

Hyperdontia in Anterior Maxilla and Bilateral Mandibular Bicuspid Regions (Case report and review of literature)

Abdulrahman Ahmed Alshehri

Abstract— Hyperdontia is a developmental anomaly that is hypothesized to arise from multiple etiologies. Supernumerary teeth may remain impacted in the alveolar bone or can erupt into the oral cavity with a different location within alveolar bone. These teeth when present may give rise to a variety of clinical problems. Detection of supernumerary teeth is best achieved by thorough clinical and radiographic examination. Their management should form part of a comprehensive treatment plan. The aim of the present study is to report a rare case of a mesiodens, impacted supernumerary central incisor, and mandibular parapremolars in an individual with no other associated diseases or syndromes.

Index Terms— Hyperdontia, Mesiodense, Parapremolars, Superneumary teeth, Supplemental teeth.

1 INTRODUCTION

Supernumerary teeth also known as hyperdontia may be defined as extra teeth that develop in addition to the 20 primary and 32 permanent teeth[1]. The prevalence of supernumerary teeth varies between 0.1% to 3.8% and is usually seen more in the permanent dentition[2]. The effects of supernumerary teeth on the developing dentition may vary. Increased number of erupted teeth, crowding, and failure of eruption of adjacent permanent teeth are the most frequent findings associated with it[3].

2 CASE REPORT

A fifteen-year-old boy reported to the Dental clinics at King Khalid University with the chief complaint of mal-aligned upper and lower front teeth. The medical and family histories were noncontributory. Extraoral examination revealed no abnormalities. On intraoral examination, he presented with a complete set of permanent dentitions in both maxillary and mandibular arches except third molars, and maxillary left central incisor. There are supplemental maxillary mesiodens palatal to maxillary right central incisor having a morphology different from permanent maxillary central incisor present, and soft tissue bulge at maxillary left central incisor area. Intraoral periapical radiograph (IOPA Fig. 1) revealed superimposed mesiodens over maxillary right central incisor. IOPA (Fig. 2) revealed double teeth perpendicular and superimposed over

each other at tooth maxillary left central incisor area. The crown and root morphology of both left central incisor and supplemental tooth were identical.

There was a marked anterior tooth crowding in upper and lower arches.

The mesiodens elicited a positive response to thermal and electric pulp testing.

There was no history of trauma nor significant past medical history. To rule out any associated syndrome with the clinical finding, a thorough general examination was done. There were no signs of the partial or total absence of the clavicles or open sagittal sutures which ruled out any chances of cleidocranial dysostosis. On further investigations, Gardner syndrome was omitted as the diagnosis as there were no multiple adenomatous polyposis of the large intestine or multiple osteomas of the facial bones or any cutaneous epidermoid cysts. Therefore, the patient was diagnosed with non-syndromic bilateral supplemental maxillary incisor.

An orthopantomogram (OPG) (Fig. 5) was taken which revealed complete root configuration with sound periodontium in relation to supplemental maxillary incisors and mesiodens (Fig. 1, and 2). The crown and root morphology of impacted supplemental maxillary left central incisors were identical to each other.

IOPA (Fig 3, and 4) revealed bilateral parapremolars teeth germs between mandibular right and left 1st premolars and canines

The first step in managing supplemental teeth is the correct localization and identification of complications associated with them. The management depends upon the type and position of these teeth and their effects on adjacent teeth. The patient should be made aware of complications. Considering oral hygiene maintenance as well as aesthetic problems, treatment plan involved extraction of the parapremolars teeth germs, mesiodens, and impacted supernumerary most distal maxil-

• Abdulrahman Ahmed Alshehri is an intern dentist in King Khalid University, Saudi Arabia. E-mail: 3bdulr7mana7med2@gmail.com)

lary left incisor, and after this patient was advised orthodontic treatment for the orthodontic traction of the impacted maxillary left incisors after surgical exposure correction of crowding in both arches.

3 X-Rays



Fig.1(Mesiodense superimposed over maxillary right central incisor)

Fig.2(Supernumerary tooth superimposed over maxillary left central incisor)



Fig.3(Mandibular right parapremolar tooth germ)

Fig.4(Mandibular left parapremolar tooth germ)



Fig.5(OPG reveals all the 4 supernumerary teeth)

4 DISCUSSION

A study has shown that these extra teeth are mostly located in maxillary incisor region (64.3%) with mesiodens accounting for 32.4% of such cases[4]. In other areas supernumeraries in the maxillary third molar region (29.6%), mandibular third molar region (7.0%), mandibular premolar region (7%), maxillary pre-molar region (4.2%) and mandibular incisor region (4.2%) accounted for the rest cases[5].

The etiology of these excess teeth is still not understood. Numerous factors can interfere with their formation. Few authors have reported that tooth anomalies can result from a complex interplay of genetic factors and developmental processes[4].

One interesting theory, suggests that the local and independent hyperactivity of dental lamina results in an excessive proliferation of cells, which results in the formation of extra tooth buds[5].

Usually, the supernumerary teeth are detected using an anterior occlusal or periapical radiograph using paralleling technique, OPG, and computed tomography[6], [7], [2], [8].

The supernumerary teeth can cause many complications such as prevention and delay in eruption of associated permanent teeth, displacement or rotation of permanent teeth, crowding, incomplete space closure during orthodontic treatment, dilaceration, delayed root development of adjacent teeth, or a formation of cysts etc[7].

The most important step in the management of supernumerary tooth is to identify the complications associated with supernumeraries[6]. If complications are present such as in this case, the teeth are usually extracted within a comprehensive treatment plan which typically involves surgeon, pediatric, and orthodontic dentists[9]. Early management of supernumeraries that cause incisor impaction may minimize loss of eruptive potential, space loss, and centerline displacement[1].

5 CONCLUSION

Supernumerary teeth have been a cause of several clinical complications of dentition, and need an early intervention by a team of pediatric, orthodontic, and surgeon dentists.

5.1 Acknowledgments

The author thanks Dr. Abdulaziz Alshehri for his role in documentation of this case report.

7 REFERENCES

- [1] M. Patricia and O. Murillo, *Supernumerary teeth. Clinical case report*, vol. 17, no. 2. 2013, pp. 90–94.
- [2] M. K. Hans, S. Shetty, R. Shekhar, and S. Sirohi, *Bilateral supplemental maxillary central incisors: a case report*, vol. 53, no. 3. 2011, pp. 403–405.
- [3] T. Pradeep, P. Tangade, M. Batra, R. TI, A. Tirth, and S. Pal, *Non-Syndromic Unilateralsupplemental Maxillary Central Incisor: a Case Report.* .
- [4] S. Acharya, *Supernumerary Teeth in Maxillary Anterior Region: Report of Three Cases and*

Their Management, no. 3. 2015, pp. 122–127.

- [5] M. A. Scheiner and W. J. Sampson, "Supernumerary teeth: A review of the literature and four case reports," *Aust. Dent. J.*, vol. 42, no. 3, pp. 160–165, 1997.
- [6] G. Lo Giudice, V. Nigrone, A. Longo, and M. Cicciù, *Supernumerary and supplemental teeth: case report.*, vol. 9, no. 2. 2008, pp. 97–101.
- [7] M. Garvey, H. Barry, and M. Blake, *Supernumerary Teeth -An Overview of Classification, Diagnosis and Management*, vol. 65, no. 11. 1999, pp. 612–616.
- [8] R. N. Bahadure, N. Thosar, E. S. Jain, V. Kharabe, and R. Gaikwad, *Supernumerary teeth in primary dentition and early intervention: a series of case reports.*, vol. 2012. 2012, p. 614652.
- [9] R. Arathi and R. Ashwini, *Supernumerary teeth: a case report.*, vol. 23, no. 2. 2005, pp. 103–5.

IJSER