

CASE REPORT

Precision Attachments: A Case Report

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ABSTRACT

Rehabilitation of distal extension cases is one of the tough challenges for the restorative dentistry. The various treatment options which can be considered for the prosthetic rehabilitation of distal extension are implant-supported prosthesis, cast partial denture, and precision attachment prosthesis. The precision attachment retained prosthesis is a fixed-removable prosthesis, which is a good alternative.

Keywords: Distal extension, Precision, Rehabilitation.

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INTRODUCTION

A precision attachment is an interlocking device, one component of which is fixed to an abutment or abutments, and the other is integrated into a removable partial denture to stabilize and/or retain it. It has male and female (key and lock) housing that connects a removable partial denture to fixed bridgework. The male part of the attachment is soldered to fixed crowns or bridgework; the female part is attached to the partial denture.^[1] All of the precision attachments in a partial denture are positioned so that they are exactly parallel to each other. The patient comes to the Department of Prosthodontics Crown and Bridge, Institute of Dental Studies and Technologies (IDST), Modinagar, with the chief complaint of inability to eat. On examination, the patient was edentulous upper and lower posterior region.

CASE REPORT

A 54-year-old female patient came into the Department of Prosthodontics Crown and Bridge, IDST, Modinagar,

with a chief complaint of missing teeth in the lower left and right back teeth region for 1 year [Figure 1].

After the intraoral investigation, a diagnostic impression was made with Alginate (Coltene) for making a proper treatment plan. The impression was poured with dental stone (Orthocal) and diagnostic cast is obtained.

After 1 day, the patient was recalled, tooth preparation was done with respect to 34, 35, 44, and 45. Bite registration was done using Pyrex bite registration wax. To protect the prepared tooth, temporization was done with tooth-colored cold cure acrylic (Dentsply). Then, the precision attachment was fabricated in the laboratory of the Department of Prosthodontics Crown and Bridge, IDST, Modinagar [Figure 2]. After this, metal coping try-in was done to check the proper fitting of the prosthesis [Figure 3].

Then, the attachment was placed in the patient's mouth and try-in was done followed by the cementation of the prosthesis [Figure 4]. Excess cement was removed and final finishing and polishing was done to prevent plaque accumulation [Figure 5].

DISCUSSION

The internal precision attachment restoration is the only type of restoration which can be expected to function successfully. It would be poor judgment to construct a clasp denture for a mouth with few and improperly distributed teeth which may only delay the construction of a full denture. The internal precision attachment will improve the esthetics, eliminate trauma, and prevent caries, displacement, tipping, or rotation of the abutment teeth and settling of the partial denture.^[2] The attachments, being parallel, help to maintain a splint-like effect on the abutment teeth. Speech difficulties are avoided due to the elimination of large bars and retainers. They permit more normal heat, cold, and taste perception. This type of appliance is functionally comparable to a fixed dental prosthesis.

Internal precision attachment works in cases, in which the abutment teeth are broken down. They must be fully covered. When perfectly good teeth are present, a clasp-retained denture is justifiable to avoid cutting into them for castings when the denture can be expected to function successfully.^[3]

The necessity for thorough detail is important in securing success. The abutment teeth must be prepared

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Figure 1: Missing teeth in the lower left and right back teeth



Figure 4: Cementation of the prosthesis



Figure 2: Fabrication of precision attachment



Figure 5: Final finishing and polishing



Figure 3: Metal coping try-in

with a recess so that the female attachment can be incorporated within the contour of the cast crown. The male attachment must be incorporated into the framework of the bar to give it strength and to facilitate its insertion into the female attachment.^[4,5] This, of course, necessitates parallelism of the female attachments. It is important to relate the male attachment to the saddle in such a manner as to prevent complete seating in the

female jacket. This is accomplished by making certain that about 0.5 mm of space is permitted between the gingival end of the female attachment and male attachment so that vertical occlusal stress will permit the saddles to displace the mucosa and receive support from the bony structures, thus eliminating trauma on abutment teeth.^[6]

CONCLUSION

Prosthetic rehabilitation of distal extension cases is a tough challenge for the dentist. Various treatment modalities which can be considered for the distal extension cases are implant-supported prosthesis, cast partial denture, and precision attachment prosthesis. Precision attachment is a fixed-removable prosthesis which takes support from the abutments as well as from the edentulous ridge. It has stress breaking effect which minimizes the loading of the abutments.

REFERENCES

1. Goto Y, Brudvik JS. Custom precision attachment housings for removable partial dentures. *J Prosthet Dent* 2002;88:100-2.

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2. Grosser D. The dynamics of internal precision attachments. *J Prosthet Dent* 1953;3:393-401.
 3. Lynch CD, Burke FM. An impression technique for optimal positioning of precision attachments for removable partial dentures. *J Prosthet Dent* 2003;89:616-7.
 4. Lynch CD, Quinn PJ. Emergency repair of a fractured
dowel-retained precision attachment for a removable partial denture. *J Prosthet Dent* 2001;86:320-1.
 5. McGivney GP, Carr AB. McCracken's Removable Partial Prosthodontics. 10th ed. St. Louis: Mosby; 2000. p. 99.
 6. Ante IH. Fundamental principles of abutments. *Mich State Dent Soc Bull* 1926;8:14-20.