



RESEARCH ARTICLE

IMMEDIATE PROSTHESIS FROM A TO Z

Bellemkhannate, S. and *Rimaoui, S.

Department of Removable Prosthodontics, Faculty of Dentistry, University Hassan II Casablanca Morocco

ARTICLE INFO

Article History:

Received 27th December, 2018
Received in revised form
28th January, 2019
Accepted 17th February, 2019
Published online 30th March, 2019

Keywords:

Immediate prosthesis,
Total edentation, Aesthetics, Function.

ABSTRACT

Total edentation is one of the most complex situations to manage in dentistry, both from a clinical and a psychological point of view. Currently, patients accept less and less to expose their oral disability (total edentation), immediate total prosthesis remains the best condition for the transition to edentulism and provides a psychosocial comfort (Fabris and Millet, 2010; Rosca, 2013). This prosthetic realization is a complex management because the patient has a painful past and may remain reluctant to the new therapeutic project (Pompignoli, 1998). The purpose of this article is to describe the different clinical stages of the immediate complete prosthesis of use on a patient with aggressive periodontitis.

*Corresponding author: Rimaoui, S.

Copyright © 2019, Bellemkhannate and Rimaoui, This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.

INTRODUCTION

The shift to total edentation remains a trendy topic despite the progress of prevention. Currently the treatments proposed for treating these patients are either implant prosthesis with an immediate extraction and implantation protocol, or removable prosthesis with the immediate complete prosthesis (Herbout, 1999). The operative protocol of the immediate complete prosthesis is to build a complete removable prosthesis for use in spite of the presence of the residual teeth of the patient, then to pose it the day of their extraction. Its advantages are numerous, it allows to restore immediately the aesthetic and the function, even to improve it in certain cases (Postaire, 2011). On the psychological level, the patient never remains exposed to his disability and can quickly resume a normal social life.

Advantages and disadvantages

Advantages (Pompignoli *et al.*, 2004):

- The immediate prosthesis can guide healing and limit post-extraction resorption.
- It preserves aesthetics and function from the first day of total edentulousness.
- (surgery and extractions have to be the least traumatic possible, to optimize the integration of the final prosthesis.)

Disadvantages (Pompignoli *et al.*, 2004):

The practitioner faces several difficulties:

- Difficulties when taking a secondary impression, when taking the inter-maxillary reports because of the condition of the anterior teeth.

- The problems of forecasting the volume of ridges during teeth mounting in the laboratory. This rather delicate technique requires a lot of experience.

Preparation and motivation of the patient to the immediate complete prosthesis

The practitioner must communicate well with his patient, explain that the immediate complete prosthesis is a removable prosthesis, often the patient is attached to his last teeth even if they are compromised and sources of pain and suffering. To obtain his motivation one can rely on the prosthetic advantages: to find a smile more beautiful, the possibility of placing implants thereafter for a fixed restoration, to put an end to the suffering and the dental mobilities, to obtain a good oral health the practitioner must also advise the patient of the surgical procedure that involves multiple extractions and osteoplasty, with the prosthesis placed on a non-healed abutment surface. Finally, there is the added anxiety of integrating a new removable prosthesis, especially if previous painful and uncomfortable prosthesis have been experienced. It is essential to inform the patient in a suitable language avoiding any medical patter. Once he has understood from this comes his cooperation. His elective consent is collected.

Clinical case

Mrs. R. M, age 40, in good general health. she came to the casablanca dental consultation and treatment center at the CCTD complaining of excessive dental mobility impeding chewing, gingival recessions, unsightly appearance and bleeding when brushing intra-oral examination revealed (Fig 1):



Fig. 1. Intra-oral view

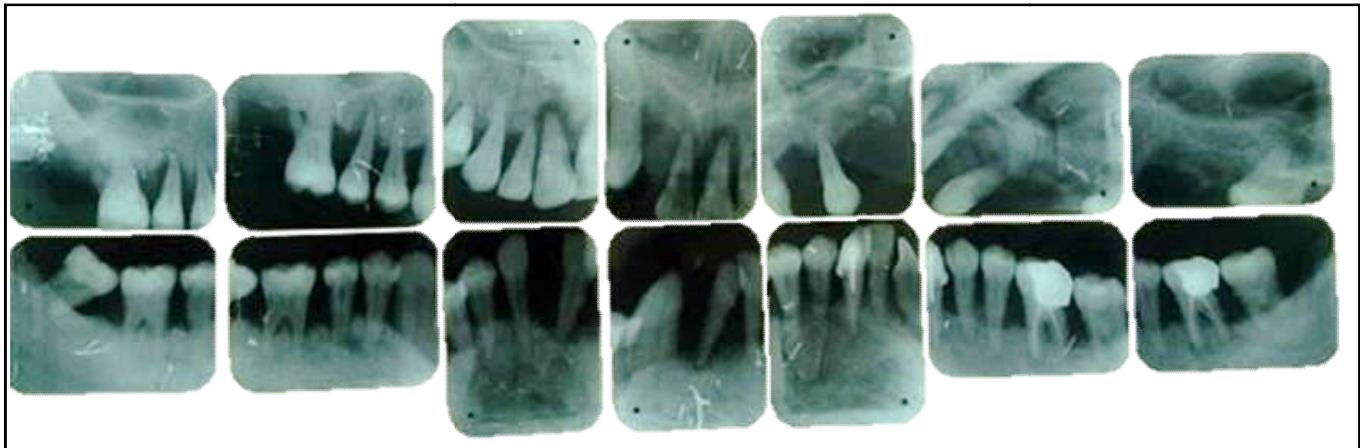


Fig. 2. A radiological assessment

Absence of: 17-22-24-26-42-31
 Cavities In: 14-47-46-45-35-37
 Non-tight sealed amalgam obturation on the 36
 Disturbed occlusal curves
 Altered mandibular kinematics
 Periodontal pockets from 3 to 12 mm
 Recessions of 1 to 7 mm
 Prevalence of angular and terminal bone lysis
 Presence of bone lysis on 100% of the sites

A radiological assessment was performed showing deep to terminal angular bone lesions on all remaining teeth (Fig2)

Therapeutic decision: Given the patient's aesthetic requirement, her financial resources and the severity of the periodontal lesions observed in the maxillary, an immediate complete prosthesis of use is proposed. In the mandible, it is decided to make a provisional partial removable prosthesis replacing 6 teeth.

Phases of prosthetic realization Preprosthetic phase: Periodontal sanitation and extraction of posterior teeth After healing, the prosthetic steps have been started.

Primary impressions were taken with alginate using imprinted non-perforated impression trays: before the mobility of the anterior teeth we decided to immobilize the teeth with aluminum foil (Fig 3).

Secondary impressions: On the model resulting from the primary impressions is built a classic individual tray (IT) in resin, slightly spaced at the teeth. The IT is adjusted at edentulous ridges and meets the criteria for performing PEI as a complete denture. Seals at the posterior level as well as at the lateral edentulous areas were recorded using

Kerr® thermoplastic paste in the same way as in conventional full dentures. An earlier flexible seal was made using an Impregum® type polyether. The elasticity of the latter made it possible to better circumvent the undercuts due to the presence of the anterior teeth in egression (Begin *et al.*, 1998). (Fig 4)

Adjustment of occlusal plane and intermaxillary ratio: The impressions are processed, boxed and cast. A rigid occlusion base is performed prefiguring the dental arch. It is clinically adjusted to parallel the beads with respect to the Camper plane and the bi-pupillary line through a Fox plan. However, the teeth must not touch Fox's plan. The plane set on the occlusion beads is lower than the plane that passes through the desired interincisal point. D is the distance between the two planes whose value is used. The vertical distance D between the ideal inter-incisal point and the plane of fox is then measured. It is then transferred to the incisor stem of the articulator according to the formula $y = 4D / 3$ to take account of the distance between the inter-incisal point and the incisal stem relative to the axis of rotation of the articulator. So after lowering the $4D / 3$ incisal stem the maxillary model with its occlusion base is mounted on the transfer table Themaxillo-mandibular report was recorded and the mandibular model was transferred to articulator.

Teeth mounting and functional fitting: The posterior teeth were mounted on articulator then they were tried in the mouth to control the maxillomandibular relationship.(Fig 5)

Realization of keys: a bit key and a vestibular key High viscosity elastomeric waxes are made to maintain the reference of the maxillary teeth from which the esthetics will be improved for the future prosthPreparation of the working model. This step must be performed by the dentist, who alone has the clinical data to evaluate bone lysis of residual teeth (sounding, radiographs) and anticipate alveolar resorption.

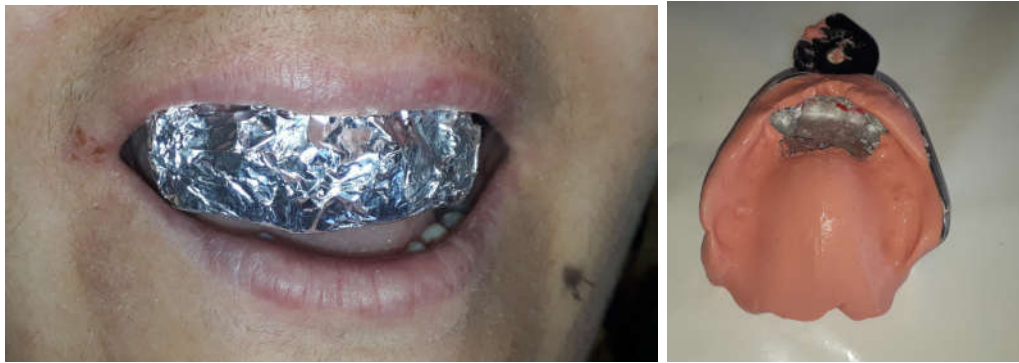


Fig. 3. Primary impressions

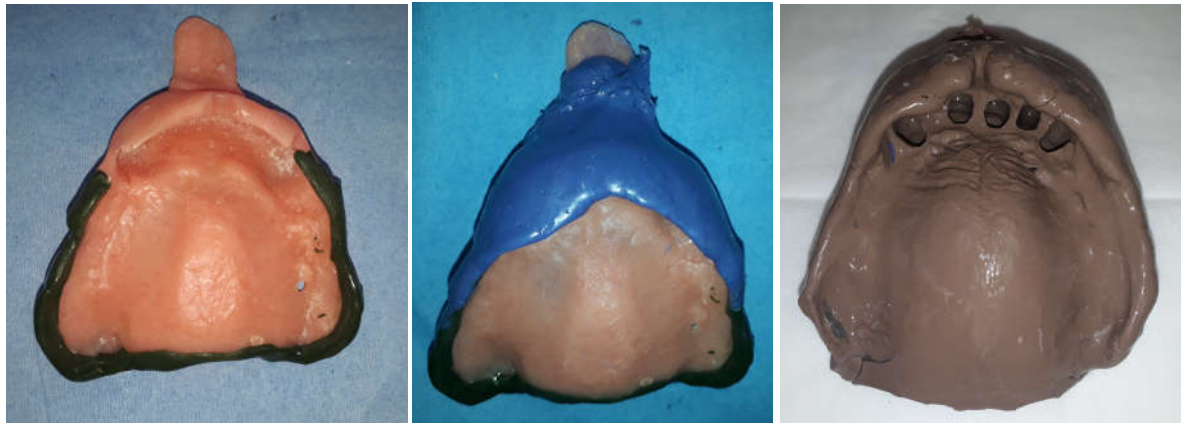


Fig. 4. Secondary impressions

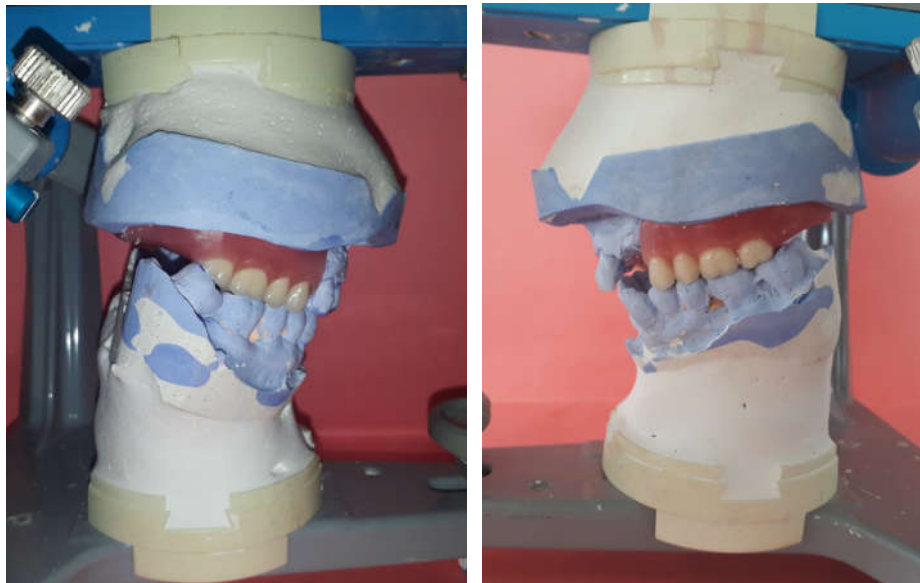


Fig. 5. Mounting of Posterior teeth



Fig. 6. Maxillary tooth extraction



Fig. 7. Insertion of the prosthesis



Fig 8. Smile of the patiente : before- after

Mounting of the front teeth: After the preparation of the model, the teeth are fitted. It may possibly be shown to the patient to validate the prosthetic and aesthetic project especially concerning the animation of the assembly and the arrangement of the teeth. The prosthesis is then finished and a surgical guide made of transparent resin is made.

Surgical phase (Fig 6): Maxillary tooth extraction with osteoplasty were performed under local anesthesia. at the end the complete removable prosthesis is placed in the mouth, it compresses and guides healing. Immediately after surgery, an ice pack is applied to limit postoperative edema.

postoperative advices: the patient is forbidden to remove the immediate prosthesis during the first 48 hours. After 48 hours the practitioner removes and cleans the prostheses, performs a wound debridement and instructs the patient to put on and remove the prostheses. The usual tips for the cleaning of the prostheses and the feeding are provided to the patient. The immediate occlusal equilibration in maximal intercuspitation, propulsion and diduction is realized (Fig 7, 8).

Conclusion

Immediate prosthesis is a method of choice to minimize the difficult passage of total edentation. It eliminates a dramatic break in the social life, the emotional life, the deep intimate life of our patient, It accelerates the healing and finally allows a quick adaptation of the patient to its restoration

REFERENCES

- Abdelkoui A, Fajri L, Benamar A, Abdedine A. Le guide chirurgical en Prothèse Complète Immédiate d'Usage. 2011.
- Abdelkoui A., Fajri L., Benamar A., Abdedine A. 2010. La prothèse complète immédiate d'usage : réalisation temps par temps: Fiche Clinic.
- Begin M. 1998. Passage de l'édentement partiel à l'édentement total : Information Dentaire vol 80 n°10.
- Begin M. et Rohr M. 1989. Détermination de la dimension verticale: Information dentaire, n°15.
- Fabris M, Millet C. 2010. La prothèse complète immédiate d'usage : critères de réussite. Editions Universitaires Européennes.

- Herbout B. 1999. La prothèse immédiate : une solution pour éviter la résorption postextrationnelle ? Report de Conférence ADF.
- Pompignoli M., Postaire M., Raux D. 2004. La prothèse complète immédiate. Quintessence Internationale. Paris.
- Pompignoli M. 1998. La prothèse de transition en prothèse amovible complète. *Cah. Proth.*, 04 : 67-77
- Postaire M., Pompignoli, M. 2011. Les dernières dents... Garder ou extraire. ESPACE ID.
- Rignon-Bret C., Rignon-Bret JM. 2002. Prothèse amovible complète, prothèse immédiate, prothèse supra radiculaire et implantaire. Collection JPIO. Editions Cdp.
- Rignon-Bret JM. 1995. Le guide chirurgical duplicata à dents amovibles en prothèse complète immédiate. *Cah. Proth.*, 91: 45-53.
- Rosca E. 2013. Prothèse amovible évolutive de transition : réflexion actuelles et modalités de réalisation. Thèse d'exercice n°, TOU3-3053.
- Schoendorff R, Jeannin C. 1998. Prothèse immédiate. *Encycl. Med. et Chir. (Elsevier, Paris) odontologie*, 23-325-K-10, 10p
- Viennot S, Moyencourt C, Millet C, Buch D. 2004. Réhabilitation esthétique et fonctionnelle par prothèse complète immédiate : étapes cliniques. *Cah Prothèse*, 126:9-18.
