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# Esthetic Makeover- A Multidisciplinary approach: A case report

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**Abstract**
Recently esthetic rehabilitation has become a demanding treatment in order to correct malpositioned anterior dentition. An attractive or pleasing smile clearly enhances the acceptance of an individual in our society by improving the initial impression in interpersonal relationships. Esthetic and functional rehabilitation can be done successfully in such cases by various treatment approaches. Orthodontic therapy is the most conservative treatment option for such cases but often not a treatment of choice, due to various reasons like long treatment time, financial constraints, and appearance during the therapy, and relapse after the treatment. Alternatively, endodontic approach combined with the prosthodontics provides a quick, reliable and economic treatment option with no chances of relapse.

**Keywords:** Multidisciplinary, Makeover, rehabilitation

## Introduction
"Smile is a curve that sets everything straight." Smile is one of the most important facial expressions and is essential in expressing friendliness, agreement, and appreciation. A defective smile might be considered as a physical handicap. Often the demand for esthetics motivates the patient to seek dental treatment. However, beauty is not absolute and it is extremely subjective. It is dictated often by cultural or ethnic factors and individual preferences.

The increasing demand for esthetics has encouraged the practitioners to develop new methods and techniques for proclined anterior teeth [1]. Orthodontic therapy is the most conservative treatment option for protruded anterior teeth [2]. Because of certain constrains and patient demands for a faster treatment options it's often not considered as a treatment of choice. This case report describes the aesthetic rehabilitation of missing maxillary central incisors and correction of proclined lateral incisors with custom cast post and an angulated core using an interdisciplinary approach.

## Case Report
A 32year old female patient came to our department with complaint of unsatisfactory bridge with her upper front teeth (Fig 1). Extra oral examination revealed incompetent lips and facial midline was not coinciding with dental midline. On intra oral examination there was 4 unit bridge i.r.t 11, 12, 21 & 22 with increased overjet and open gingival margins. On evaluating further, there was bridge from canine to canine i.r.t lower anteriors. Periodontal examination revealed generalized gingival inflammation and presence high upper labial frenal attachment (Fig 2). On radiographic examination 11 & 21 were missing 12 & 22 were used as abutment & 13 showed carious pulpal involvement (Fig 3).

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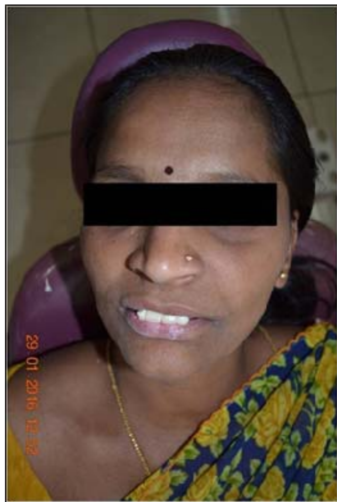

**Fig 1:** Pre- operative

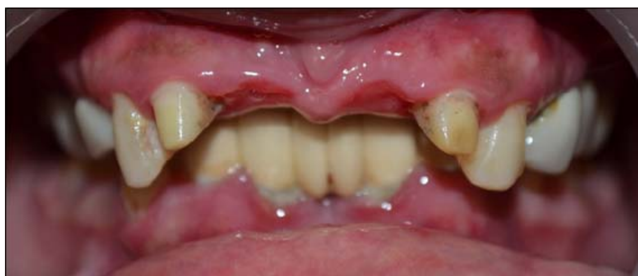

**Fig 2:** After bridge removal inclined 12 &22

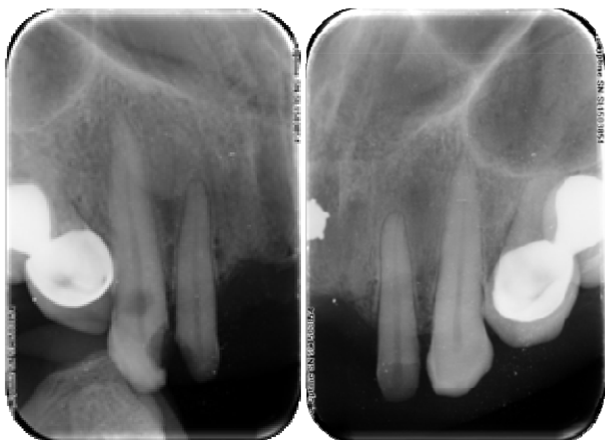

**Fig 3:** Pre –operative radiographs

Since the patient was concerned about the replacement of bridge and keen on her esthetic make over. On removal of the bridge, she was explained about her periodontal status and various treatment options. She was given a choice of orthodontic treatment for correction of inclination of lateral which would bring the teeth in alignment.

As she was not willing for it because of the time and financial constrains. A comprehensive treatment approach which involved initial periodontal therapy following which endodontic therapy i.r.t 12, 13 & 22. Since it was decided to give bridge from canine to canine, intentional RCT was done for 23 to be used it as an abutment & to correct the occlusal plane (Fig 4). After which frenectomy and crown lengthening was done i.r.t 12, 13, 22 & 23 to establish a positive gingival architecture (Fig 5 & 6). After a week, once the gingival health was stabilized further treatment was carried out. The angulation of proclined lateral incisors were changed with the help of custom cast post and an angulated core to bring them back to alignment (Fig 7). Following cementation of cast post and core, temporary bridge was given in the new position for 3 weeks. After which full coverage porcelain fused metal bridge was cemented i.r.t upper anterior teeth (Fig 8, 9 &10).

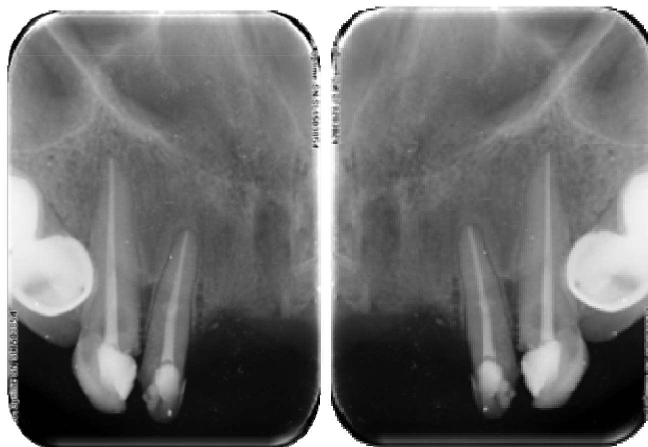

**Fig 4:** Radiographs after obscuration

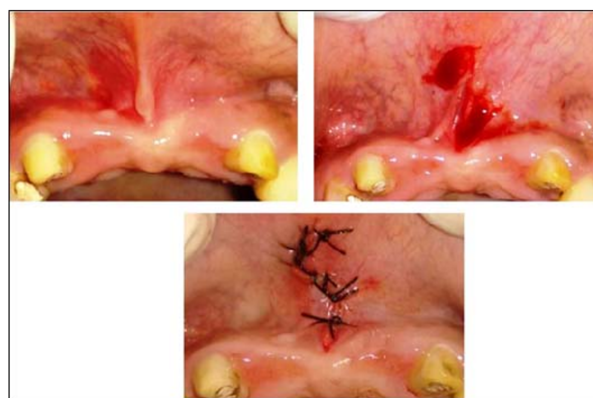

**Fig 5:** Frenectomy with Z - plasy

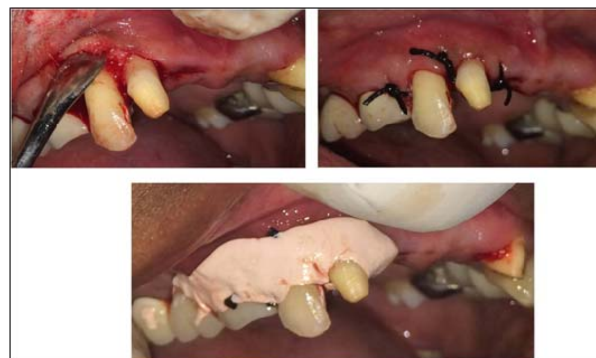

**Fig 6:** Crown lengthening

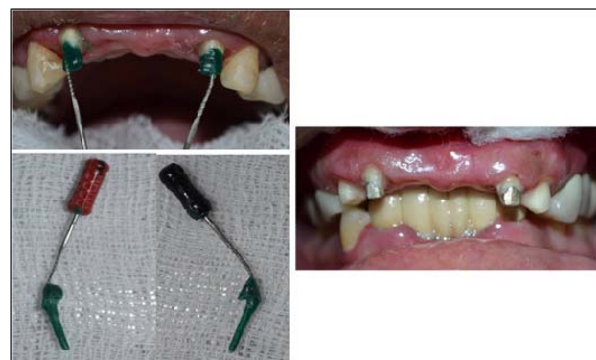

**Fig 7:** Wax pattern with angulation change & cast post cemented with12&22

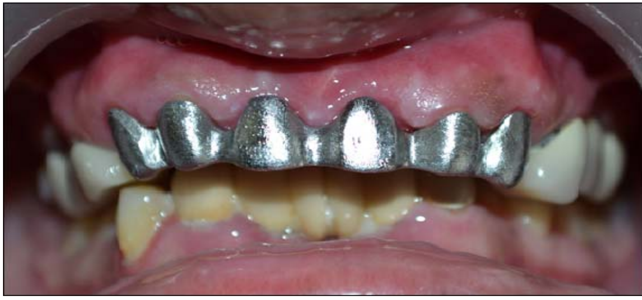

**Fig 8:** Metal trial

**Fig 9:** 6 unit Bridge cemented from 13 to 23 by replacing the missing 11&21 with 13, 12, 22 & 23 as abutments

**Fig 10:** Post – operative

## Discussion

Endodontic therapy combined with the prosthodontics provides a quick, reliable and economic treatment option with predictable outcome [3]. Such treatment modality involving endodontic treatment followed by crowns has a high success rate [4, 5]. In some cases, in order to correct malpositioned teeth to be in the right alignment requires removal of partial or all of tooth crown and restore it with indirect post, core and crown restoration. For which, endodontic treatment needs to be performed over the involved dentition, although these teeth are normally intact and in vital condition.

Therefore, several important considerations in determining the post-endodontic restorations are needed and based on the protection and conservation of the remaining tooth structure to reduce pressure over teeth in restorative aspect, esthetic condition, inclination, and to achieve the natural tooth morphology [6]. Aesthetic post and core, and all ceramic crowns are indicated in the anterior teeth for better esthetics [4]. However, keeping patient concern about the financial reasons, the best alternative material which is cost effective includes a metal cast post & core and porcelain fused to metal crowns which are known for the highly desirable properties like color stability, translucency, light transmission, and biocompatibility [7, 8].

During abutment preparation, gross labial reduction was performed to allow the crown to be fabricated in proper alignment. The core portion was done with palatal angulation to correct the protrusion and still expecting favorable stresses to the tooth in question [9]. This could be supported on the basis of the observations, of a three dimensional Finite Element Analysis (FEA) to access stress pattern in different implant abutment angulations. In this FEA it is concluded that though the compressive and tensile stresses generated through axial and oblique loading increase as the abutment angulation increases yet they are within the tolerance limits of the bone. However, care should be taken while planning a restoration so as to minimize the oblique component of force [10]. The treated tooth was followed up for 6months and remained in the correct relationship with its neighboring and opposing teeth. The patient was highly satisfied with the results obtained.

## Conclusion

Esthetic rehabilitation can be done successfully on protruded anterior dentition. Instant result could be achieved by this treatment. This is supported by the fact that dentists should be aware of not only choosing the right treatment and materials but also patient's expectations and conditions.

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