

The Immediate Total Removable Prosthesis: The Choice Solution Face to Esthetic Emergency

TAOUILI Afafe¹, OUBBAIH Aicha², KAOUN Khadija³, BELLEMKHANNATE Samira⁴

¹Resident doctor, Department of Removable Prosthodontics, Faculty of Dentistry, Hassan II University of Casablanca, Morocco.

²Professor, Department of Removable Prosthodontics, Faculty of Dentistry, Hassan II University of Casablanca, Morocco

³Professor, Department of Removable Prosthodontics, Faculty of Dentistry, Hassan II University of Casablanca, Morocco

⁴Professor and Head of the Removable Prosthodontics service at the Casablanca dental consultation and treatment center (CCTD). Department of Removable Prosthodontics, Faculty of Dentistry, Hassan II University of Casablanca,
Morocco.

Abstract

Currently, patients destined for total edentulous no longer accept to show their infirmity by remaining edentulous for a longer or shorter period of time. When the anterior area is affected by dental extractions, the problem increases and the immediate prosthetic restoration is required. It aims, on the one hand, to meet the esthetic and functional requirements and, on the other hand, to ensure the biological and psychological integration of the prosthesis. We propose, through a clinical case treated in the prosthetic department of the Dental Consultation and Treatment Center of Casablanca, to present the different clinical steps as well as the difficulties to be observed during the prosthetic rehabilitation.

Key Words: Immediate prosthesis, Esthetic, Interincisal point.

1. INTRODUCTION

There are many clinical situations where tooth extractions are necessary, resulting in complete edentulous. The abrupt transition from partial to total edentulous remains a difficult step to achieve. Patients do not accept to show this handicap even for a short period of time [1]. The restoration of esthetics and function as well as the psychological comfort of the patient are the essential therapeutic objectives to be achieved without interruption by immediate prosthetics [2]. It is indicated in patients with a profession requiring contact with the public and in cases where the residual teeth have poor intrinsic and/or extrinsic values, causing irreversible lesions [3,4]. However, the difficulties lie in the impossibility of validating the esthetic assembly and estimating post-extraction bone resorption. The elaboration of the immediate total prosthesis of use follows a rigorous and well-defined clinical protocol, which we will relate through a clinical case.

2. CLINICAL CASE

A 43-year-old patient in good general health presented to the CCTD in Casablanca for an esthetic and functional prosthetic rehabilitation.

The exobuccal clinical examination revealed no particularities on inspection or palpation.

The endobuccal examination (Fig. 1) revealed poor oral hygiene,

- In the maxillary, it is a Kennedy Class I edentulous, with the presence of caries, recessions and degree 2 to 3 mobility in the anterior teeth.
- In the mandible, we note the absence of the 46 with presence of tart at the level of the anterior teeth.



Figure 1: The endobuccal view.



Figure 2 : Panoramic radiography.

The panoramic radiological examination revealed a vertical bone lysis in the maxillary with the presence of coronal radio clarity in relation to invasive caries in the 14,13,22,23,24 and 46,47 . (Figure 2)

2.1 Therapeutic decision

Taking into account the esthetic requirements of the patient, his financial means and the severity of periodontal lesions observed in the maxillary, an immediate total maxillary prosthesis is considered.

2.2 Therapeutic approach

The primary impressions were taken with alginate, (Figure 3) then a conventional individual impression tray was fitted to the maxillary model, and slightly spaced at the anterior teeth (Figure 4). The individual impression tray is fitted in the mouth, as in a conventional complete prosthesis, in such a way that there is no interference of the mucosal reflection zone with the peripheral margins and by checking the correct location of the posterior border. The peripheral joint middle lateral and posterior lateral and then the posterior joint velopalatal in the edentulous areas are recorded using green Kerr thermoplastic paste. In the anterior dentulous region, a "soft seal" is made with a high-viscosity polyether elastomer (Permadyne Orange (Figure 5) allowing precise registration of the functional anterior limit, without over-extension or over-thickness, despite the quasi-constant undercut [5].

The central impression was taken with a medium-viscosity polysulfide Permlastic Regular (Figure 6). The secondary impressions are carefully boxed (Figure 7) and then casted in order to reproduce the entire recorded volumes and surfaces. The partially maxillary secondary model with an occlusal model are constructed. (Figure 8)



Figure 3 : Primary maxillary and mandibular alginate impressions.



Figure 4 : Individual maxillary impression tray.



Figure 5 : Lateral and posterior remargining with green Kerr paste and soft anterior joint with orange Permadyne.



Figure 6 : Central impression with regular permlastic



Figure7: Central impression box

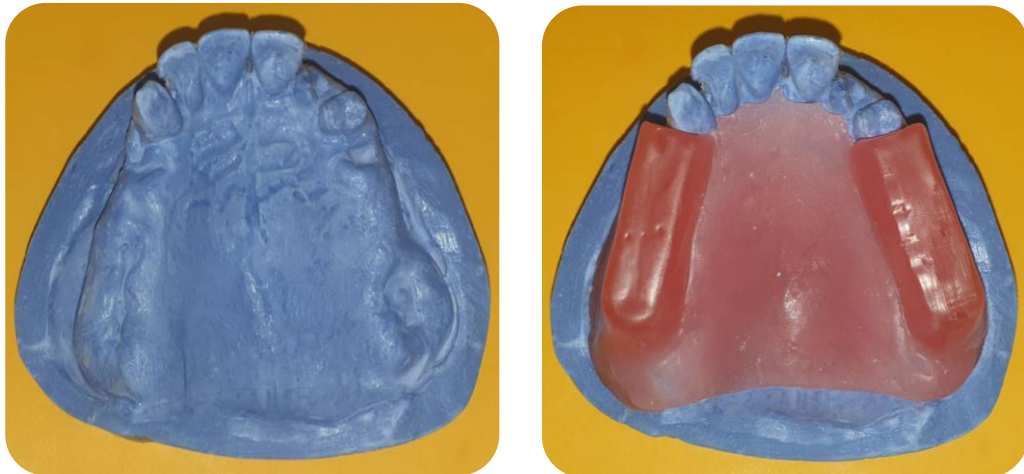


Figure 8 : Maxillary secondary models with occlusion model

The transfer of the maxillary model to the articulator is done using the facial arc (Figure 9). The transfer of the mandible model was performed after adjustment of the occlusion models, all in centered relation while maintaining the patient's vertical dimension of occlusion (Figure 10).



Figure 9 : Transfer of the maxillary model to the articulator using the facial arc

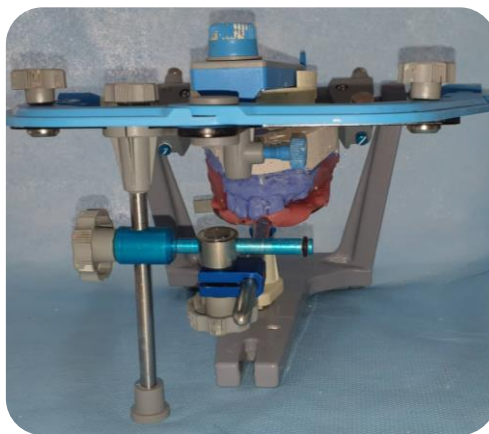


Figure 10 : Model transfer mandibular on articulator.

The choice of prosthetic teeth is made according to the clinical data collected and the patient's wishes [4]. Since the patient is eager to preserve his aesthetics, the choice of teeth in their shape and dimensions will be in accordance with the anterior teeth with improved shade (Figure 11,12).



Figure 11 : Choice of the shade.



Figure 12 : Choice of shape and dimensions.

Assembly of the teeth :

A vestibular reference key, (Figure 13) made of heavy silicone, and another made of bite are produced on the work models (Figure 14). After repositioning the inter-incisal point in the vestibulo-lingual direction, the assembly of the anterior and posterior teeth is performed [6,7]. The maxillary model is then rectified (Figure 15) using radiographs and clinical examination elements, and finished to give a smooth, rounded profile of the residual ridges [8,9,1] (Figure 16).



Figure 13 : The vestibular key.



Figure 14 : The anterior occlusal bite key.





Figure 15 : Rectification of the model: removal of teeth.



Figure 16 : Rectification of the model: vestibular bevel.

The reference keys will guide the assembly of the anterior superior prosthetic teeth. Thus, the dental technician will place them in the same position as the natural teeth, using the vestibular and occlusal keys, which is transformed into a real assembly tray (Figure 17). Once the teeth have been fully assembled according to the balanced occlusal scheme (Figure 18), the dentist will have to validate this before the prosthesis are polymerized [10].



Figure 17 : Anterior assembly respecting the vestibular and occlusal key.



Figure 18 : Complete assembly.

Polymerization and realization of the surgical guide

After polymerization of the prosthesis (Figure 19), a surgical guide, which is an exact copy of the maxillary prosthesis, was made of transparent resin [10], which allows precise surgery to be performed without approximation [11]. It highlights mucosal compression during the procedure and thus guides the surgeon's hand during osteoplasty [12].



Figure 19 : Definitive prosthesis.

Surgical phase

Extraction of the maxillary teeth (Figure 21) was conducted carefully while preserving the external bone table. The interalveolar septa were resected and the bone was regularized according to the surgical guide (Figure 22).



Figure 21 : Extraction of the residual teeth.



Figure 22 : Surgical guide in the mouth.

Immediate insertion of the prosthesis

The prosthesis is placed in the mouth (Figure 23,24). The patient is asked to hold the prosthesis on two cotton rolls for 10 minutes to seat the prosthesis, ensure hemostasis and limit postoperative edema [13]. The occlusion is controlled to achieve balanced contacts [10,13]. The harmonious distribution of the occlusal loads prevents pathological bone resorption [14]. The prosthesis ensures coaptation of the flap edges and serves as a "surgical dressing" and "healing guide" [15].



Figure 23 : Initial situation



Figure 24 : Patient satisfaction smile after insertion of the prosthesis.

3. CONCLUSION

The immediate complete prosthesis of use makes it possible to ensure under the best conditions the passage from partial to total edentulous. It avoids the traumatic rupture in the social life and the emotional life of the patient by allowing him to continue to lead a normal life and to preserve or even improve his esthetics and all his oral functions in spite of the extraction of the teeth. It also accelerates the healing process, which moreover, will take place in good biological conditions. For its success, the immediate prosthesis requires a rigorous technique of execution and realization.

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