

Modification of Esthetics Using a Combined Orthodontic and a Prosthodontic Approach: A Case Report

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Abstract A patient sometimes requires a multidisciplinary approach to correct the esthetics and to improve the occlusion. This case report describes the management of an adult female patient with a convex profile, proclined upper and lower anterior teeth, missing upper left lateral incisor and peg shaped upper right lateral incisor tooth through orthodontic and prosthodontic treatment.

Keywords Esthetics · Orthodontic and Prosthodontic treatment · Missing lateral incisor · Peg shaped lateral incisor tooth

Introduction

A combination of dental problems such as missing anterior or posterior teeth, proclination of anterior teeth and occlusal problems cannot be satisfactorily treated by prosthodontic approach alone [1, 2]. Efforts to treat the

patient as a whole using a multidisciplinary approach will provide satisfactory results [1, 2, 3].

Case Report

History

A 23 year old female patient reported to our clinic with chief complaint of missing tooth in the front, a very small tooth also in the front and protruded teeth [4]. She did not give any history of extracted tooth. She was very conscious of her missing tooth, protrusion and smile (Fig. 1).

Clinical Examination

Intraoral examination revealed a peg shaped lateral incisor on the right side of the upper arch and a missing lateral incisor on the left side. The patient had a convex profile with incompetent lips.

Radiographic Examination

OPG did not reveal any impacted lateral incisor [4].

Diagnosis

An adult female patient with convex profile and incompetent lips with a Class I bimaxillary protrusion with peg shaped lateral incisor on the right side of the upper arch and a missing lateral incisor tooth on the left side of the upper arch and imbrications of the lower anterior teeth.

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Fig. 1 Pretreatment photographs**Treatment Objectives**

1. Retract upper and lower anterior teeth
2. Reduce lip strain and improve competency
3. To restore the peg shaped lateral incisor tooth to the normal shape and size.
4. To replace the missing lateral incisor tooth on the left side of the upper arch.
5. Correction of the imbrications in the lower anterior teeth.

Treatment Plan

Extraction of 14, 24, 34, 44 to retract anterior teeth, maintain the space present in relation to the missing 22. To restore the 12 (peg lateral tooth) with ceramic crown and to replace the missing 22 with a ceramic fixed partial denture.

Treatment Sequence

The requisite extractions were carried out. Upper and lower arches were banded and bonded with 018 preadjusted edge wise appliance with Roth prescription (Fig. 2). The orthodontic treatment was completed in a duration of one and half years (Figs. 2, 3).

In the next stage 12, 21 and 23 were prepared and later restored with ceramic crown on 12 and a fixed partial denture to replace the missing 22 (Figs. 4, 5).

Discussion

The treatment initially advised to replace 22 was with an implant, since the patient did not want to get the implant surgery, the patient was treated as discussed above.

In the case discussed above, orthodontic treatment alone would not have given the smile the patient so

**Fig. 2** Intra-oral photographs during orthodontic treatment



Fig. 3 Photographs of the patient after orthodontic treatment



Fig. 4 Intra-oral photographs after crown preparation

much desired [1, 2, 5]. Prosthodontic treatment alone would not have corrected the proclination and lip strain (Figs. 3, 4, 5).

Conclusion

Combining both the orthodontic and prosthodontic modalities of treatment produced a satisfactory result and the patient was very happy with her smile and occlusion.

Fig. 5 Photographs of the patient at the end of the prosthodontic treatment



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