

Case Report

Rehabilitation of a postsurgical cemento-ossifying fibroma patient with a cast partial denture-A case report

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ABSTRACT:

Widespread popularity for fixed partial denture and implants has made a drastic reduction in the acceptance of cast partial denture as a treatment option in many partial edentulous patients. A prosthodontist can only explain a patient what is the best suitable treatment option in a particular situation. Unfortunately, the option for cast partial denture as a treatment option is fast becoming less popular due to many factors including financial. So, to motivate such patients to choose such option has to be backed up with adequate results. This article presents a case report of an adult male who had undergone surgery for cement ossifying fibroma wanted only a fixed prosthesis, or implant but through proper education and motivation received a cast partial denture which was the only indicated prosthesis in his case.

Keywords: Partial edentulism, cast partial denture, patient education, motivation

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INTRODUCTION

The treatment plan during prosthodontic rehabilitation should fulfil both aesthetic and function. Removable Partial Dentures (RPDs) are a simple method for replacing teeth for patients missing some or all of their natural teeth. By fabricating a good partial denture will prevent adjacent and opposing natural teeth from drifting; the burden of occlusal loading on remaining natural teeth is reduced; and, oral comfort and function are enhanced. But the advantages of the removable prosthesis for replacing the natural teeth are limited, such as non-invasive and low-cost partial dentures when made with the only acrylic, or cast partial denture which has metallic framework along with metallic denture base or acrylic resin denture base^[1]. Full acrylic partial dentures have limitations such as an increase in thickness which will hamper the speech, decreased taste sensation, reduced tongue space, absence of heat perception by the patient, bulkiness and heaviness of the denture and are prone for fracture at the thinnest area. Whereas the metal

bases have several advantages like accuracy, durability, resistance to distortion, inherent cleanliness, reduced weight, and bulk.^[2,3,4,5] The high cost of the cast partial denture is an important disadvantage^[6] in limiting its use, leaving the patients with tissue supported all acrylic partial dentures for prosthetic rehabilitation. Recently, implants have gained the popularity over removable prosthesis as a treatment option in long span partially edentulous conditions. However sometimes financial, anatomic, psychological, or medical considerations of the patients still require the prosthodontists to treat them with removable prosthesis.^[7] Conventional partial dentures with unsightly display of the metal clasps have always been the psychological burden to the patient, which they have rejected many a time. This has led the clinicians to design a cast Partial Denture (CPD) that can alleviate such problems. This clinical case report describes the advantage of a cast partial denture in hemi mandibulectomy case where implant supported prosthesis and FPDs are not recommended.

CASE REPORT

An adult male patient aged 28 years, was referred to the department of Prosthodontics with chief complaint of inability to masticate since the loss of his mandibular anterior and posterior teeth on right side of the arch and all anterior and first premolar teeth missing on the left side of the arch. He had a history of undergoing surgery for underlying cemento-ossifying fibroma followed by reconstruction of the mandible with microvascular free fibular graft. After 2 years there was no recurrence of lesion. Medical, drug and social history were non-contributory. The patient was highly concerned about the negative impact on aesthetics due to tooth loss. Intra oral examination revealed (Kennedy class 2) partial edentulous situation with a long span on one side and a short span on the other. Diagnosis and treatment plan was done after radiographic investigations (Pic 1) and a diagnostic mounting on a semi adjustable articulator. After presenting different treatment options, the patient wanted a fixed prosthodontic treatment. After necessary evaluation the patient was educated about the non-possibility of any fixed prosthesis in his case and the reasons for it. The patient was also educated about the benefits of the removable cast partial denture prosthesis in relation to his case. Finally, the

patient agreed for removable cast partial denture and gave his consent to the treatment.

Primary cast obtained for diagnostic evaluation was surveyed on a dental cast surveyor and four principal factors were evaluated, namely the path of insertion and removal, aesthetic, interferences and guiding planes. Occlusal rest seats were prepared on mandibular right second premolar, first, second and third molar with a round bar. Mouth preparations were then done in the next appointment following which final impressions were made using putty wash impression (Pic 2). A definitive cast made of die stone was made and surveyed. Refractory casts were made and the wax pattern was fabricated on it (Pic 3). The frame work was cast and evaluated intraorally and adjusted wherever needed. The metal framework for the RPD was then tried in the patient's mouth. Maxillomandibular relation was established, acrylic teeth were arranged and try in was done (Pic 4). Being satisfied with the esthetic and functional requirements, the denture was processed in heat cure acrylic resin. All direct retainers were adjusted in the terminal third of their retentive tips to ensure adequate adaptation. Adequate relief was only ensured for the major connector. After finishing and polishing, the denture was inserted (Pic 5a, 5b, Pic 6) and post insertion instructions were given.

Figure 1: OPG shows mandibular reconstruction after surgery.



Figure 2: Final impression

Figure 3: Wax pattern fabrication



Figure 4: Try-in



Figure 5a and 5 b: Final prosthesis (front view and right lateral view)



Figure 6: Patient's front view after having prosthesis



DISCUSSION

Rehabilitation of a partially dentate patient is an important form of dental treatment that is expected with competence from every qualified prosthodontist. For a cast partial denture to be successful for a patient, the practitioner has to show determination in terms of making his patients understand the benefits of such treatment option. Long span edentulous areas, especially involving the posterior segments require adequate tooth support to satisfy Antles law in terms of fixed partial denture. As in the present case the patient preference was to have a fixed partial denture after it was concluded that he was not indicated for

an implant supported fixed partial denture or single supported crowns. The edentulous span included the second premolar, first and second molar and abutment on either side of the edentulous areas were not sufficient for long term success. Perhaps the significant motivation for the patient came when he was explained and understood about the cross-arch support and stabilization that was unique to the cast partial denture.^[4,8] This was explained to him on the diagnostic cast and some visuals on a laptop. In prosthetic dentistry, patients do not want to wear a removable partial denture due to various reasons like fear of becoming loosening of the denture,

swallowing, hygiene and convenience. Any such pre perceptions regarding any treatment modalities should be identified and strategic planning for that particular patient at the end should allay all his fears. Every patient needs to be educated with determination till he does not understand his partial edentulous situation.

CONCLUSION

Cast Partial Denture is an effective treatment modality of replacing missing teeth in partially edentulous individuals when the condition is properly diagnosed and hard and soft tissue contours are delineated. It would fulfil the esthetic requirement of the patient along with improvement in retention, masticatory function, speech, taste sensation and heat perception.

CONFLICT OF INTEREST

Nil

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