

How to Cite:

Muttineni, N., Manasa, N., Turimella, S., Badipati, R. B., & Lalitha, G. (2022). Oligopleiodontia of the mandibular anterior segment: A case report and surgical management of its esthetic treatment needs. *International Journal of Health Sciences*, 6(S1), 5121–5126.
<https://doi.org/10.53730/ijhs.v6nS1.5990>

Oligopleiodontia of the mandibular anterior segment – A case report and surgical management of its esthetic treatment needs

Dr. Navya Muttineni

Professor, Department of Periodontics, Mallareddy Institute of dental sciences, Hyderabad, Telangana.

Dr. N Manasa

Reader, Department of conservative dentistry and Endodontics, Mallareddy Institute of dental sciences, Hyderabad, Telangana.

Dr. Sindhura Turimella

Postgraduate student, Department of Periodontics, Mallareddy Institute of dental sciences, Hyderabad, Telangana.

Dr. Ramya Bharathi Badipati

Postgraduate student, Department of Periodontics, Mallareddy Institute of dental sciences, Hyderabad, Telangana.

Dr. Garepally Lalitha

Postgraduate student, Department of conservative dentistry and Endodontics, Mallareddy Institute of dental sciences, Hyderabad, Telangana.

Abstract---Esthetic management of supernumerary tooth is encountered routinely in our day to day practice. When such a case presents with underlying periodontal problems like gingival recession, its management requires a multidisciplinary approach for a long term successful outcome. This case report presents one such case where a connective tissue graft with an epithelial collar was placed using modified envelope flap technique for correction of gingival recession which preceded esthetic management of the ST in oligopleiodontia patient. Esthetic management was done by direct composite veneer. Direct placement of composite veneers has greater control, require a conservative removal of tooth structure and can be easily repaired and modified at any stage. 2 year follow up showed optimal root coverage and appreciable esthetics.

Keywords---Humans, Tooth, Supernumerary Tooth, Esthetics, ST, gingival recession, envelop flap, direct veneer.

Introduction

The term oligopleiodontia) describes the condition where developmental absence of teeth (Hypodontia) and supernumerary teeth (Hyperdontia) are co-existing in same individual also known as ‘concomitant hypo-hypodontia. ¹ Interference during the host physiological stage “Initiation” results information or loss of a single or multiple supernumerary teeth. ²The prevalence of hyperdontia and hypodontia co-existing in permanent dentition is 0.002 –3.1%.³

The occurrence of most cases of Oligopleiodontia is in the maxillary arch. Its occurrence in the Mandibular arch is a very rare entity. ⁴The etiology of Oligopleiodontia is unknown as it is not evidently documented in the literature although genetic and environmental factors have been anticipated in the explanation of Oligopleiodontia. Oligopleiodontia has been reported in patients with Down syndrome, Dubowitz syndrome, Ellis-van Creveld syndrome, fucosidosis, G/BBB syndrome, Marfan syndrome, and cleft lip, and palate. Concomitant occurrence of hypohyperdontia in a patient with Marfan syndrome was observed. ⁵The presence of erupted supernumerary teeth may cause complications like crowding, impaction of Permanent incisors, congenital absence of permanent incisors, and midline deviation. ⁶ The purpose of this paper is to report a rare case of Oligopleiodontia in the Mandibular Anterior Region and the esthetical management using a periodontal surgical approach ⁷and direct veneer.

Case report

A-25- year old female patient visited the clinic with the chief complaints of recessed gums of the middle tooth in the Mandibular arch. On Clinical examination, it is revealed that the patient had a mesiodens between the mandibular lateral incisors with missing central incisors. On closer examination there was a Millers class III gingivalrecessionin relation to mesiodens which is present between the 32 and 42, with inadequate attached gingiva, Aberrantfrenal attachment, shallow vestibule and congenitally missing 31 and 41, On radiographic examination,there were missing mandibular central incisors along with the presence of a mesiodens which is in a conical shape. It also exhibited Interdental bone loss up to the middle 3rd of this supernumerary tooth.On both clinical and radiographic examination, it was revealed that there was Miller’s class III gingival recession in relation to supernumerarytooth between the 32 and 42. The treatment protocol for the patient was explained as the removal of mesiodens and placement of a Fixed partial prosthesis or an approach for Orthodontic treatment. As the patient was not willing to the extraction of her supernumerary tooth we suggested a periodontal and conservative approach for retaining the supernumerary tooth.⁸ On closer, Clinical Examination we have observed the following findings:

Clinical Findings (Figure 2 a, b)

- 3mm gingival recession in relation to a supernumerary tooth
- Aberrant frenal attachment

- Inadequate attached gingival
- Shallow vestibule

Radiographic findings: (Figure 2 c,d)

- Interdental bone loss present up to the middle 3rd of the supernumerary tooth
- Both clinical and radiographic examination revealed millers class III gingival recession

Based on the above findings, the following treatment plan was proposed.

Case management (Figure 1 a-e)

The treatment plan proposed was:

- Under local anesthesia, sulcular incision was made at the supernumerary tooth and an envelope flap was raised.
- A connective graft harvested from palate using double incision with an epithelial collar.⁹
- Frenectomy and vestibuloplasty to relieve the tension on the surgical site.
- A direct composite resin restoration to correct the morphology of supernumerary tooth.

Discussion

The Management of the Mesiodens to bring into aesthetics and function depends upon its clinical presentation and associated malocclusions. In the present case, the patient was not willing for extraction as it might disturb the aesthetics. An alternative treatment approach was planned to correct the gingival recession and malformation of the supernumerary tooth.¹⁰ Considering that periodontal management using envelope flap with connective tissue grafting followed by direct veneering was done. Teflon tape has the ability to slide between even the tightest contacts, and because it is so thin, access and visibility are enhanced. One proximal surface is bonded, then the teflon tape is reversed and the other proximal surface is bonded. This is particularly useful in cases of gingival recession caused by periodontal disease. Teflon tape makes bonding procedures simpler, better, and more predictable. If etchant and bonding materials get on adjacent teeth during the bonding process, the teeth can literally end up splinted together. Separating the teeth can be quite difficult and may damage the restoration and adjacent teeth. Thus, when bonding inlays, onlays, and veneers, it is important to isolate the tooth receiving the restoration.

Several authors have given different opinions for the management of ST, particularly the timing of the removal of ST. Most of the authors have recommended the early intervention of ST. The treatment options for managing ST depends on their orientation and position, the age of the patient, and any associated complications. There are two common opinions about removal of ST as soon as they are identified. Rotberg and H. M. Kopel, "Early vs late removal of mesiodens: a clinical study of 375 children. Removal of S T is not always a treatment of choice; they may be reviewed if the tooth is not creating any problem. Högström and Andersson¹⁰ suggested two different opinions where the ST should be removed as early as upon identification or should wait until complete

root formation of adjacent teeth. The optimal time for surgical intervention, however, remains contentious.¹¹ In some cases based on angulations of impacted teeth caused by ST, orthodontic bracket and chain placed at the time of surgical removal ST may be essential for the eruption.

Conclusion

There are a number of alternative treatment plans for anterior teeth rehabilitations involving the presence of mesiodens. Patients and dentists should together analyze the benefits and limitations of each technique and then decide, what would be the best treatment. The technical execution of the restoration should follow a series of steps and checks logically sequenced. Plumber's Teflon tape makes bonding procedures simpler, better, and more predictable. Of all the restorative techniques the bonded direct composite restoration is the least invasive, economical, and an immediate solution in achieving esthetic rehabilitation of a mesiodens. This case report showed that an esthetically pleasing smile can be completely restored in the natural dentition using a combined surgical therapy and esthetic correction.

Conflict of interest: Nil

References

1. Gibson ACL. Concomitant hypo-hyperdontia. *Br J Orthod.* 1979;6:101-5.
2. Ranta R. Numeric anomalies of teeth in concomitant hypodontia and hyperdontia. *J Craniofac Genet Dev Biol.* 1988;8:245-51.
3. Rose JS. A thousand consecutive treated orthodontic case: a survey. *Br J Orthod* 1974;1:45-54.
4. S. K. Mallineni, Radiographic localization of supernumerary teeth in the maxilla [M.S. thesis], University of Hong Kong, 2011.
5. Nuvvula S, Kiranmayi M, Shilpa G, Nirmala SV. Hypohyperdontia: Agensis of threethird molars and mandibular centrals associated with midline supernumerary tooth in mandible. *Contemp Clin Dent.* 2010;1:136-41.
6. Rose JS. A thousand consecutive treated orthodontic case: A survey. *Br J Orthod.* 1974;1:45-54.
7. Bouchard P, Etienne D, Ouhayoun JP. Subepithelial connective tissue graft in the treatment of gingival recessions: Comparative study of 2 procedures. *J Periodontol* 1994;65:929-36.
8. Francesco Cairo, Raffaele Sacerdoti, Giovan Paolo Pini Prato. Combined Surgical Therapy in the Treatment of Gingival Asymmetry: A Case Presentation. *The International Journal of Periodontics & Restorative Dentistry.* 2010 Jun;30(3):257-63.
9. Prato GP, Clauser C, Cortellini P. Periodontal plastic and mucogingival surgery. *Periodontol* 2000 1995;9:90-105 .
10. Hogstrom A, Andersson L. Complications related to surgical removal of anterior supernumerary teeth in children. *ASDC J Dent Child.* 1987; 54:341-343.
11. Monga N, Kharbanda OP, Duggal R. Innovative biomechanics for orthodontic correction of torsion of maxillary central incisor caused by twin mesiodens. *Contemp Clin Dent.* 2014 Apr-Jun; 5(2): 275-277

Figure 1

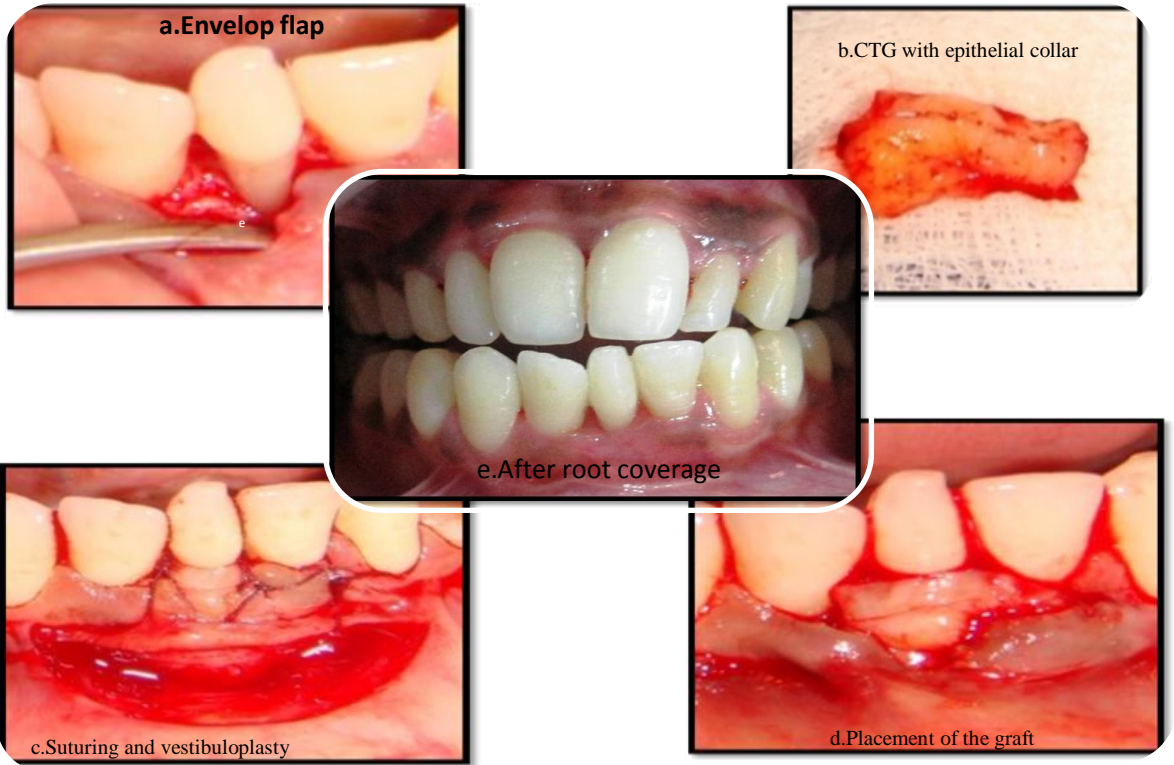


Figure 2

