

Immediate Rehabilitation with Provisional Partial Prosthesis After Multiple Extractions

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Abstract

When multiple extractions are indicated, patients usually report uncertainty regarding the phonetic, aesthetic and chewing changes they will undergo as a result of dental treatment, which leads many individuals to refuse to undergo such a procedure. One possibility of treatment for hypoheses like this is the installation of prostheses immediately after the surgery, avoiding the possible embarrassment on the part of the patient to expose himself to social interaction with the dental elements. The temporary removable partial prosthesis is a device made previously for extractions and is installed immediately after the performance of the same. Faced with a situation in which the patient finds himself, with the remaining teeth condemned, many edentulous systems, while waiting for the healing phase to make a conventional prosthesis. Thus, an immediate prosthesis becomes an ally in cases, promoting the correct functioning of the stomatognathic system. The objective of the present study was to elaborate a literature review in relation to the immediate temporary partial dentures, specifying their advantages, disadvantages and main indications in the usual practice of a dentist and as a specific objective, to report a clinical case of installation of Partial Prosthesis Provisional Removable – PPR, in the mandibular arch, in the region of the central and lateral incisors. The effectiveness of oral rehabilitation with immediate prosthesis are very noticeable, thus being a satisfactory treatment alternative, but which requires more knowledge, skills and criteria than the conventional total prosthesis.

Keywords: Partial Removable; Prosthesis; Multiple Extractions; Oral rehabilitation; Case Report

Introduction

The absence of a dental element is considered a public health problem, and can occur for several reasons. Among them, the following can be considered: the presence of caries, destructive periodontal disease with loss of clinical insertion, gingival retraction and wear of the alveolar bone, which begins with the installation of a chronic inflammatory gingivitis, chronic systemic diseases, as well as trauma and fractures. As a consequence, rehabilitation treatments are increasingly sought after by patients, aiming to recover aesthetics, masticatory and phonetic functions [1].

A large number of treatment possibilities have been employed, from the simplest, such as the replacement of just one dental element without major clinical complications involved, to more complex cases, such as those where there is a need to replace several dental elements [1,2].

Thus, oral rehabilitation will always be a challenge for the Dental Surgeon (CD). In this sense, the professional must make use of a careful individualized planning that meets the specific needs of each patient (PIZZATO, et. al, 2011) [3].

Able to restore self-esteem, the prosthesis aims to preserve alveolar edges and integrate the patient psycho-emotionally into society [4].

The making of the Removable Partial Prosthesis - PPR - requires prosthetic and surgical planning, which includes anamnesis, clinical examination, radiographs, and preliminary procedures, such as molding to obtain plaster models [5].

The objective of the present study was to describe a clinical case of immediate rehabilitation with temporary partial denture - immediate - in a candidate for the extraction of multiple dental elements (central and lower lateral incisors), where they were condemned due to extensive bone loss, cavities extensive and evolution of root cysts.

Case Report

A male, 75 years old, presented at the Integrated Clinic of the Dentistry Course of the University of the West of Santa Catarina, Joaçaba-SC, complaining of severe pain in the lower teeth, which consequently had difficulty to feed. The blood pressure was measured (120x80mmHg), he was calm, commu-

nicative and lucid. With regard to medical history, the patient described being in normal health and emphasized only Systemic Arterial Hypertension (SAH), and the continuous use of Captopril® 20mg/day. During the anamnesis, he reported that he does toothbrushing every day, however he denies the use of dental floss, and occasionally observes gingival bleeding. At the symptomatic moment, he informs that he has difficulty eating because of the intense pain in the region of the central and lower lateral incisors. No changes were found in the lymph nodes, glands, cheeks, tongue and other related parts during the physical examination; and on the initial intraoral clinical examination, total anadontics was observed in the upper jaw, where the patient had a complete prosthesis, and part of the lower arch with the absence of the elements 38, 37, 36, 35, 34, 33, 43, 44, 45, 46, 47 and 48 and removable partial denture. Elements 31 and 32 were treated endodontically and elements 41 and 42 showed mobility and fractures. There was marked wear on the incisal face, a large number of poorly adapted dental restorations, in addition to unsatisfactory periodontal condition of the 4 remaining teeth.

After carrying out the treatment plan, blood tests (complete blood count, coagulogram and fasting blood glucose) were requested, which are part of the protocol, and serve to verify general health problems that could contraindicate a surgical procedure. Radiographically, a periapical radiography of the region of elements 31,41,32 and 42 was requested to check bone availability in the area. After the development, there was a high loss of supporting bone tissue, due to advanced periodontal disease, extensive caries and root cysts. Due to the clinical circumstances, a surgical planning was carried out, as well as a proposal for extraction of all the dental elements in question. The initial treatment plan consists of the preparatory phase for surgery, with an emphasis on promoting oral health based on instructions for oral hygiene and adaptation of the clinical environment [6].

The surgical procedure was performed, after anesthesia of nerve block: bilateral lingual, mental and incisor with Articaina 4% with adrenaline 1: 1000. The anesthetic in question has low toxicity, rapid onset of action and compared to other LA. The vasoconstrictor chosen is due to the systemic condition of hypertension, promoting a slightly milder vasoconstriction in the patient's vessels. Subsequently, the alveolus was sutured with 4-0 sterile silk thread and the patient was prescribed anti-inflammatory and analgesic, in addition to important post-surgical recommendations for proper healing.

Immediate partial prosthetic rehabilitation, part of the second phase of treatment, is important for the establishment of full masticatory function and preservation of the remaining tissues, since the masticatory effort of the patient's initial condition overloads the total and partial dentures present, in addition to generating a intense discomfort accompanied by pain when trying to eat. The upper and lower arch was molded with alginate for later obtaining the plaster study model, and on it the registration bases were made, which formed the matrices of the provisional prosthesis for the restoration of the patient's occlusion, being: lower central incisors and lower lateral incisors, both bilateral.

The orientation plan has been adjusted. The support of the lip, the exposure of the teeth in relation to the upper lip at rest, and posterior plane. Through the Metric Method, the patient was



Figure 1: Initial photo



Figure 2: Periapical radiography



Figure 3: Immediate postoperative



Figure 4: Adapted prosthesis



Figure 5 and 6: Mouth-adapted prosthesis

then asked to perform slow and deep breathing, moistening the lips with the tongue, swallowing and then, three times, pronouncing the letter “m”, remaining at the end of this sequence with the lips parted and at rest. Then, artificial teeth made of acrylic resin were assembled in the university laboratory. After this stage, the teeth in the mouth were tested, observing the aesthetics, phonetics, occlusion and comfort for the patient.

After the laboratory phase of making the provisional partial removable prosthesis was completed, it was installed. The patient's VOD was not adjusted as expected, and then the PPR reload was performed. This procedure is performed after the verification of a bad adaptation in the prosthesis, that is, they are adjustments that are made to improve the adaptation of the saddle to the rim. It is a clinical and laboratory procedure that

will reestablish itself from the contact of the saddle with the fibromucosa (associated with the alveolar ridge), in addition to recovering the biomechanics by eliminating the tip and rotational movements, as the adaptation improves, recovering properties occlusal properties and mainly provide comfort.

The patient was informed of the provisional nature of the installed prosthesis, and the need for a time of adaptation of the organism to the new VOD, healing of tissues after surgery, in addition to the possibility of the appearance of small functional changes during this adaptation phase, such as an increase salivation, phonetic difficulties or chewing food. He was also instructed on how to clean the prosthesis, the time of use, the need for periodic returns, until the time to start the final treatment with the fixed partial prosthesis. Thus, the patient used this provisional PPR until the final prosthesis was made in the lower arch.

Discussion

The treatment with partial prosthesis is carried out with the purpose of certifying whether the pre-established OVD is able to provide comfort to the patient, as it allows the patient to



progressively adapt to the new OVD. In addition, it replenishes missing dental elements, improves aesthetics and restores the stomatognathic function. The final results showed satisfactory results on the part of the patient [7,8].

In this perspective, we can emphasize the importance of using this type of prosthesis as an auxiliary resource in the preparation of the diagnosis, prognosis and in the planning of the oral rehabilitation treatment in patients with severely worn dentition, reduced VOD and indications for multiple extractions [2,7,9].

Then, the following advantages of choosing PPR as a treatment option are listed: adequate aesthetics, psychological gain and reintegration of the patient into social life, efficiency in the restoration of OVD and occlusal stability, lower cost, conservatism, shorter operating time compared to more com-

plex treatments such as fixed prostheses and case reversibility [2,3,8-10].

As disadvantages, they highlighted the need for adjustments of the occlusion and the difficulty of oral hygiene on the part of the patient, complex laboratory technique and difficulty in the initial phonation of the patients after the installation of this prosthetic device [9].

The use of temporary removable partial dentures is even more critical when the vertical dimension of the occlusion is altered, a situation in which occlusal relining can be an important ally to achieve a good prognosis. It is important to rehabilitate the patient, with well-adjusted, well-balanced prostheses so that the reduction of the atrophy of the ridge can occur, and not to act in an iatrogenic way with poorly adapted prostheses. [11-16]

Final Considerations

In view of the above, it was concluded that the studies found in the literature show the efficacy regarding the use of PPR in oral rehabilitation, insofar as they contribute to the protection and conditioning of oral tissues for a future definitive rehabilitation, for the reestablishment of vertical dimensions of the face and occlusion, as well as favoring the aesthetics and the adequate masticatory function of the patients. The main advantages of this type of treatment observed are: satisfactory aesthetics, reversibility, conservatism, low cost, shorter operating time and improved quality of life for patients.

However, correct rehabilitation planning must be carried out and carefully followed by the DC, according to the clinical conditions, needs and limitations of the patient.

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