



Immediate Fixed Partial Denture in The Esthetic Zone

KEYWORDS

Immediate Replacement, Esthetic Restoration, Modified ovate Pontic, Interdental Papilla

* **Shiamala Singh M.D.S**

Senior lecturer, Department of Prosthodontics and Crown & Bridge, Maharana Pratap College of Dentistry And Research Centre. Gwalior.India
* Corresponding author

Harsh Vardhan Singh B.D.S

Major, Army Dental Corps, New Delhi, India.

ABSTRACT

This article describes a method of immediate replacement of mandibular anterior teeth after extraction, using modified ovate pontic to provide enhanced esthetics and to preserve the soft and hard tissues till the definitive restoration is given. Immediate replacement also helps in the preservation of the alveolar socket and the interdental papilla. The period of partial edentulousness is eliminated as the fixed partial dentures are made before the teeth extraction and fixed immediately. Therefore the psychological trauma associated with removal of an anterior teeth is minimized if not eliminated.

INTRODUCTION

Achieving good and immediate esthetics is a prime requirement in dentistry particularly in the anterior teeth region. Since the absence of teeth in the anterior region affects the patients regular day today activities and confidence level, the patients concern is more in obtaining early and optimal esthetics. The immediate placement of provisional pontic in the extracted site fills the socket and preserves the socket size and shape, thereby preventing collapse of the alveolar bone. It also preserves the interproximal soft tissues necessary for best possible esthetics. The convex surface of the ovate pontic helps to create and maintain the presence of interdental papilla, more accurately duplicates the emergence profile and maintains hygiene in the sub pontic area¹⁻⁴. In this article a modified ovate pontic is used which is similar to ovate pontic but the tissue surface is less convex and requires less faciolingual thickness to create an emergence profile than the ovate pontic.

CASE REPORT

A 30 year old male patient reported to the department of prosthodontics with the chief complaint of mobile lower front teeth with spacing between them for which he wanted replacement for enhancing esthetic (Fig 1). Clinical examination revealed grade 2 mobility in 31,32 and 41 with supraerupted 41. Intra oral periapical radiograph revealed severe bone loss in 31, 32 and 41 which indicated the teeth to be extracted (Fig 1). The patient was informed regarding the status of the mandibular anteriors and no possibility of saving it. Though various treatment options like RPD, Implants were placed, the patient preferred tooth supported fixed partial dentures. Since the patient was young, to avoid the period of partial edentulousness in anterior esthetic region immediate replacement with modified ovate pontic was planned.

CLINICAL PROCEDURE

Before proceeding with the extraction of mandibular teeth diagnostic impressions were made and casts obtained. The mandibular teeth 31, 32 and 41 on the cast were removed and smoothed. Diagnostic tooth preparation and wax up done before tooth preparation of the mandibular abutment teeth. Putty index in silicone was done with the help of the wax up to guide tooth preparation and provisionalisation. Tooth preparation done in 33 and 43 with labial shoulder and lingual chamfer finish lines to receive a metal ceramic restoration (Fig 2). An irreversible hydrocolloid impression of the mandibular and maxillary arches made and casts obtained. In the mandibular cast the teeth 31, 32 and 41 were knocked out and the cast was scraped at the future extraction site 3 to

4 mm deeper to receive the pontic. Provisional restoration was made by indirect technique using the silicone putty index. Extraction of 31, 32 and 41 done with minimal trauma to the supporting tissues (Fig 3). After cessation of bleeding and clot formation, provisional restoration replacing 31,32,41 and 42 with 33 and 43 as abutments was cemented with eugenol free luting cement (Fig 4). The tissue surface of the pontic in 31,32 and 41 must be 3 to 4mm inside the socket to provide active tissue contact, sufficient support to the soft tissues and good emergence profile. In order to compensate for the gingival shrinkage and get proper gingival contour and esthetics the provisional restoration is modified after 3 to 4 weeks to increase the pontic length contacting the extracted site. The final restoration is planned after a duration of 3 months. Meanwhile regular recalls at 1 week, 3 weeks and 1 month was done to assess the health of the tissues. After 3 months when healing is adequate, final tooth preparation and impressions made. The 6 unit metal ceramic bridge was fabricated. The tissue surface of the pontic is highly glazed to avoid tissue irritation. Since gingival tissues in the extracted site was already contoured by the tissue surface of the provisional fixed partial denture (Fig 5), the black triangles or spaces between the definitive fixed partial denture and the gingival tissues were eliminated (Fig 6). Since a proper emergence profile was created by the immediate provisional restoration, by the preservation of interdental papilla the final restoration also creates the illusion of pontics emerging from the socket, creating a more enhanced esthetics.

CONCLUSION

A simple technique of replacing hopeless anterior teeth immediately after their extraction using modified ovate pontic, is done which not only replaces missing teeth immediately but also maintains the soft tissue contours of the interdental papilla thereby providing better emergence profile and enhanced esthetics. The long term success of the final restoration depends on the oral hygiene practices of the patient.



Fig 1 Intra oral pre operative view and Radiograph

showing bone loss in 31,32 and 41



Fig 2 Tooth preparation in 33 and 43



Fig 5 Healing of the sockets with proper gingival contour



Fig 3 Intra oral view after teeth extraction



Fig 6 Definitive metal ceramic FPD in place



Fig 4 Immediate placement of modified ridge lap provisional FPD

REFERENCE

1. Miller MB. Aesthetic anterior reconstruction using a combined periodontal/restorative approach. *Pract Periodontics Aesthet Dent* 1993;5:33-40. | 2. Winter RR. Esthetic pontics. *Dent Econ* 1994;84:92-93. | 3. Garber DA, Rosenberg ES. The edentulous ridge in fixed prosthodontics. *Compend Contin Educ Dent* 1981;2:212-223. | 4. Johnson GK, Leary JM. Pontic design and localized ridge augmentation in fixed partial denture design. *Dent Clin North Am* | 1992;36:591-605. |