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Research Paper Dental science

Management of Wide Edentulous Space With The Help of Loop Connector- A Bridge That Breaches The Gap - A Case Report.

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ABSTRACT

One of the most challenging and complex treatment modality is give patient esthetic appearance, chewing inefficiency for that there's need to get proper treatment planning. In such instances, there is necessary to evaluate, diagnose and resolve esthetic problems using prosthetic treatments. The primary aim is to regain the lost function, esthetics, comfort and confidence for the patient. This can be overcome by different treatment options like Implant-supported restorations, Conventional porcelain-fused-to-metal and resin-bonded fixed partial dentures. This case report describes the prothodontist approach to restore function and esthetics of a patient diagnose and replacement of missing teeth there where need to give proper fixed prosthesis ,so there is need to do modification in connector give rigid or non rigid connector. A detailed treatment plan includes proper oral hygiene measures. This was followed by temporary prosthesis. Patient was given temporary restorations for about 1 week with the aim of to assess the mastication and comfort of the patient and esthetic appearance. Final rehabilitation was done with porcelain fused to metal ceramic restoration - fixed dental prostheses.

KEYWORDS : ESTHETIC, , LOOP CONNECTOR, FIXED PARTIAL DENTURE, PORCELAIN FUSED TO METAL CERAMIC RESTORATION.

INTRODUCTION

Replacement of single anterior tooth with excess space is one of the most challenging and complex treatment modality[1,2].Such a problem can be overcome by treatment options such as implant-supported restorations as well as conventional porcelain-fused-to-metal and resin-bonded fixed partial dentures. Drifting of teeth into the edentulous area may reduce the available pontic space; whereas a diastema existing before an extraction may result in excessive mesiodistal dimension to the pontic space. This article describes the procedure for the fabrication of a loop connector FPD to restore an excessively wide anterior edentulous space in a patient with existing. A case is reported where maxillary central incisor and lateral incisor was replaced with fixed dental prosthesis incorporating dual loop connectors.

CONNECTOR

The portion of a fixed dental prosthesis that unites the retainer and pontic. Connectors can be rigid example cast or soldered connectors. non rigid connectors are tenon mortise connector, loop connector, split pontic connector and cross pin and wing connector[3,4,5].
Rigid connectors may be cast and soldered connectors.
Non-rigid connectors can be used when a single path of insertion and removal is not possible[3,4,5].

Success of a connector is based on: size, shape and position. It should have sufficient size to prevent distortion and so that there may be effective plaque control. Connector should follow the normal anatomic interproximal contact areas and should be given in the lingual embrasure for replacing the anterior teeth. Loop connectors although are rarely used, are a good option for maintaining the diastema between the anterior teeth. The connectors consist of loop on the lingual aspect of the prosthesis that connects the adjacent retainers and or pontic. The loop may be cast from sprue wax that is circular in cross -section or shaped from platinum- gold-palladium alloy. Good design is important for plaque controlLoop connector fixed partial denture (FPD) may be the simplest solution to maintain the diastema and provide optimum restoration of aesthetics.

CASE REPORT

Patient named Mrs. Sunita Shah age 39, teacher by occupation approached department of prosthodontics with the chief complaint of replacement of missing teeth due to unesthetic appearance of face. She had undergone extraction of 11and 12due to accident before 4 years.

Fig-1preoperative photograph

Fig.2 tooth preparation in patient mouth

Fig.3 tooth preparation in occlusion

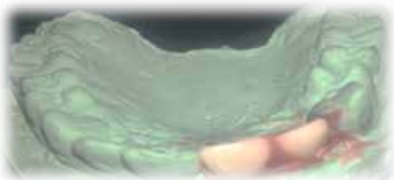
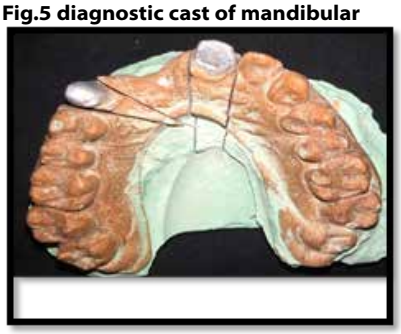


Fig.4 diagnostic cast and wax up

Fig.5 diagnostic cast of mandibular



b

Fig.6 Master cast with die cutting

Fig.7 Master cast with wax pattern fabrication (a,b)

Fig.8 **Metal trial (a,b,c)**

Fig.9 Shade selection (a,b)

Fig.10 **Final cementation (a,b,c,d,e,f)**

Evaluation of prospective abutment teeth:

	Mesial abutment	Distal abutment
Crown morphology	Adequate	Adequate
Crown height Rotation	Present	Absent
Drifting	None	None

Evaluation of prospective abutment teeth:

After a discussion with the patient of the following treatment options, an FPD with a loop connector was chosen.

- Implant placement irt 11,12
- 4 unit FPD with rigid connector irt 13,12,11, 21
- 4 unit FPD with loop connector irt 13,12,11, 21

After obtaining diagnostic radiographs, maxillary and mandibular alginate impression was made. Preparation was done for central incisor and canine to receive a metal ceramic restoration with the finish line margins supragingival.final impressions were made in putty and light body addition silicone with putty wash technique. Final cast was poured with die stone and die cutting was done. Dies were placed back in the impression and silicone material was added to reconstruct soft tissue mucosa of the palate to assess the weather loops are impinging on the underlying mucosa or not. Three loops with circular cross section were fabricated in pattern wax along with the wax pattern for the crowns and pontics. The trial was done to assess the margins of the restoration and loops on the palatal surface. Shade selection was done with vita pan 2-D shade guide final prosthesis was cemented with resin modified glass ionomer cement.

DISCUSSION

Indications for the loop connectors are when the patient wishes to maintain the diastema. Presence of excessive pontic space. Multiple, joined prosthetic restorations in clinical situations with presence of localized or generalized spacing between abutments.Prosthetic restorations for pathologically migrated and periodontally weak teeth (Grade I and II).Limitations of the loop connector's are food lodgment and hygiene maintenance below the loop connectors. Interference in tongue movements and speech. Relative flexibility as compared to conventional connectors.Rochette described the first version for splinting of the periodontally involved teeth.[6] Since then the resin bonded designs as well as the cement used has evolved and has become a reliable prosthetic option for restoration of missing single standing teeth provided occlusion is favorable. Higher strength of resin cements have also allowed resin bonded to be used with multiple loop connectors. [7,8,9]

Photo elastic studies have shown maximum stress in the gingival area, since the geometry affects the stress levels therefore the contouring of the loops should be meticulously.[10]More patients treated with the indicated prosthesis would allow to study its long term survival in oral cavity as an alternative to other prosthetic options

CONCLUSION

This clinical report describes the alternate treatment plan for and FPD where there is excessive spacing in the anterior region with a few missing anteriors. The result was aesthetically superior as compared to conventional FPD if given.

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