

# Challenges in Anterior Rehabilitation : A Case Series

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## ABSTRACT

Replacement of anterior missing teeth with malposed abutments poses a challenge to Prosthodontist. Ideally Orthodontics is always the first choice of treatment for aesthetic and functional rehabilitation of malaligned teeth but in some rare cases, the unwillingness of the patient for orthodontic correction brings a tough situation to the dentist. In such cases, the only other option for aesthetic restoration is fixed partial dentures. But each case presenting a different clinical picture requires modification from routine. This article presents case series of few such cases where fixed partial denture was used to rehabilitate the patients with missing or abraded teeth in anterior region but malocclusion was bothersome for rehabilitation.

**Keywords :** Esthetics, Anterior Rehabilitation, Fixed Prosthodontics

## I. INTRODUCTION

Desire to have a pleasant smile has been a common reason for patients to seek dental treatment. Anterior teeth being the first visible portion of the oral cavity require extra attention during treatment planning. Various challenges which are encountered during anterior teeth rehabilitation include missing teeth, proclined teeth, discoloured teeth; spacing between teeth, worn out dentition etc.<sup>1-3</sup> Conventional fixed prosthodontics cannot be panacea for such conditions. Every condition is to be treated individually. In this case series four cases have been described where patient wanted anterior restoration but esthetic correction presented a challenge. So modification was done in each case to rehabilitate the dentition.

## II. METHODS AND MATERIAL

### Case Reports

#### Case 1

An 18 year old male patient reported to the department of prosthodontics with chief complaint of missing upper front tooth since last 2 months. Intraoral examination revealed missing 21, anterior open bite and medium smile line. Open bite involved all maxillary incisors. Literature has shown such cases being treated by

posterior teeth height reduction or orthodontic treatment.<sup>4</sup> Patient was not interested in long and extensive treatment. So it was decided to take advantage of medium smile line in this case to facilitate prosthodontic camouflage. To do this all the maxillary incisors were involved in the rehabilitation. Casts were mounted on Hanau wide-view articulator by facebow transfer, mock wax up was done by increasing cervico-incisal height of maxillary incisors and tried in patient's mouth. Increased length of incisors was not a concern because patient had a medium smile line. After patient's approval tooth preparation was done and final impression was made with monophasic polyvinyl siloxane impression material. The patient was given provisional restorations to get accustomed to increased height of teeth. A metal ceramic fixed partial denture involving 11, 12, and 22 was fabricated with increased cervico-incisal height closing anterior open bite. (Fig. 1 and 2)

#### Case 2

A 25 year old male patient reported to the department of prosthodontics with chief complaint of missing upper front tooth. Patient gave a history of trauma to maxillary anterior region after which he underwent extraction of 11 and root canal treatment of 12, 21 and 22. On examination 11 was missing and maxillary incisors were proclined. Patient had his wedding in a short time and wanted immediate esthetic correction. So orthodontic

option could not be taken up. Mock tooth preparation was done and it was planned to do more tooth preparation on labial surface involving all maxillary incisors as compared to palatal to improve the arch form. Treatment plan was discussed with the patient. The final maxillary arch impression was made with a monophasic polyvinyl siloxane impression material. Provisional fixed partial denture was fabricated with auto polymerizing acrylic resin. All ceramic fixed partial denture was given to the patient involving 12, 21 and 22. (Fig 3 and 4)

### Case 3

A 50 year old female patient reported to the department of prosthodontics with chief complaint of missing upper front teeth since last 5-6 months. Since then she was wearing a removable partial denture for the same. On examination 11 was missing and mesiodistal edentulous space was more than required to replace a central incisor. Patient gave a history of spacing between her natural maxillary central incisors and wanted a natural esthetic replacement of her tooth. She denied the option of implant supported crown because of a surgical procedure. So it was planned to maintain the diastema in the PFM fixed partial denture with the help of a loop connector between the pontic and adjacent retainer. Tooth preparation for porcelain fused to metal was done in 12 and 21. Final impressions were made with monophasic polyvinyl siloxane impression material. A fixed partial denture in relation to 11, 12, 21 with loop connectors retaining the diastema between 11 and 12 was fabricated. (Fig 5)

### Case 4

A 64 year old male patient reported to the department of prosthodontics with a chief complaint of chipped off upper front teeth since last few years. He also had sensitivity in same teeth. On examination labial surface of tooth 11 and 21 was abraded, also incisal edges were attrited. He had stains on his adjacent natural teeth. For complete esthetic rehabilitation patient was suggested to undergo bleaching for lightening his stains followed by all ceramic crowns on 11 and 21 but patient did not want to undergo bleaching as he didn't mind the colour of his existing teeth. So tooth preparation was done and impressions were made and all ceramic crowns for 11

and 21 were fabricated. The challenge for these crowns was matching them to the adjacent stained natural teeth. For the same along with shade matching characterization was also done to merge them with adjacent natural teeth. (Fig 6)



**Figure 1.**



**Figure 2.**



**Figure 3.**



**Figure 6.**



**Figure 4.**



**Figure 5.**

**Legends for photographs**

1. Case 1 Profile view
  - a. Preoperative
  - b. After rehabilitation
2. Case 1 Intraoral view
  - a. Preoperative
  - b. After rehabilitation
3. Case 2 Profile view
  - a. Preoperative
  - b. After rehabilitation
4. Case 2 Intraoral view
  - a. Preoperative
  - b. After rehabilitation
5. Case 3 After rehabilitation
  - a. Profile view
  - b. Intraoral view
6. Case 4 Intraoral view
  - a. Preoperative
  - b. After rehabilitation

### III. RESULTS AND DISCUSSION

Smile rejuvenation can positively impact a patient's self esteem and emotional health through an improved appearance. Correction of dental esthetic inconsistencies needs careful evaluation, planning and multidisciplinary approach.<sup>5</sup> Dental art has long been a part of the quest to enhance the esthetics of the teeth and mouth.<sup>6</sup> Esthetics is a major part of anterior rehabilitation of teeth and the patient's supreme desire. Many patients incline towards fixed prosthodontic treatment rather than orthodontic treatment for correction of certain malocclusion because of time consuming factor associated with orthodontic correction. Also there are other causes too for patients to seek fixed prosthodontic treatment. Esthetic correction is a major part of it. Certain clinical conditions are difficult to treat with conventional FPDs requiring customization according to clinical situation. The challenge in every fixed partial denture case is the modification done according to each case. Management of few cases of anterior rehabilitation have been described in this case series who presented with a missing tooth or abraded teeth but malocclusion and stains presented with unesthetic look in each case.

### IV. CONCLUSION

Presence of proclined teeth, excessive spacing, open bite and worn out teeth were few cases described in the present case series. These conditions make esthetic replacement a great challenge to the dentist if they are present in anterior region. Use of modified techniques to achieve esthetic rehabilitation with fixed partial denture becomes treatment of choice when patient refuses to opt for prolonged orthodontic treatment. Customization of the prosthesis according to clinical situation serves the purpose.

### V. REFERENCES

- [1]. Sharma AK, Bhanot R, Bansal P, Kapoor D. Aesthetic management of proclined maxillary central incisors with all ceramic crowns. *Journal of Clinical and Diagnostic Research* 2010; 4: 3643-3647.
- [2]. Raja DR, Nesappan T. Aesthetic Correction and Replacement of Missing Tooth in Maxillary Aesthetic Zone Using Modified FPD with Loop Connectors -a Case Report. *International Journal of Dental Sciences and Research* 2014; 2(4): 73-75.
- [3]. McIntyre F. Restoring esthetics and anterior guidance in worn anterior teeth: a conservative multidisciplinary approach *JADA* 2000; 131: 1279-1283.
- [4]. Admala SR, Admala NR, Surender LR, Aravelli S. Complete anterior open bite of an adult treated with prosthetic rehabilitation. *Journal of Interdisciplinary Dentistry* 2014; 4(2): 93-96.
- [5]. Thomas MS, David K. Importance of anatomic mockup for predictable esthetic smile design with ceramic veneers. *J Interdiscip Dentistry* 2014; 4:55-8.
- [6]. Aschheim KW, Dale BG. *Esthetic Dentistry A clinical approach to techniques and materials*. 2nd ed. New York: Mosby, 2001.
- [7].