

Clinical aspects in implant fixed prosthodontics oral rehabilitation. Case report

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Abstract: Benzodiazepine overdose has various clinical manifestation, mainly regarding the central nervous system (CNS), cardiac and respiratory side effects, but rarely results in significant morbidity and mortality. Acute benzodiazepine poisoning results in dizziness, ataxia, nystagmus, dysarthria, hypoxia, hypothermia, bradycardia, hypotension, apnea, pulmonary aspiration, respiratory depression, coma, cardiopulmonary arrest and death. Anyway, deep nonresponsive coma should be investigated for additional etiologies. On the other hand, human transmissible prion disease has a fatal outcome with no specific treatment.

Keywords: implants, osseous integration, staging, fixed prosthesis

INTRODUCTION

Each year endosseous dental implants gain greater acceptance among clinicians and patients. This has come about for several reasons, including excellent success rates published in long-term studies, improvements in fixture and abutment designs, more predictable surgical placement techniques, and increased consumer desire to have tooth replacement. Regardless of the implant system, the placement and functional success of endosseous implants is greater

than 90%) [1]. Fixed prosthodontic on implants is the most desirable treatment for the patients among the treatments on implants. When transforming a partially edentulous patient in a complete edentulous one, the transition difficult period can be avoided by keeping some teeth for fixed provisional, until the osseous integration of the implants is accomplished and the final prosthetic can be done [3]. In this regard, the importance of restoring patients with functionality during the implant healing period has grown in recent decades [7].

This paper presents a staged protocol of the patient's treatment that made the case easier to manage and offered a better comfort in the transition period.

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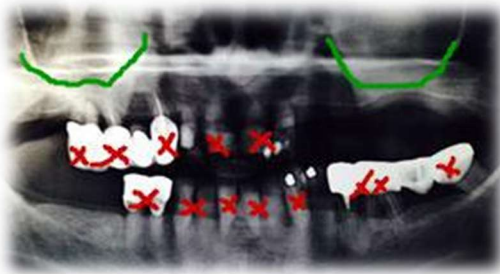
CASE REPORT

Material and method

T.S., a 66 years old female patient, with a general medical history of chronic C hepatitis, presented with a mucocell in the sinus cavity and a T,L-T maxillary edentation and L-T mandibular edentation, with inadequate fixed restorations, both in upper and lower jaw. An accurate and complex clinical examinations was performed, including the prosthodontic, implant – surgical assessment, panoramic radiograph and computed tomograms for both jaws. The intermaxillary relationships were carefully examined and the OVD was recorded (5.7 cm).

A comprehensive treatment plan was proposed and decided, following the conclusions from the diagnosis findings. Thus, all the remaining teeth were in a poor dental status and needed to be extract, but in a staged approach, as in figure 1.

Figure 1: Initial dental status



The 1st step was the surgical one on the maxillary arch. So, after CT, Rx measurements and evaluation of bone volume and density related to prosthetic planning dental implants position was decided the placement of 3 implants (Superline, Dentium) (2.2/2.4/2.6). Prior to this was performed the left sinus mucocel evacuation. Meantime was performed also the internal sinus lifting with mineral bone grafting (Osteon, Dentium).

The 2nd surgical step. After the healing period (2 months), right sinus lifting was performed with same materials and were placed 3 implants (1.4/1.5/1.6).

By the time of implants osseous integration, the 11 and 21 were kept in order to provide patient's minimal aesthetic and functional comfort. Provisionals, immediate loading – nor fixed or removable couldn't

be used due to bilaterally sinus lifting with bone grafting materials and the bone density. (Figure 2)

Figure 2: The clinical situation before the 3rd step



Meanwhile the 6 upper jaw implants osseous integration, the 3rd surgical step, consisted in the placement, on the lower jaw, of 2 implants (4.6/4.7) and 1 implant in the upper jaw (1.2), all of them prosthetic driven. After the evaluation of the occlusal vertical dimension (OVD) that we recorded and preserved, the vertical space was assessed as well as mandibular implants positioning in order to obtain correct occlusal relationships.

In the 4th surgical step the insertion of 2 frontal mandibular implants (3.2/4.2) and 2 left lateral mandibular implants (3.4/3.6) was performed. 3.3/3.4/4.3/4.4/4.5 for fixed provisional. The extracted teeth were: 1.2/1.3/1.5/1.6/2.2 initially and just before the implants uncovering, 1.1 and 2.1, in the upper jaw and 3.1/3.2/3.5/4.1/4.2/4.6/4.8 in the lower jaw and 3.3/3.4/4.3/4.4/4.5 were used for provisionals. (Figure 3)

Figure 3: Panoramic radiograph after the implant's placement



RESULTS AND DISCUSSIONS

Due to the case complexity, because of the surgical aspects (13 implants insertion), bilaterally internal sinus lifting with bone grafting and the evacuation of a

muco-cell, related to the prosthodontic ones, meaning the complete fixed bimaxillary rehabilitation, have made the treatment to last 1,5 years until the final prosthetic rehabilitation that we will describe next.

Due to the staged surgical approach, there was no possibility to split the final prosthetic work in more segments, nor in maxilla or mandible, so we produced 2 full – arch restorations on implants.

The idea of the final prosthetic treatment was to rehabilitate simultaneously the 2 jaws in order to split optimally the vertical prosthetic space. So, after all implant's uncovering and the last teeth extraction the healing abutments were applied and after 10 days the impression was taken. Monopren transfer (Kettehbach) was used as impression material, in an open individual tray technique, using transfer abutments.

The work casts were obtained with the analogue implants in their position. On this casts, occlusion rims were made for the intermaxillary relationship registration. All the steps were performed in order to establish accurately the occlusal and intermaxillary relationships: the vestibular curve of the upper occlusion rim was esthetical and phonetic established. The occlusal plane's level and direction were established using the usual methods and also the patient's youth photo, that provided a lot of useful information, such as the visibility of the 6 frontals. The initial correct OVD was kept and the 2 rims were fixed in the correct CR position. The information about the facial midline, the smile line and canine lines, together with other information regarding the teeth colour, size, form, arrangement and positioning were transmitted to the laboratory.

After the intermaxillary relationship registration, the dental lab produced the metal frame of the prosthetic work. The trial of the metallic part was done related to the axial and cervical marginal fit. With the patient's agreement, the last esthetical decision were taken, regarding the colour and form of the artificial teeth, to provide the dental lab all the information for the ceramic application. In the dental lab Vita ceramic layers were applied.

The try-in of the prosthetic work was done, aesthetic, phonetic and occlusal relationships and intermaxillary, horizontally and vertical. Also, occlusal adjustments were performed. Then the 2 fixed prostheses were glazed and polished.

The final work was provisional cemented and then definitively (Figure 4).

Figure 4: Final result



Figure 5: A 3 year follow up



Figure 6: Final occlusal relationship



The follow-up was done, after 6 months and then after 3 years, and the results can be observed on the panoramic radiograph and indicates a very good situation.

CONCLUSIONS AND CLINICAL IMPLICATIONS

For many patients, as for the patient's case that we described previously, the transition between the dentate state and the completely edentulous state, with removable provisional is difficult to accept. That's why we choose a staged approach for our case, with strategic extractions and implants applied in 4 surgical

different phases. The provision prosthetic was a fixed one, the major advantage of this treatment protocol. The treatment planning in such complex cases represents a challenge for the implantologist and prosthodontist and for the patient and our presented protocol facilitates the transition from a destroyed dentition to a full-arch reconstruction.

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