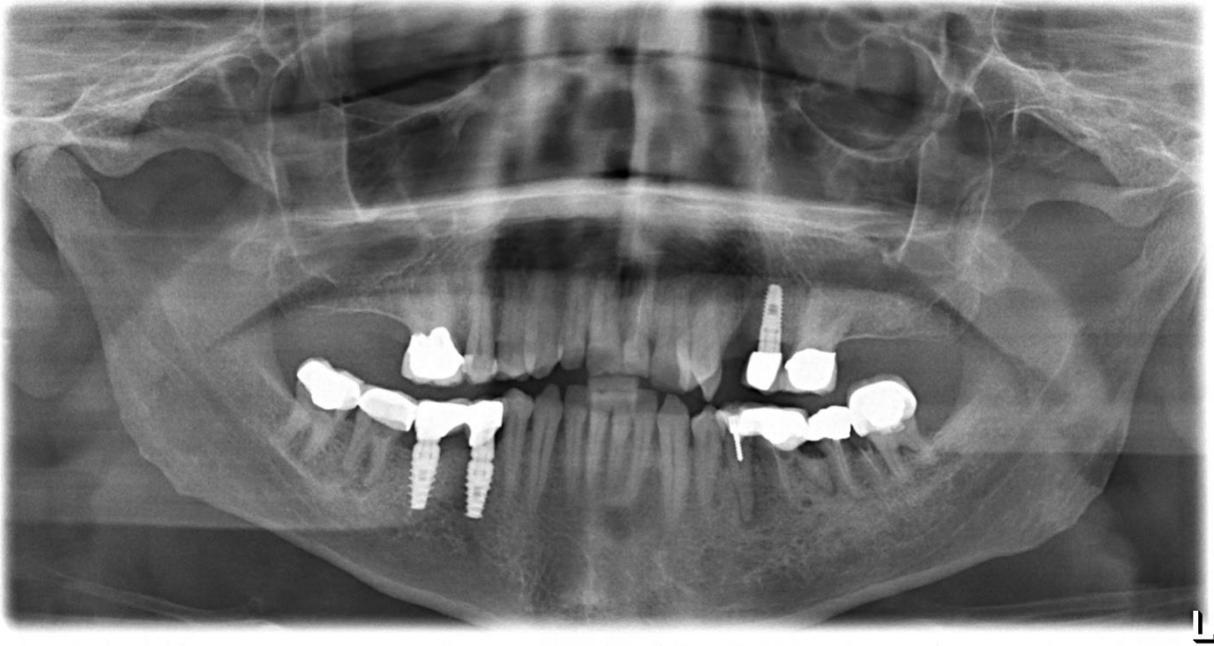
**Figure 2** Clinical photograph of mesiodens



**Figure 3** Frontal view



**Figure 4** Maxillary occlusal view.



**Figure 5** Panoramic X-ray view.

### Management

The treatment of supernumerary teeth varies because of their types and location. Instantaneous extraction of the mesiodens is signified in the further conditions; occurrence of any pathological condition, intrusion with orthodontic appliances, and dislocation of the neighboring tooth, reticence or postponed eruption, or unconstrained eruption of the supernumerary tooth. A documentation by Munns reported of a better prognosis can be achieved early extraction of mesiodens (Narayanan, 2013). Two methods are usually adopted for the removal of the mesiodens; Extraction prior the formation of root and delayed removal after root formation of the permanent incisors. Few extracts also indicate the removal of the mesiodens during early mixed dentition in relation to help voluntary eruption and positioning of the anterior (Samuel et al., 2014).

The perfect time for the extraction is yet indecisive of the unerupted mesiodens. The spontaneous extraction compared to postpone the intervention surgically after the development of the root of the central incisor and the lateral incisor approximately the age of eight to ten years has been reported. The early mixed dentition is an advisable period in the removal of the mesiodens which in turn helps the eruption along with the correct placement of the neighboring teeth as well as to decrease the risk for orthodontic supervision. The eruption of the teeth after the removal of the mesiodens varies from a minimum of six months to maximum three years. It is advised to postpone the removal of the mesiodens at the average age of ten years when the apical region of the central incisor nearly outlines (Srivatsan and Babu, 2007). In situation such as the removal is delayed further, more orthodontic and surgical interventions will be required. The class and location of the unerupted tooth, the room accessible in the tooth arch, in accumulation to the phases of the development of root might account the duration it will take for an impacted tooth to erupt after of the surgical extraction of mesiodens (Serrano, 1973).

### 3. RESULT

The practitioner should review the condition of the patient to make the final decision, whereas a current article by Yagüe-García et al. recommended early abstraction of the supernumerary teeth in respect to avoid any complication is the best option (Yagüe-García et al., 2009).

### 4. DISCUSSION

Supernumerary teeth are regularly are either not erupted or single. The occurrence of the single supernumeraries is 76-86% whereas 12-23% is the probability of double supernumerary and there are less than 1% chances of multiple supernumeraries compared to all case. If the position of the mesiodens is in the anterior location, the chances of more problems because of modified growth and maturity in the area. One of the common complications of mesiodens is the impaction of the permanent incisors. After the mesiodens is extracted, the teeth tend to erupt spontaneously (McCrea, 2012).

In permanent dentition, eruption of the anterior permanent teeth makes the diagnosis pretty clear. Still, in the permanent dentition, recognition of supernumeraries requires radiographic and clinical examination. Periapical and panoramic radiographs, maxillary occlusal are endorsed to help the procedure of diagnosis of mesiodens. Panoramic radiographs are the gold standard for the diagnosis but clarity in the middle line region is yet not complete for the detection of mesiodens. To locate the exact location in the anterior region, or periapical or anterior occlusal radiograph can be supportive. To evaluate the bucco-lingual position of the unerupted mesiodens, parallax technique (horizontal tube shift technique) can be used (Proff et al., 2006).

Tay et al stated that majority of the cases of mesiodens erupts in an inverted posture whereas Liu found that mesiodentes erupt ordinarily. There is a possibility that unerupted mesiodens are asymptomatic and are accidental findings during regular radiographic examination, but majority of this developmental anomaly are diagnosed during a condition of a dislocation or late eruption of a neighboring teeth (Proff et al., 2006). It is advised to supervise the mesiodens the subsequent conditions; suitable eruption of the next teeth, deficiency of various other related pathological conditions and chances of harm to the feasibility of the associated teeth. It is even advised that unerupted symptomless mesiodens which lead no risk to the dentition should be observed and no intervention is required. These teeth are accidental findings are left for supervision without any intervention (Thimmegowda et al., 2016).

## 5. CONCLUSION

This case report signifies the uniqueness of treatment approach for the cases of mesiodens in the patient who are treated with extraction and orthodontic treatment being one option, and root canal retreatment, post and core with crown being the second. The effectiveness of the management lies in the proper evaluation and management of the patient for better outcome.

### Author contribution

AEA contributed for the design, literature review and manuscript writing. ASA involved in literature search, manuscript editing. EAS contributed for the literature search and manuscript review. LRA conducted manuscript review and editing.

### Conflict of Interest

The authors declare no conflict of interest.

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### Informed consent

Written & Oral informed consent was obtained from all individual participants included in the study. Additional informed consent was obtained from all individual participants for whom identifying information is included in this manuscript.

### Data and materials availability

All data associated with this study are present in the paper.

### Peer-review

External peer-review was done through double-blind method.

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