

Case Report

Teeth supported rehabilitation of partially edentulous and proclined anterior dentition - A case report

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ABSTRACT:

Prosthodontic rehabilitation can be done by various successful treatments modalities such as implant prosthodontics or removable prosthodontics, however this present case was treated with alveoloplasty, endodontics and tooth supported fixed rehabilitation. The treatment planning was done based on clinical situation and patient expectations supported by documented literature.

Key Words – Smile makeover, FPD, lip incompetency, proclined teeth, alveoloplasty.

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INTRODUCTION

There are various reasons for proclination of teeth. It can be physiological, para functional, developmental, etc. Most conservative, widely accepted way of treating proclined teeth is Orthodontic therapy. However since the patient had missing central and lateral incisors in maxilla prominent maxillary ridge resulting in lip incompetence with splayed mandibular anteriors contacting the maxillary ridge on occlusion, a surgical approach followed with endodontics combined with prosthodontics was planned. The case report describes the rehabilitation of partially edentulous and proclined mandibular anterior teeth and excessively prominent maxillary anterior ridge using a surgical, endodontic combined with prosthodontic approach.

CASE REPORT

A patient 50 years old female reported with complaints of difficulty in chewing food and speech due to missing teeth and was also conscious about appearance due to missing teeth and inability to close lips.

On examination it was observed that the patient had missing maxillary anterior teeth with proclined maxillary ridge, partially missing and proclined

mandibular anterior teeth with spacing. The incisal edge of the lower anterior teeth was in contact with the maxillary ridge on occlusion. The lips were not competent due to the extent of proclination (Fig: 1).

Fig: 1a,b - Lateral view showing missing maxillary anterior teeth with proclined maxillary ridge, partially missing and proclined mandibular anteriors with spacing, contact of incisal edge of mandibular anterior teeth with the maxillary ridge on occlusion.





Patient revealed a history of excessively proclined maxillary anteriors and lip trap, patient did not reveal any history of para functional habits. The reason for loss of tooth was revealed to be natural, excessive mobility. Based on these observations, treatment planning was done.

Single visit intentional root canal treatment was done for 13, 23 followed by tooth preparation, impression made and provisional crowns laced on 13 and 23. A maxillary model was made, the alveolar ridge was reduced in the model to reduce the excessive prominence. The maxillary and mandibular casts were articulated with the help of a bite impression. The mandibular anteriors were reduced labially to neutralize the proclination. Based on the inter arch distance a provisional bridge was fabricated for the maxilla. This provisional bridge was used as a reference during the alveoloplasty procedure of the maxilla.

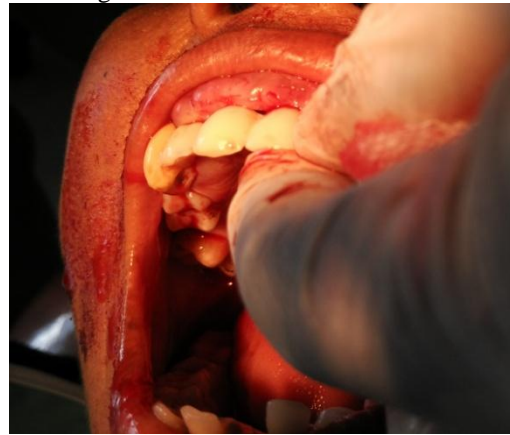
In the maxilla naso-palatine block and labial infiltrations were given, a mid crestal incision was made from 13 to 23, the flaps were elevated (Fig: 2).

Fig: 2 - Mid crestal incision given from canine to canine region.



The provisional stent was placed to check for the required amount of bone to be reduced (Fig: 3).^[1]

Fig: 3 - Provisional stent / bridge used to assess the extent of ridge to be reduced.



The ridge was then reduced with the help of bone rongeurs and files, it was also observed that the soft tissue flap was of more thickness than desired, hence soft tissue flap was removed with the help of a scalpel. The provisional stent was placed to confirm if the reduction was sufficient and then the flaps were proximated and sutured. The patient was called back after a week and observed (Fig: 4).

Fig 4a,b - Inter arch distance achieved between maxilla and mandible.



After soft tissue healing the provisional bridge was cemented on 13 and 23 (Fig: 5).

Fig 5a,b - Provisional bridge given to patient during the waiting period.





The patient was kept in observation for six months to check on ridge height reduction after alveoplasty. The patient was recalled after one month and 3 months and 4 months of the alveoplasty procedure. The maxillary bridge was remade twice to compensate for the ridge height loss during this period. Meanwhile root canal treatments were done on 33, 32, 41, 42 and 43. Labial reduction was done in 32, 42 and 43 such that the proclination is compensated and check impressions were made to assess for undercuts. Core build up was done lingually on 32, 41 and 43 to provide sufficient bulk followed by tooth preparation for metal ceramic bridge. A subgingival finish line was given for all the lower teeth. A provisional bridge was made for the lower anteriors.

After soft tissue healing the provisional bridge was cemented on 13 and 23 use of a bridge placed on a ridge will reduce the rate of ridge resorption.^[2] The patient was kept in observation for six months to check on ridge height reduction after alveoplasty. The patient was recalled after one month and 3 months and 4 months of the alveoplasty procedure. The maxillary bridge was remade twice to compensate for the ridge height loss during this period. Meanwhile root canal treatments were done on 33, 32, 41, 42 and 43. Labial reduction was done in 32, 42 and 43 such that the proclination is compensated and check impressions were made to assess for undercuts.^[3] Core build up was done lingually on 32, 41 and 43 to provide sufficient bulk followed by tooth preparation for metal ceramic bridge. A subgingival shoulder finish line was given for all the lower teeth. A provisional bridge was made for the lower anteriors.^[4] After 5 months there was no significant loss of height of the maxillary ridge hence impressions were made for both the arch with putty and light body elastomeric material (GC FLEXCEED)^[5]. The models were poured with type IV die stone (ULTRAROCK KALABHAI) and the casts were mounted on an articulator with the help of a bite registered with the posterior teeth. The wax up for the maxillary and

mandibular bridge was done on the articulated casts. The metal try in was done intraorally and it was planned to increase the height of the maxillary bridge cervically to improve esthetics. Shade selection was done (VITA shade guide) shade B2. Patient was recalled after two days and the final prosthesis was checked intraorally in both centric and eccentric positions, incisal guidance was checked with articulating paper 40 microns (Bausch Arti-check) and when all movements were comfortable without any interference the prosthesis was cemented with type 1 glass ionomer cement (GC Gold Label 1), excess cement was removed. FPD maintenance instructions were given to the patient.^[4]

Patient was reviewed after a week, patient was satisfied with her appearance and her ability to smile back improved her confidence. Patient did not reveal any disturbances while eating or speech. (Fig: 6b)

CONCLUSION

A proper comprehensive treatment involving patient's condition and keeping in mind the expectations of the patient will lead to successful end results. Treatment plan giving importance to esthetics and functional aspects of rehabilitation will result in great success of treatment outcome and complete patient satisfaction.

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