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## RESEARCH ARTICLE

### IMMEDIATE PROSTHESIS AS TREATMENT IN MULTIPLE EXTRACTIONS. CASE REPORT.

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#### ABSTRACT

In the present article the clinical and laboratory procedures that were carried out for the elaboration of an immediate prosthesis are described. The importance of preserving the vertical dimension of occlusion and in this way leading a transition from a partial dentate to an edentulous state with a bilateral balanced occlusion scheme is emphasized. In this way, the patient adapts to the use of dental prostheses, decreasing the impact of psychosocial deterioration when completely edentulous with the advantages of preserving the shape and height of the alveolar processes, avoiding their collapse.

## INTRODUCTION

The immediate denture is that which is placed after the multiple extractions procedure, in order to replace the lost teeth, this type of prosthesis offers the patient several advantages, among which the possibility of preserving the height of the alveolar ridge after the remodeling stands out. postsurgical

### Background

The concept of immediate denture was introduced by Benedetti and Richardson in 1860, Rodrigues in 1861, Atkinson and Herbast in 1863, Sears in 1923 made a publication where he mentions that in cases where there are remaining dental pieces it is appropriate to consider the possibility of building complete dentures Immediate before removing the teeth and talks about the preparation of a surgical guide and installation of immediate dentures. In 1983 the first publication of immediate dentures made by Wistrow and Scheff appears. From that time on, studies and research began on the subject. (Aguilar, 2002; Cacciaccane, 2012; Caputi, 2014). The immediate denture is defined as a removable partial denture fabricated for placement immediately after removal of the natural teeth.

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This is constructed before removing the remaining teeth and placed immediately after removal; and it must be replaced by a new prosthesis, after the anatomical modifications suffered by the alveolar ridge after the bone remodeling time (Díaz Torreblanca, 2013; Hegde et al., 2015; Sadowsky et al., 2013). When manufactured on modified models that do not correspond faithfully to the situation of the patient's mouth, it must be adapted immediately by adjusting for changes in the contour of the alveolar ridge (Hegde, 2015; Sadowsky et al., 2013; Sergio Caputi, 2013; Johnson et al., 2013). This type of prosthesis improves the quality of life in the biopsychosocial triad since the patient integrates almost immediately to his routine by avoiding the edentulous state making a less traumatic transition obtaining an adequate aesthetic and comfort (Caputi, 2014; Sadowsky, 2013; Johnson, 2013). Its main clinical advantage is that it acts as a bandage, protecting the surgical area, limiting inflammation and favoring adequate bone remodeling with minimal loss of height of the residual ridge; at the same time that it retains the tone of the chewing and perioral muscles (Hegde, 2015; Shah et al., 2012; Van Waas, 1993; Matsuda et al., 2014; Johnson et al., 2013; Bridgman, 2016). Its importance in the preservation of the alveolar ridge height has been seen in different studies in which the average bone reduction in the lower canine regions of 1.8 mm in the immediate complete prosthesis group. In the posterior parts of the mandible, the bone reductions were, respectively, 0.7 mm and 1.9 mm. The use of this type of prosthesis decreased the decrease in bone height in the second



Figure 1. Extra oral photograph of the patient where adequate distribution of the facial thirds is observed



Figure 4. It is important to record the craniomandibular relations of the patient, as it helps us to guide the location of the prosthesis, decreasing the errors of placement of the teeth and the deviation of the mid line



Figure 2. Note the inadequate occlusal relationship and vestibularization of all anterior teeth caused by periodontal disease.



Figure 5. Photographs after the surgery, the patient maintains a good height of the alveolar processes



Figure 6. Final outcome of immediate prostheses after surgery.

year after insertion, in contrast to patients who did not wear this type of rehabilitation (Hegde, 2015; Sergio Caputi 2013; Shah, 2012; Van Waas, 1993).

**Objective:** Report of a case where an immediate partial prosthesis was used as a replacement for lost teeth.

**Presentation of the case:** This is a 65-year-old female patient, who attended the Periodontics service of the Naval Medical Center, without systemic involvement, with a diagnosis of generalized periodontitis; the treatment plan in Periodontics is the extraction of multiple dental organs and bone remodeling, for which reason an Oral Posthetics is consulted for the preparation of an immediate denture. In the extraoral clinical examination there are no asymmetries and there is an adequate distribution of the facial thirds, which suggests that there is no significant loss of vertical dimension (Figure 1). The intraoral examination includes multiple dental organs with grade III mobility, the presence of prudent exudate that drains through the gingival sulcus, radicular remnant in the upper arch and occlusal contact in the canines (Figure 2). To start the treatment plan with immediate denture, we proceed to the impression taking with irreversible hydrocolloid (Max Print Chromatic, mdc Dental, Mexico) and steel imprints (Rimlock, Dentsply, USA) and emptying them in type III plaster (Magnum MDC Dental ) obtaining in this way the working models. Registration bases are made with autoplimerizable acrylic (Nicton MDC Dental Mexico) and rollers pink wax all season (Rogson wax MDC Dental) to obtain the occlusal relationships, then the registration of craniomandibular relations and transport to the articulator was made with help of the facebow (Hanau 194 modular system, and Hanau Springbow, Water Pick, USA) (Figure 4). The placement of the posterior teeth was carried out placing them in the vestibulolingual limits of the Pound triangle by means of a bilateral balance doclusionscheme. The dentures were processed in conventional manner with thermo-polymerizable acrylic (Nicton MDC Dental Mexico) and polished with blankets and polishing products (Polycril MDC Dental, Mexico; Polyshine Paste MDC Dental). The immediate dentures were inserted on the same day of the surgery of the patient who underwent multiple extractions and regularization of the alveolar process (Figure 5). The application of a tissue conditioner (Ufi Gel P Voco) was done and cited to the patient 24 hrs after incersion to perform occlusal adjustment (Figure 6)

## RESULTS

Appropriate healing is observed, preservation of the vertical dimension and transition of an edentulous state and adaptation to the use of prosthesis at the same time in which healing takes place thus reducing the psychic deterioration that causes tooth loss while maintaining masticatory abilities, adequate phonation and social interaction. In this case, a tissue conditioner was used for the stabilization and adequate healing of the alveolar process since the patient presented enough irregularities due to the deteriorated periodontal condition.

This type of material contributes to both healing and proper adjustment of the denture, reducing complications due to soft tissue injuries when adaptation to the anatomy is not adequate and the prosthesis moves when eating or speaking.

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