CASE STUDY ARTICLE

AESTHETIC MANAGEMENT IN UNIMAXILLARY COMPLETE REMOVABLE PROTHESIS: ABOUT A CLINICAL CASE

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ABSTRACT

Background: In unimaxillary complete removable prosthesis (PACU), prosthetic rehabilitations are sometimes difficult, especially in the presence of an unfavourable osteomucosal environment, preventing the placement of the prosthesis. Indeed, an important crepe hypertrophy imposes a surgical arrangement of the useful prosthetic space, because this anatomical obstacle constrains the practitioner to harmful compromises for the bio-functional, aesthetic and psychological integration of the future prosthesis. **Objectives:** To respond to the problems thus posed, the practitioner must focus his efforts on the three essential points: analysis of the case, establishment of the treatment plan, creation of an adapted occlusal scheme and therapeutic followed. **Conclusions:** Detailed by a clinical case, this article highlights the interest of the study and the preprosthetic preparations in the aesthetic success of rehabilitation by unimaxillary complete removable prosthesis (PACU).

Keywords: *unimaxillary complete removable prosthesis, crepe hypertrophy.*

1. INTRODUCTION

The rehabilitation of complete unimaxillary edentulism is a real challenge in daily practice because of the many pitfalls it presents. The most frequent situations are represented by a complete maxillary edentulism and a class 1 mandibular Kennedy edentulism. Simple at first, this situation often turns out to be complex after analysis. In the presence of bone hypertrophy and/or fibromucosal, the transfer of the maxillary model to an articulator may reveal insufficient prosthetic space available, making the placement of the false gum and the assembly of the anterior teeth difficult or even impossible.

This is the most complicated prosthetic treatment for the practitioner to solve. Indeed, it is necessary to manage two anatomically and physiologically very different "terrains": a toothed arch with periodontal proprioception and a completely edentulous arch with only mucosal exteriorception. The toothed arch is very disturbed, the unsuitable occlusion plane: its height, orientation, asymmetry, Compensation curves are rarely satisfactory for establishing the chosen occlusal concept. An additional aesthetic difficulty is omnipresent: it is necessary to obtain a concordance of size, shape, color, between natural teeth and prosthetic teeth.

2. CLINICAL CASE REPORT

2.1 Identification and Clinical Examination: A 36-year-old patient with cognitive trouble presented to the Casablanca CCTD for prosthetic rehabilitation of her total maxillary and partial mandibular edentulism (Figure 1).

- A high, large ridge with an adherent fibromucosa and the presence of an anterior undercut (Figure 2/3).

- In the mandible, we find a class I an edentulism of Kennedy, with absence of 37, 36, 33, 32, 31, 41, 42, 46 and 47, Slight regressions: 35, 34, 33 and 44 and mesio-version of the 33 (Figure 4).

The panoramic X-ray examination reveals hypertrophied bone bases of high density. (Figure 5)

Figure 1: Good lip support DVO slightly decreased.

Figure 2: Smile of the patient discovering a prominent anterior ridge.

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Figure 3: High and wide ridge / Adherent fibro-mucosa Anterior undercut.

Figure 4: CLI mod1 from kennedy. Slight regressions: 35, 34, 33 and 44 and mesio-version of 33.

Figure 5: Panoramic X-ray reveals a density maxillary bone and the presence of residual roots at the level of the upper left ridge.

2.2 Pre-prosthetic study: evaluation of the available prosthetic space

Any important surgical approach requires a careful analysis of the clinical case for an accurate assessment of the extent and quantity of tissue to be removed, as the quality of the result depends on the accuracy of the diagnosis.

The analysis of the study models allows:

- An appreciation of the available prosthetic space;
- An evaluation of the surgical arrangements to be made using a key cut in several places; (Figure 7/8).
- The Production of transitional prosthesis after rectification of the models.

The transfer of the study models to the articulator by means of occlusion models is done after recording the intermaxillary ratio in centered relation and the physiological vertical dimension. It confirms a significant hypertrophy of the maxillary ridges in the vertical direction, the available prosthetic space is insufficient in height (Figure 6).

Figure 6: Transfer the models to an articulator (after adjustment of the PO / recording of occlusion in RC to a correct DVO) that reveals insufficient anterior prosthetic space.

Figure 7: Construction of a key cut in several places.

Figure 8: Evaluation of the bone resection necessary on the model on which a surgical guide will be made.

Figure 9: Surgical guide on the rectified maxillary model.

2.3 Surgical phase: bone osteotomy

Subtractive corrective surgery should not be mutilating. It will allow obtaining a correct bearing surface and saving the space necessary for a harmonious assembly (Figure 10/11).

The surgery is guided by the surgical guides prepared beforehand for this purpose while respecting the surrounding anatomical obstacles (Figure 9).

As the tissue is subtracted, the surgical guide is tried to check the extent of bone decortication. (Figure 12).

Figure 10: Osteotomy and thinning fibromucosal.

Figure 11: Resected fibromucosal

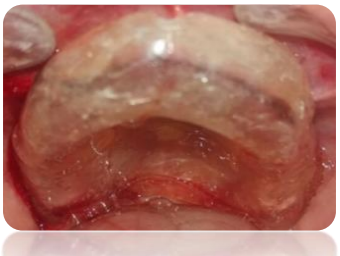

Figure 12: Evaluation of osteoplasty using the surgical guide.

Figure 13: Operative site after suturing.

Figure 14: Operative site after 2 months of cicatrization.

2.4 Prosthetic phase

After cicatrization (Figure 13/14), the production of the prosthesis is started. The prosthetic rehabilitation of the patient consists in the realization of a removable total prosthesis in the maxilla and a removable partial prosthesis cast in the mandible.

After rehabilitation of the occlusal plane by selective grinding of the dented teeth allowing a reasoned choice of the occlusal concept allow a good stability of the maxillary PAT and of the preparations of the teeth supporting the clasp Figure 15).

Secondary anatomo-functional impressions are recorded in the maxilla and the mandible with regular permlastic (Figure 16).

The secondary models are transferred to an articulator in a centered relation by means of occlusion models adopted at a correct vertical dimension of occlusion.

The assembly of prosthetic teeth is done by adopting the concept of "fully balanced" occlusion.
It is tested and validated in the mouth (Figure 17) before polymerization and the pose the prosthesis. (Figure 18)
The patient is reviewed regularly to control that there is no contact between the natural anterior and prosthetic teeth. Thus, prosthetic stability and comfort are ensured, favoring the functional integration of the prosthesis and the preservation of tissue integrity.

Figure 15 : Preparation of the teeth on the mandible (in particular by selective grinding of the dented teeth)

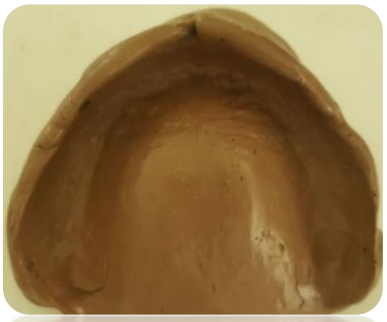

Figure 16: Maxillary and mandibular secondary impressions

Figure 17 : Aesthetic and functional fitting of the assembly

Figure 18 : Smile patient satisfaction

3. DISCUSSION

Rehabilitation by PACU is often a complex treatment because it is necessary to manage two very different anatomically and physiologically "terrains" [1, 2].

An aesthetic difficulty is omnipresent (it is necessary to obtain a concordance of dimension, shape, color, possible characterizations). This is accentuated in the presence of a prominent osteo-mucosal anterior crest in the maxilla making the assembly of the teeth unsightly or even impossible as shown in our clinical case [3].

Our therapeutic approach consisted of a bone osteotomy at the level of the anteromaxillary crest using a surgical guide designed following a pre-prosthetic study and making it possible to avoid any untimely and aggressive surgical act that might sacrifice the young patient's bone capital [4, 5].

Pre-prosthetic surgery is always part of a global treatment plan as its name indicates, it is crucial not to stop at the simple surgical gesture but to be able to take care of the patient until the beginning of the definitive prosthetic phase. Healing management and temporization are therefore also necessary here for the successful treatment [6,7,8].

Thus, the esthetic and functional success in PACU is linked to a meticulous initial analysis, to a preparation of the antagonist arch, to a methodical conception of a bilaterally balanced occlusal scheme giving priority to the least stable prosthesis in the maxillary PAT for this clinical case [9].

4. CONCLUSION

The appreciation of the terrain, be it anatomical, psychological or aesthetic, is decisive for the success of the treatment. Only a meticulous examination and a thorough preprosthetic analysis allow establishing a diagnosis, a reasoned choice of the occlusal concept and a coherent treatment plan appropriate to the subject leading to a stable functional and perfectly integrated prosthesis.

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