

Managing a Case of Non Syndromic Multiple Impacted Teeth

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Case Report

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Abstract: Dental impactions add complications to a prescribed treatment plan and thus, are challenging for the treating practitioner. Etiology can be multifactorial and its timely treatment is important for functional, esthetic and psychological demands. Here we are presenting a case of report of a 14-year-old male patient with unknown etiology of multiple impacted teeth.

Keywords: impactions, non-syndromic, unknown etiology.

INTRODUCTION

Impaction of teeth is a common finding in a daily practice but having multiple impacted permanent teeth without any associated anomaly or syndrome is uncommon and very cases have been reported in the literature [1,2]. The etiology for impaction can be multifactorial pertaining to both genetic and environmental factors [3]. Hence treatment planning in cases with multiple impacted teeth with unknown etiology becomes challenging and requires a multidisciplinary approach involving orthodontist, oral surgeon, periodontist and radiologist. Most of the cases which present with multiple impactions are detected with either a craniofacial syndrome (Cleidocranial Dysplasia, Gardner's Syndrome) [4] or metabolic disease. Lack of eruptive force can also be contributing factor. Hence patients presenting with multiple impacted teeth present with insufficient alveolar bone development and insufficient maxillofacial skeletal development.

CASE REPORT

A 14-year male patient reported to the Department of Orthodontics at Manipal College of Dental Sciences, Mangalore with chief complaint of multiple missing teeth. His past dental and medical history were not significant. There was no genetic or metabolic disorder associated and hormonal assays were in normal range. There was no familial predisposition and prenatal history also was normal.

Patient presented with a skeletal class III malocclusion. Extra orally patient had a concave profile

with midface deficiency and a relative excess mandibular growth. Intra orally teeth present clinically were 11,12, 53, 54, 55, 16, 22, 63, 65, 26, 31, 32, 33, 75, 36, 37, 42, 83, 85, 46, 47. There were submerged 64, 74 and 84. The patient had broad arches with effective spacing and reduced vestibular depths in both arches. There was presence of horizontally impacted 24 with roots positioned palatal to root of 22 and highly placed 21,13 and 23 near nasal floor. The patient had a retrusive maxilla and mildly prognathic mandible with SMI stage 10. There were no temporomandibular joint symptoms. (Figure 1,2).



Fig-1: Intra oral pre -operative photographs showing multiple missing teeth



Fig-2: Pretreatment lateral cephalogram and orthopantogram

DIFFERTIAL DIAGNOSIS

- Primary failure of eruption(PFE)- it was ruled out after radiological findings
- Cleidocranial dysplasia- there was no hyper mobility of shoulder

Hence, diagnosis of unknown etiology with some genetic mutation was given.

TREATMENT PLANNING

- Extraction of all the over retained deciduous teeth.
- Surgical exposure and orthodontic traction of the impacted teeth individually

TREATMENT PROGRESS

0.022" Roth prescription brackets were bonded and tubes were welded in upper arch and 0.014 Niti was ligated in upper arch. (Figure 3) An acrylic bite plane was cemented in lower arch to open the bite for bonding in upper arch. Few brackets have been bonded in lower arch too.

Extractions were done irt 53,54,55, 63, 65 after 1 month of strap up and impacted 64 was surgically removed during the time of attachments bonding on 13,23,24. 14,15erupted spontaneously after deciduous teeth were extracted. Traction was applied on 25. (Figure 4)

After reaching 19x25 stainless steel wire traction was applied on 13,24. Initially as per the orthodontist's decision attachments were bonded over 13,23,24 under LA. But since two months of traction applied over 24, showed no signs of movement, decision to extract 24 was undertaken as tooth was horizontally impacted. At present 13 which had a dilacerated root tip as shown by CBCT scan and was highly impacted near alar base, has shown signs of eruption and its level has come near to middle 3rd of root of 12. Derotation of 14,15 after their eruption were done using couple and after complete derotation Roth brackets were bonded and 0.014 Niti was ligated and traction on 13 was stopped. (figure 5).



Fig-3: initial strap photo with bite block in lower arch and 0.014 Niti in upper arch



Fig-4: traction on 25



Fig-5: PAE brackets bonded over 14,15,25 and traction stopped for 13

CONCLUSION

For optimum aesthetic and functional results, a multidisciplinary cooperation between the oral surgeon and orthodontist is a must for the effective management of such cases. The ideal protocol in such cases should be to rule any genetic abnormality and any familial predisposition.

Treatment will include extractions of deciduous teeth and forced eruption of permanent teeth. If the teeth show no signs of eruption, they should be extracted followed by prosthetic rehabilitation. In cases of skeletal base discrepancy, call should be taken for orthognathic surgery.

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