

Multiple impacted teeth in non syndromic patients – Report of two cases

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Abstract

Impaction of tooth is common now days due to the shortening of jaw and changing food habits of human beings. Shortening of jaw and decrease in size of tooth is an evolutionary process but impaction of multiple teeth in anterior esthetic zone is quite rare and usually found in syndromic patient. We present two cases of multiple impacted teeth involving both anterior maxilla and mandible associated with dentigerous cyst.

Keywords: Impacted teeth, Dentigerous cyst, Maxilla, Mandible.

Introduction

Impacted teeth are those which are prevented from eruption in oral cavity which may occur due to local and systemic factors. Multiple impacted teeth are usually found due to certain metabolic changes and syndromes. According to a review by Bishara¹ the causes of tooth impaction are divided into generalized and localized factors. The common causes are usually localized: lack of space for eruption, prolonged retention or early loss of the deciduous tooth, abnormal position of the tooth bud, the presence of alveolar cleft, ankylosis, cystic or neoplastic formation, alveolar or dental trauma, and dilaceration of the root.¹ As for the general factors, the most common syndromes associated with tooth impaction are cleidocranial dysplasia (CCD) and Gardener's syndrome.^{2,3} Occurrence of Multiple impacted teeth is rare usually not found in comparison to single tooth impaction. Dentigerous cyst usually found with impacted tooth. Dentigerous cyst is the most common type of developmental odontogenic cyst. It occurs due to fluid filled between reduced enamel epithelium and crown of unerupted tooth. The purpose of this article is to present 2 cases with multiple impacted teeth involving anterior maxilla and anterior mandible in non-syndromic cases.

Case Report

Case report 1

A 36 year female presented to our department with swelling and pain in lower anterior mandibular region since eight months. Patient had never visited dentist before. During the intraoral examination, it was found that the patient had mild swelling in anterior mandible with retained primary mandibular left central incisor, lateral incisor, canine and right mandibular central incisor with migrated right mandibular first premolar and missing right permanent canine and lateral incisor [Fig. 1]. Diagnostic OPG revealed multiple impacted teeth with radiolucent lesion involving whole anterior mandible from right canine to left premolar. Bilateral

impacted canine were also found in anterior maxilla with retained deciduous teeth. Aspiration of pathological cavity was done and sent for examination and was found cystic. After thorough clinical and radiological examination diagnosis of dentigerous cyst was established. Enucleation of cystic cavity with extraction of teeth was planned under local anaesthesia after routine blood examinations which were normal in range. Orthodontic treatment was ruled out due to her advanced age. Bilateral inferior alveolar nerve block was given with local infiltration. Creviceular incision was given with releasing incision on both sides. Mucoperiosteal flap was raised. Complete enucleation of pathological cavity with extraction of all retained deciduous and impacted permanent teeth was done. Histopathological examination showed it as dentigerous cyst. Postoperative healing was satisfactory and patient is on regular follow up.

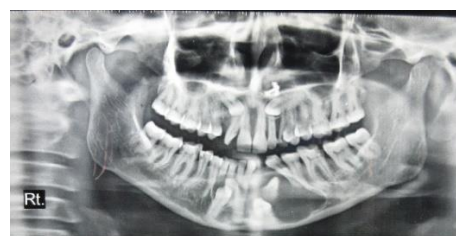


Fig 1: Orthopantomogram showing multiple impacted teeth with radiolucency in anterior mandible



Fig 2: Mild swelling with missing left lateral incisor and canine

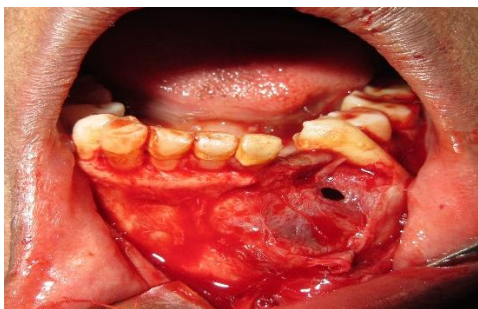


Fig 3: Intra operative image showing lining of cystic cavity



Fig 4: Extracted teeth along with cystic lining

Case report 2

A 28 year female reported in our department with chief complaints of mild swelling and pus discharge from right anterior maxilla. Intra oral clinical examination showed missing right central incisor, lateral incisor and partially erupted canine with retained deciduous lateral incisor and canine. OPG was advised which for radiological examination. OPG showed impacted right lateral incisor, canine and first premolar. Unilocular radiolucency was also found covering the crown of teeth. It was proposed to extract all deciduous and permanent teeth with enucleation of cystic cavity associated with them under local anaesthesia. Routine blood examination was within normal limit. Crestal incision was given at right maxillary anterior region. Enucleation of cystic cavity with extraction of deciduous and impacted tooth was done. Closure was done with 3-0 black silk suture. Postoperative healing was uneventful and patient is regular on follow up.



Fig 5: OPG image showing multiple impacted teeth with small radiolucency in anterior maxilla



Fig 6: Intra oral image showing multiple missing teeth in anterior maxilla



Fig 7: Extracted teeth

Discussion

Epidemiological studies have reported dental impactions to affect 25% to 50% of the population.⁴ Multiple impactions are seen rarely and are usually associated with systemic conditions. As dentigerous cysts are frequently associated with impacted teeth, it occurring in association with canines is frequent as the canines are the commonly impacted anterior teeth. Maxillary canines are the most commonly impacted teeth, second only to third molars, due to their long path of eruption and lack of adequate space for eruption due to shortening of jaw.^{1,5} It is important to perform radiological examination in cases of the unerupted tooth. Initially a panoramic radiograph or OPG may be used for this examination. However, in cases of large expansile lesion, CT scan can be done. Radiographic examinations provide good details of dentition. In cases of associated pathology, biochemical analysis of the lesion is essential for definitive diagnosis.

The causes of tooth impaction are divided into generalized and localized factors. The common causes are usually localized: lack of space for eruption, prolonged retention or early loss of the deciduous tooth, abnormal position of the tooth bud, the presence of alveolar cleft, ankylosis, cystic or neoplastic formation, alveolar or dental trauma, and dilaceration of the root. Cleidocranial dysplasia is the most common syndromal cause of tooth impaction.^{2,3} Other associated syndromes are Gardner's syndrome, Down syndrome, Aarskog syndrome, Zimmerman-Laband syndrome and Noonan's syndrome.^{6-8,10} Routine blood examination and physical examination showed no abnormality in both individuals so the possibility of syndromic association was excluded. Prolonged retention of

deciduous teeth was found in our both cases. Conditions associated with retained teeth are: hemifacial atrophy, hypopituitarism, hypothyroidism, cherubism, gingival fibromatosis, cleft palate and preceding syndromes.^{7,8} Babu *et al* stated that the exact cause and the significance of multiple impacted supernumerary teeth remain an enigma to us.⁷ Multiple supernumerary teeth without any associated systemic conditions or syndromes are not common and often associated with various syndromes. To achieve optimum function and aesthetics, an interdisciplinary cooperation between the oral surgeon, orthodontist, prosthodontist and pedodontist should be based for the management of the case.⁸ The concept of treatment of these cases contains serial examination of primary teeth, removal of the supernumerary teeth, assisting the eruption of the permanent teeth by orthodontic traction or surgical exposure and any impacted tooth which couldn't erupt after surgical or orthodontic methods needs extraction and replacement.⁷⁻⁹ Only a few cases of nonsyndromic multiple impacted teeth were reported.^{7,10-13} In our both cases radiolucent lesion was found with multiple impacted teeth. In those studies the predominant explanation was that some physical barrier led to impaction and non-eruption of teeth.¹⁴ Duration and results of treatment in cases of multiple impactions is a major concern when compared to the commonly occurred single tooth impaction cases.¹⁵

Conclusion

In day to day practice, cases with multiple impacted teeth are usually not found. On spot diagnosis of these cases require thorough examination of oral cavity. Radiological findings also give status of dentition with any associated lesion. Treatment of multiple impacted teeth requires multi disciplinary approach for good outcome. In young patient orthodontic traction can be used for eruption of impacted teeth in collaboration with orthodontist.

References

1. Bishara SE. Impacted maxillary canines: a review. *Am J Orthod Dentofacial Orthop* 1992;101:159–71.
2. Becker A, Lustmann J, Shteyer A. Cleidocranial dysplasia: part I—general principles of the orthodontic and surgical treatment modality. *Am J Orthod Dentofacial Orthop* 1997;111:28–33.
3. Kuroda S, Yanagita T, Kyung H-M, Takano-Yamamoto T. Titanium screw anchorage for traction of many impacted teeth in a patient with cleidocranial dysplasia. *Am J Orthod Dentofacial Orthop* 2007;131:666–9.
4. Andreason JO, Pindborg JJ, Hjorting-Hansen E, Axell T. Oral health care: More than caries and periodontal disease. A survey of epidemiological studies on oral disease. *Int Dent J* 1986;36:207–14.
5. Ngan P, Hornbrook R, Weaver B. Early timely management of ectopically erupting maxillary canines. *Semin Orthod* 2005;11:152–63.
6. Gorlin RJ, Cohen MM, Hennekam RCM. Syndromes of the Head and Neck. Fourth. Oxford University Press; US: 2001.
7. Babu V, Nagesh KS, Diwakar NR. A rare case of hereditary multiple impacted normal and supernumerary teeth. *J Clin Pediatr Dent* 1998;23:59–62.
8. Sharma A. A rare non-syndromic case of concomitant multiple supernumerary teeth and partial anodontia. *J Clin Pediatr Dent* 2001;25:167–9.
9. Yıldırım D, Yılmaz HH, Aydın U. Multiple impacted permanent and deciduous teeth. *Dentomaxillofac Radiol* 2004;33:133–5.
10. Yalcin S, Gurbuzer B. Multiple impacted teeth in the maxilla. *Oral Surg Oral Med Oral Pathol* 1993;76:130.
11. Mercuri LG, O'Neill R. Multiple impacted and supernumerary teeth in sisters. *Oral Surg Oral Med Oral Pathol* 1980;50:293.
12. Black SL, Zallen RD. An unusual case of multiple impacted teeth. *Oral Surg Oral Med Oral Pathol* 1974;37:975–6.
13. Finkel A, Solondz G, Friedman J. Multiple supernumerary and impacted teeth. *Oral Surg Oral Med Oral Pathol* 1974;37:976–7.
14. Miyazaki S, Kuboyama H, Toyomura S, Ryu C, Ishida M, Motokawa W. A case of multiple impacted teeth. *Jpn J Pediatr Dent* 2000;38:242–8.
15. Tanaka E, Kawazoe A, Nakamura S, Ito G, Hirose N, Tanne Y, et al. An adolescent patient with multiple impacted teeth. *Angle Orthod* 2008;78:1110–8.