

Rehabilitation of an Edentulous Patient with Conventional & Implant Supported Over Denture: Case Reports

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Introduction

Devan stated the perpetual preservation of what remains is more important than the meticulous replacement of what is missing.¹ Overdentures are dentures which derives their support from one or more abutment teeth by completely enveloping them beneath the fitting surface.² Preventive prosthodontics emphasizes the importance of any procedure that can delay or eliminate future problems. Retention of teeth, roots of one or more teeth for over denture offers the patient a lot of advantages like better retention, stability, proprioception, support maintenance of alveolar bone and psychological aspect of retaining teeth.³ Overdenture can be tooth supported and can also be implant supported overdentures.

This article discusses about 3 case reports with overdentures with copings, without copings and implant supported overdenture.

Case Report 1

A 48 year old female patient reported to the Department of Prosthodontics with the chief complaints of replacement of missing teeth.(Fig.1). Extraoral examination showed no gross abnormality.Intraoral examination revealed teeth present 11, 12, 15, 21, 22, 23, 24(Fig.2). Patient was advised for OPG (Orthopantomogram). After clinical and Radiological examination, treatment plan was discussed with the patient. Overdenture was planned with copings for the Maxillary and Mandibular arch. Study models were prepared. Patient was referred to department of endodontics for Root canal treatment (RCT) of 15, 24 and 33.

Procedure

Upper and lower teeth were prepared to receive a dowel. Gates Glidden needle was used to prepare canal till 2/3 of the canal for all teeth. The canal was enlarged till No. 2. The coronal portion of the tooth number 11, 12, 15, 21, 22, 23, 24, 33 were prepared for Chamfer to receive a metal copings (Fig.3). Metal copings were prepared with cast copings having in traradicular metal post in one piece was donepost extension(Fig.4).Impression was made with irreversiblehydrocolloid and poured with gypsum type II and a check cast was obtained.Temporary copings were fabricated with clear self-cure acrylic resin. Wooden sticks were carved according to canal diameter leaving space for material. Pattern resin was used to make impression of the dowel space with temporary copings, all the impression were directly sprued and invested. After retrieval of the copings finishing and polishing was done. All the copings were cemented with Glass Ionome Cement(GIC) luting(Fig.5). Customized pecial tray was fabricated and secondary impression was made with rubber base impression material(medium consistency) of upper and lower arch. On master cast record base with occlusal rims were fabricated .Jaw relation was recorded and transferred to the articulator. After teeth arrangement and try-in,flasking and curing was done followed by

finishing and polishing. Upper and lower complete overdenture were inserted after correction of occlusal discrepancies(Fig.6). Post insertion check was done after 24 hours (Fig.7) Subsequently after 1 month, 6 months and 1 year follow up was carried out for evaluation of periodontal health of abutments.

Case Report 2

A 62 years old female patient reported to Department of Prosthodontics. On examination all the upper and lower teeth were present(Fig.1).All the lower teeth were several yattrited (Fig. 2).On examination vertical dimension of patients at rest and at occlusion was observed. Patient was given the option of Full mouth rehabilitation as a line of treatment, but patient was not interested for the same. After which an Overdenture was planned for the patient as the line of treatment. Enameloplasty, sharp edges of the teeth was done and any undercuts if presents were observed. Impression was prepared with irreversible hydrocolloid for both Maxillary and Mandibular arch and special tray was fabricated on lower arch. Border moulding was done and the impression was prepared with rubber base impression material, master cast and record base with occlusal rims were fabricated and a jaw relation record was done and transferred on the articulator. Teeth arrangement and try-in, flasking and curing was done followed by finishing and polishing. Lower tooth supported complete overdenture was inserted after correction of occlusal discrepancies (Fig. 3, 4). Post insertion check-up was done after 24 hours(Fig.5).

Case Report 3

A 65 year old patient came to the Department of Prosthodontics crown and bridge. (Fig.1). Patient complaints of mobility in teeth, followed by pain.On examination almost all of the maxillary and mandibular teeth were mobile and extruded and root stumps were present(Fig.2,3).After the complete examination including the various radiographs, Ortho pantomogram (OPG) patient was advised for all the possible treatment which can be done including the Implant retained fixed prosthesis and Implant supported over denture. After which patient decided to go for Implant supported overdenture in lower jaw and conventional upper denture in upper jaw. Following the same line of treatment the immediate implants were placed in mandible w.r.t 33 and 43 of 3.75 X 11.5mm in size, after 2 weeks maxillary extractions were done(Fig.4). Patient was advised to wait around 3 months for the healing of maxillary jaw and osseointegration of implants in mandible. After 3 months complete denture was fabricated and inserted maxillary complete denture and mandibular implant supported with locator of 3 mm over denture(Fig.5, 6). Post insertion check-up was done after 24 hours (Fig.7, 8).

Discussion

The effect of tooth loss is too told which may affect the patients psychologically and clinically.Case I and II reports are the conventional overdentures, studies have indicated the use of mandibular overdenture and

helps to preserve the alveolar bone. The reduction in the height of the anterior part of mandible is around eight times less in overdenture wearers as compared to complete denture wearers.²The other advantages of Overdenture wearers are Proprioception, Centric relation is easily recordable, Mastication is enhanced and Psychological state of the patient is uplifted. In Case III reports Implant supported overdenture is done. The use of dental implant provide support for the prosthesis and offers multitude of advantages as compared with the use of removable soft tissue borne restorations.⁶ These are as follows - Improved esthetics, Improved stability, Prevent bone loss, Improved retention, Support, Speech and Occlusion. Principles of treatment with mandibular implant – supported overdenture rely on various clinical conditions which are as follows – Two implant should be sufficient to support overdenture prosthesis, Most elderly patient should be eligible for overdenture therapy and A standard surgical procedureshould be applied in most situations.⁷As compared to conventional overdentures, implant supported prosthesis shows less bone loss in jaws. Probably because of more adequate functional stimulus to the bone via implants then through the dentures. Not only reduced boneloss but even bone apposition has been demonstrated in jaws with fixed implant supported prosthesis. A mandibular implant overdenture on two implants is thus a well-established and effective option also in long term perspective. The retentive system for two implant overdenture can be divided into splinted and unsupported to the splinted system used as an interconnection.⁸ The unsplinted implants, there are several retentive types available as ball. In this case locator system was done, system can be applied in a limited inter-ridge space is a reliable alternate. This system also achieves greater retention and greater stability for the prosthesis.

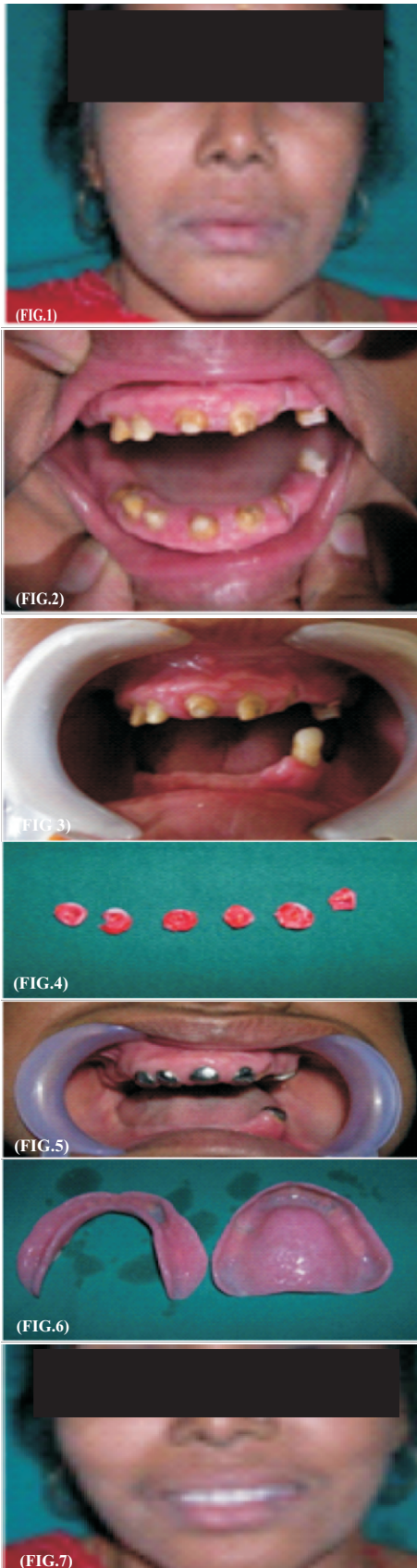
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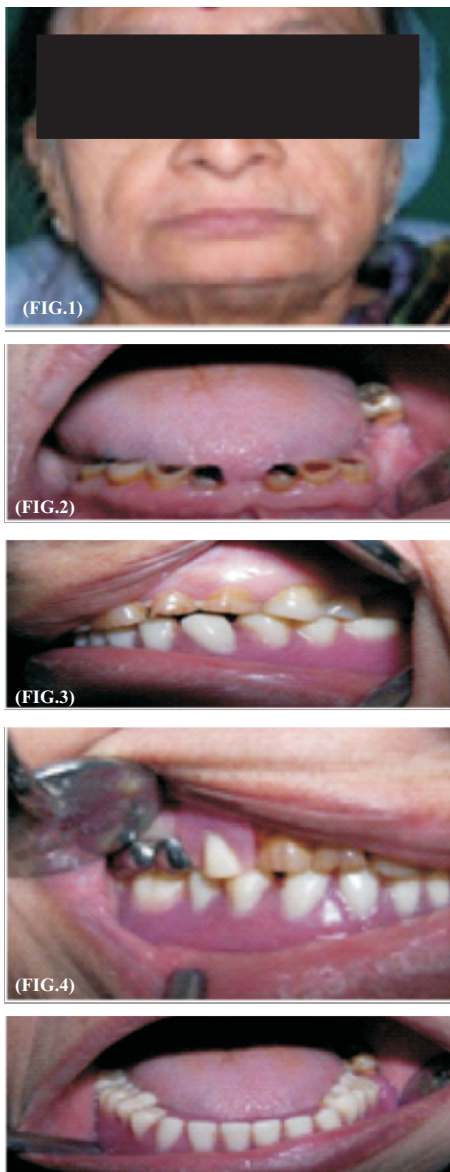
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Case 1



Case 2



Case 3

