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Lower Protocol with Immediate Provisional Load: Clinical Case Report on Immediate Implants

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I. Introduction

Implantology started from the studies by Branemark who, through his research, concluded that the dental replacement procedure could be done through two stages, one surgical with the placement of implants and another prosthetic (Brånemark et al., 1969). The classical technique indicated the beginning of the prosthetic phase only 6 months after implant placement (Albrektsson et al., 1986), but over time, this technique underwent changes and improvements.

In order to successfully install these implants, several factors are necessary, including primary stability. This can be defined by the primary fixation that the implant receives when it is inserted into the bone bed after the perforations made by drills containing at least 32 Ncm of locking (Ottoni et al., 2005)

One of these improvements was the immediate loading of implants, implant with primary stability and provisional prosthesis without osseointegration having occurred (Manfrinato et al., 2021). For this to occur, the procedure in question has to be performed in a period between 1 to 20 days (Nishioka SR et al., 2003). This causes the number of clinical sessions with the patient to decrease, in addition to guaranteeing function and aesthetics to the patient (Pereira et al., 2007).

The procedure reported above uses the ONE ABUTMENT ONE TIME protocol, which reduces the number of clinical consultations, risks of infection and facilitates the clinical process. This translates into placement of the definitive abutment immediately after implant placement, without the use of a covering screw or healing abutment. Therefore, allowing the best installation of a provisional prosthesis until bone integration occurs completely (Santos et al., 2018).

The present work reports a clinical case of immediate implants using the technique of immediate provisional loading.

II. Clinical Case

Paciente M.R.S., sexo feminino, 62 anos compareceu a clínica odontológica com queixa de falta dental múltipla, querendo repor tais elementos e compor uma reabilitação completa. Foi solicitado exames de imagem e realizadas fotografias iniciais (fig. 1 e 2) para realização do planejamento do caso.

2.1 SurgicalStep

Após cuidadosa avaliação clínica e tomográfica, foi realizado o planejamento de um protocolo inferior sob implantes do tipo hexágono externo instalados de forma imediata após as exodontia dos elementos 33, 32,41, 42 e 43 para realização de prótese tipo protocolo.

Primeiramente foi realizado exodontia dentais presentes que não exerciam mais função e a realizada incisão em crista óssea para visualização do rebordo ósseo e dos forames mentonianos. Logo após foi regularizado esse rebordo com a utilização de alveolótomobi-articulado e broca Maxicut.

Figure 1- Initial photo

Figure 2 – Post-extraction ridge.

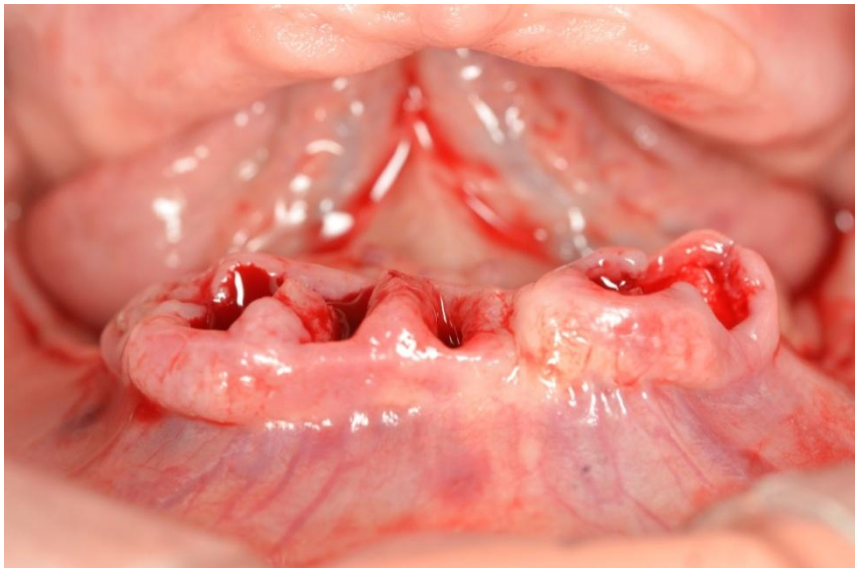


Figure 3 - Teeth after extraction

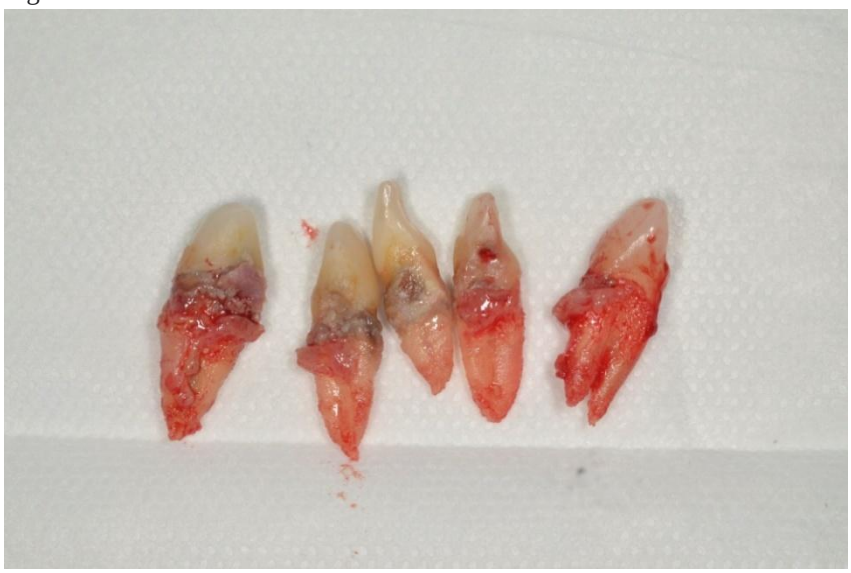
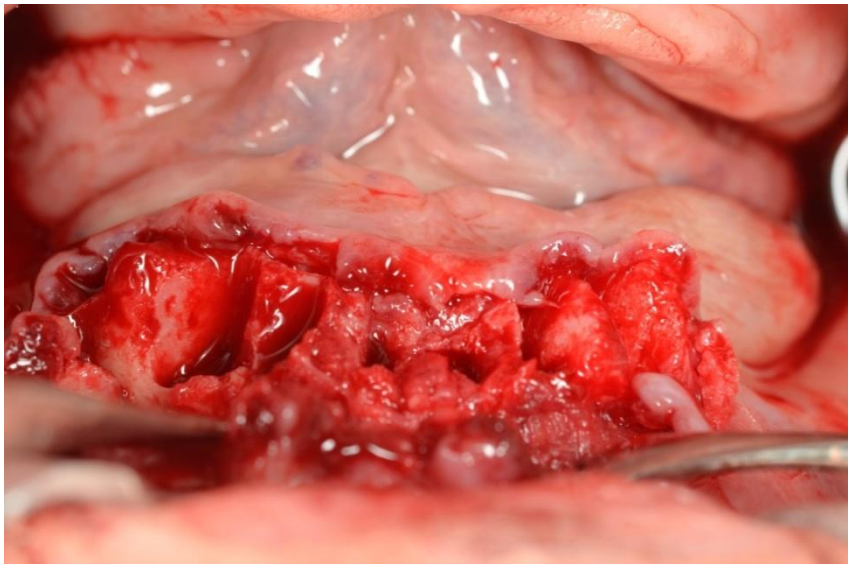
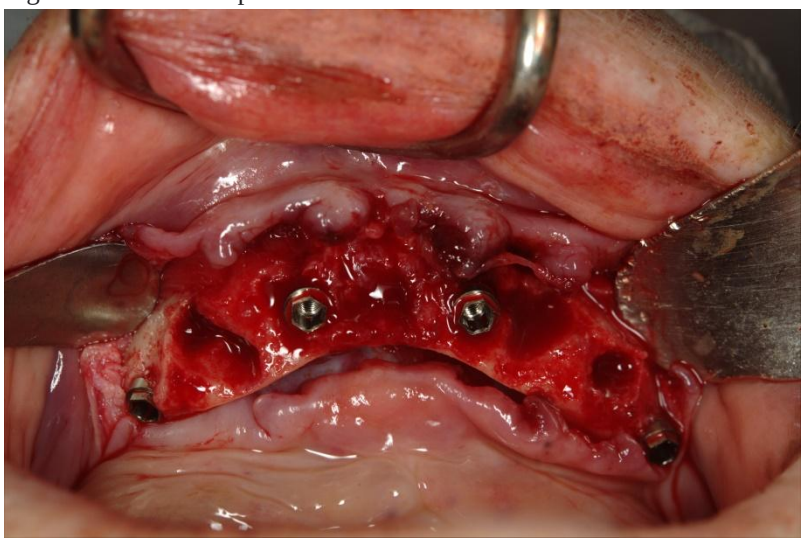


Figure 4 – Edge before implant installation



After the surgical field asepsis procedures, anesthesia and subsequent extractions performed with the aid of suitable forceps, millings were performed using spear-type milling cutters, 3.0 conical and at each different height a third conical milling cutter with the appropriate height was used for later installation. of the external hexagon implants brand Implacil®, 2 of them measuring 3.5 x 11mm and the other 2 measuring 3.5 x 09mm. The more distal implants on both sides were inclined distally to increase future prosthetic strength, thus creating a larger area where the bar can be suspended by implants, thus reducing the stress caused by the Cant-Levers of the posterior teeth.

Figure 5- Installed Implants.



After finishing the previous step, the mini-abutment type abutments of the Implacil® brand, 1.8 mm in height, indicated in cases of multiple prostheses and their appropriate protectors, were installed. Finally, suture was performed with 5-0 nylon thread from the microsuture® brand.

Figure 6- Installation of intermediaries

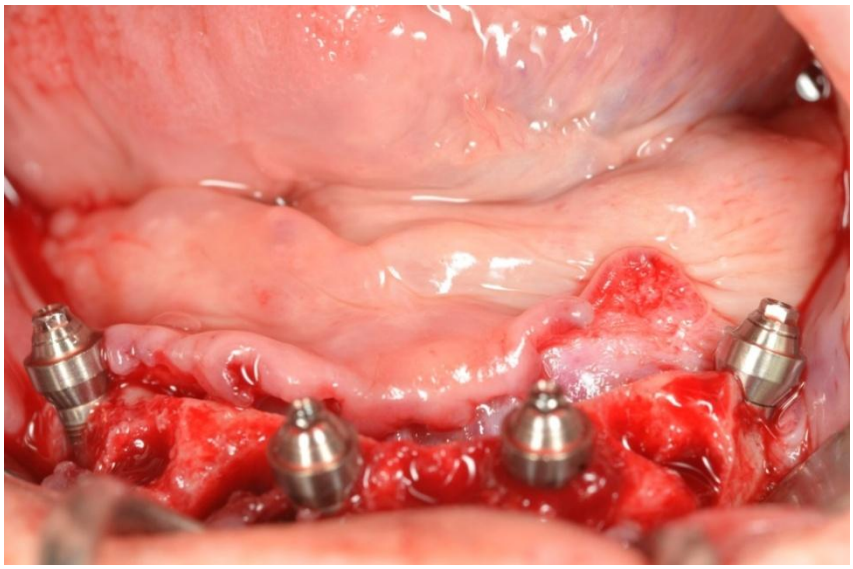
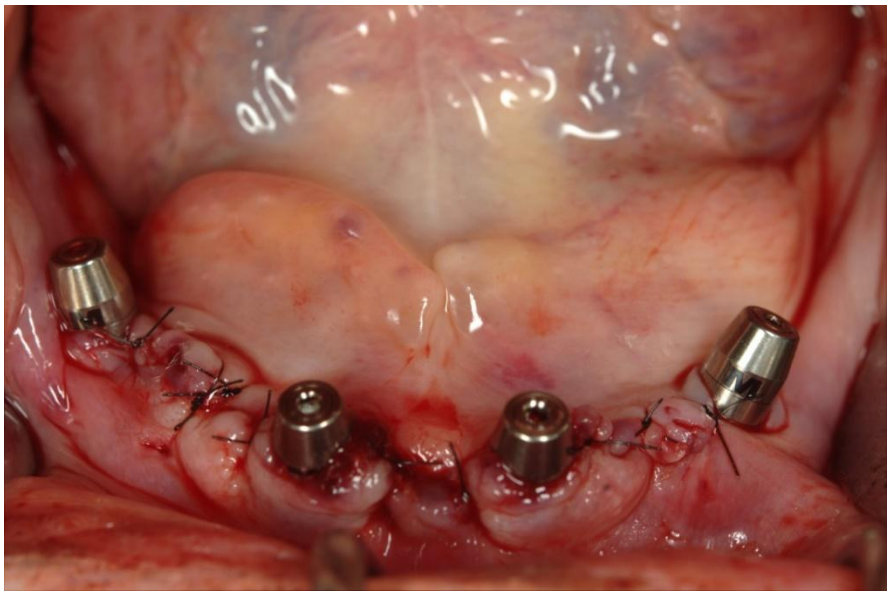


Figure 7- Photo after suturing performed with 5-0 Nylon thread from Microsuture®



2.2 Prosthetic Stage

The following day, the patient attended the specialization course in Implantology at Instituto Catarinense de Odontologia (ICOS) to capture titanium cylinders for the provisional prosthesis using Yller®bisacrylic resin, using the setting parameters and use as stipulated. by the manufacturer's leaflet.

Figure 8 – Capturing the titanium cylinders to the prosthesis

Then it was sent to the prosthesis laboratory so that it could make the necessary adjustments, removing the excesses, and then polishing the piece so that it could be installed on the patient.

Figure 9 - prosthesis before sending to the laboratory

Upon returning from the laboratory, the prosthesis was properly installed with an average torque of 20N on the screws and, finally, the occlusion was verified using arccu film type carbon paper.

Figure 10 – prosthesis installed and occlusion verified

III. Discussion

The treatment of partially or totally edentulous patients has evolved over time, especially with advances in dental implant techniques. This favors the patient not only in the aesthetic part arising from implants with immediate loading, but also in the functional area.

The usual treatment predicts that implants installed in the maxilla must remain without occlusal forces for at least 6 months, whereas in the mandible this time decreases to 4 months (Carreiro et al., 2018). During this time, the patient is submitted to removable prostheses or even the absence of provisionals, which leads to the clinical adjustment of these prostheses in this period or even to the individual's discomfort of being without the dental element for such a period.

In order to minimize these inconveniences, the use of the immediate loading technique has become increasingly predictable. The process for performing immediate loading on dental implants must follow some protocols for the success of the procedure such as the largest number of implants possible according to each case to give greater primary stability (at least 40NCM) and resistance to micro movements, among others. characteristics (Ferreira et al., 2021). The immediate loading technique has a high success rate, bringing benefits to the patient such as aesthetics, function and reduction of clinical time, which is seen as an advantage for the patient(Júnior et al., 2014).]

On the issue of cleaning, both temporary and definitive complete dentures must come with a space of difference to the back of the vestibule that allows their correct cleaning, such space must allow the entry of interdental brushes or unitufo so that there is a removal of Effective plaque and food debris It is important to note that it is not recommended that complete dentures reach the bottom of the groove completely blocking access to smaller brushes, as this can cause a large accumulation of plaque in the region, increasing the chances of mucositis or in the worst case a peri-implantitis around the implants and mini-abutments (Santiago Júnior et al,. 2013).

Another important factor to remember is that patients with complete dentures on implants must also be instructed on how to clean their prostheses and implants. the new prostheses installed. It is common in modern dentistry that the clinician advocates the speed of care, often forgetting to give basic instructions to his patients on how to clean their teeth and dentures properly (Carvalho Alvez et al,. 2016). For that author. A correct hygiene instruction consists of the patient using the Bass technique where the patient places the brush bristles at a 45° angle in the gingival sulcus to remove plaque in this region using short and vertical vibrating movements with the brush bristles. After these steps, it is necessary to define the periods for the patient to return to the clinic to check the implants and prostheses and, if necessary, clean them.

In addition, to increase this success rate, previous reverse planning of the case is essential, starting with the anamnesis, followed by CT scans and surgical guide to assist in the installation of the implants, always

planning the prosthetic rehabilitation prior to the positioning of the implants (Nary Filho H et al., 2004). These factors help to have greater predictability of the case, reducing intercurrences.

The present case was obtained attentive to the details described by the bibliographic references relevant to the topic, in addition to documenting the step by step of each step. Biosafety protocols were strictly followed and the patient is under regular follow-up to complete the case.

IV. Conclusion

Therefore, it is concluded that rehabilitation with implants using the technique of implants installed immediately after the extraction of clinically condemned teeth is favorable and has high success rates, providing the patient with aesthetics and function from the initial stage to the end of the treatment. This treatment option also reduces the number and time of clinical sessions, optimizing treatment and making it easier for both clinician and patient to maintain clinical results and patient care.

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