"Ovate Pontic"- Esthetic Enhancement of the Anterior Restorations

Dr. Shruti Mehta*, Dr. Dipi Kohli, Dr. Mira Patel***, Dr. Viral Shah******

*Head Of Department and Professor, **Professor, ***Post Graduate, **** Post Graduate

Deparment Of Prosthodontics And Crown & Bridge, College Of Dental Sciences And Research Centre, Ahmedabad-380058.

Abstracts: Esthetics is of prime concern when replacing any anterior tooth. The prosthesis should resemble the adjacent natural tooth closely. Out of many types of pontic designs, ovate pontic may serve the purpose of providing good esthetics and phonetics. It will maintain interdental papilla and help to maintain good gingival health. In addition to it ovate pontic has an advantage of immediately replacing the missing anterior tooth.

[Maheta S NJIRM 2014; 5(4) :115-117]

Key Words: Ovate Pontic, Esthetics, Emergence Profile, Gingival Health, Interdental Papilla And Provisional Restorations

Author for correspondence: Dr. Mira Patel, Department Of Prosthodontics and Crown & Bridge, College Of Dental Sciences And Research Centre, Ahmedabad-380058. Email: mirapatel25.mp@gmail.com

Introduction: Pontic design is very crucial to any anterior fixed partial denture reconstruction because artificial appearance of the prosthesis will affect person's self-confidence and ability to speak. Many types of pontic designs may be used in anterior tooth replacement including saddle pontic, ridge lap pontic, modified ridge lap pontic and ovate pontic.[1] Saddle pontics were having the disadvantage of being unesthetic restorations. To give a more esthetic appearance ridge lap pontics were developed but it was difficult to maintain oral hygiene by using this pontic design in FPD. Then it was modified by reducing the lingual portion of the pontic to make it accessible area to clean it, but the problem still existed. In addition to it modified ridge lap pontics interferes with the phonetics of the patient.[2]

Dewey and zugsmith[3] stated that ovate pontics can provide good emergence profile to the anterior reconstruction. They have convex surface facing the extraction socket and thereby it helps to maintain interdental papilla. Here the pontic will be seated in the extraction socket so good axial contours will be maintained that will help to deflect the food and maintain good gingival health.[4] Minimum pontic contact and light pressure are two important considerations for fabrication of the ovate pontic that may prevent plaque accumulations and gingival ulceration.[5]

Ovate pontics are contraindicated in case of thin knife edge ridges because they require sufficient buccolingual width and apico-gingival length for incorporation in the edentulous ridge.[6] Placement of the restoration immediately after the extraction may avoid psychological trauma to the patient of being edentulous.[7]

This article describes a technique for creating a good emergence profile by placing an ovate pontic immediately after extraction of the maxillary anterior tooth.

Case report: A 41 years old male patient reported to the department of prosthodontics and crown & bridge of College Of Dental Sciences And Research Centre (Ahmedabad, Gujarat) with the chief complaint of grossly carious and discolored maxillary right central incisor. On examination, it was decided that the tooth had poor prognosis and it was decided to extract the tooth. But patient was very conscious about his appearance and speech after extraction of anterior tooth.

Patient was not ready for removable prosthesis and he could not opt for implant because of economical condition. To satisfy this patient and give him more natural prosthesis, it was decided to use ovate pontic.

Figure 1: Preoperative Condition Of The Tooth. Future Abutments Have

Abutments for the FPD i.e. maxillary right lateral incisor and maxillary left central incisor were

prepared. Preliminary impressions were made using irreversible hydrocolloid material and impression was poured using type III dental plaster. The maxillary right central incisor was then trimmed from the cast and approximate extraction socket was created. Temporary restoration was made using diagnostic wax-up.

Figure 2: After Removing the Tooth From Cast Temporary Restoration Made

Figure 3: Temporary Restoration with Convex Surface Of The Pontic

Then extraction was done as atrumatically as possible.

Fig: 4. Extraction Socket Immediately After Extraction of Tooth

After initial hemostasis was achieved, again impression was made using irreversible hydrocolloid material and the cast was made. Previously made provisional restoration was relined by adding tooth colored self-cure acrylic resin at the gingival end of the pontic and placing it against final cast. Then temporary restoration was checked for the marginal fit and stability and cemented using eugenol free temporary cementing material .

Fig: 5 Temporary Restoration Cemented immediately after extraction

Patient was explained about maintenance of oral hygiene and recalled after regular intervals for examination.

Figure 6: After 3 Months Interdental Papilla at Higher Position

After 3 months, when a well contoured socket was achieved final impression was made for porcelain fused to metal restorations. Temporary restoration was replaced by permanent PFM FPD. For the missing mandibular teeth cast partial denture was fabricated.

Figure 7: Final Restoration with Good Emergence Profile

Discussion: This article represents a simplified technique to replace anterior tooth immediately after extraction. Enough attention was given to emergence profile.

When the tooth has a hopeless prognosis, it should be extracted atrumatically. A good emergence profile will help to preserve the lateral tissue and

prevent food deposition around the prosthesis. However if the prosthesis is intended to be given immediately after extraction, attention should be given to good marginal fit and highly polished surface of the restoration. It is always advisable to take impression for permanent restoration immediately after removal of the temporary restoration otherwise the tissue will rebound in the socket making it shallower.[8] When complete healing occurs, it is advisable to replace provisional restoration with highly esthetic porcelain fused to metal restoration. A more labially placed height of contour will lead to a good emergence profile of the restoration.[9]

Summary: A technique for immediate replacement of maxillary anterior tooth has been described. With this non-surgical technique shape of the interproximal tissue can be maintained and illusion of tooth emerging out of soft tissue can be created. The final prosthesis will prevent psychological trauma and will provide good esthetics to the patient.

References:

1. Edelhoff D, Spiekermann H, Yildirim M. A Review of Pontic Design Options. Quintenssence Int 2002; 33:736-746.
2. Stein RS. Pontic-Residual Ridge Relationship: Research Report. J Prosthet Dent 1966;16:251-85.
3. Dewey KW, Zugsmith R. An Experimental Study Of Tissue Reactions About Porcelain Roots. J Prosthet Dent 1933; 13:459-72.
4. Johnson GK, Leary JM. Pontic Design And Localized Ridge Augmentation In Fixed Partial Denture Design. Dent Clin North Am 1992; 36:591-605.
5. Henry PJ, Johnston JF, Mitchell DF. Tissue Changes beneath Fixed Partial Dentures. J Prosthet Dent 1966; 16:937–947.
6. Mhatre S,Ram SM, Shah N. Modified Ovate Pontic Design For Immediate Anterior Tooth Replacement. Journal Of Contemporary Dentistry 2012; 2:64-68.
7. Banerjee R, Banerjee S, Radke U. Ovate Pontic Design: An Aesthetic Solution to Anterior Missing Tooth- A Case Report. Journal of Clinical And Diagnostic Research 2010; 4:2996-2999.
8. Dylina TJ, Merced. Contour Determination For Ovate Pontics. J Prosthet Dent 1999;82:136-42.
9. Liu C_LS. Use Of Modified Ovate Pontic In Areas Of Ridge Defects: A Report Of Two Cases. J Esthet Restor Dent 2004;16:273-84.

Conflict of interest: None
Funding: None