

Sequential surgical guide for full arch immediate implant placement and provisionalization in high risk patient

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ABSTRACT

Background: Incorporation of virtual engineering in Dentistry and the digitalization of information are giving new perspectives for dental treatments. Implant planning software allows the combination of radiology, prosthetic and surgical fields under a common virtual scenario, creating the designated virtual patient. This allows an optimized treatment planning and, when possible, the use of least invasive surgical techniques, with the patient experiencing a better postsurgical course with a faster tissue healing.[1]

Case Report: 54 years-old male presented with a chief complaint of teeth advanced mobility and an ill-fitting maxillary removable partial denture. Patient was a former smoker, no relevant medical history, with a Stage III/B Periodontitis and diagnosed with bruxism. The case was classified with high risk according to the ITI® SAC classification. Treatment plan: rehabilitation of the maxilla with dental implants and an immediate loading with a provisional fixed prosthesis. To perform this treatment, sequential surgical guides were developed: 1– Tooth-supported guide to place anchor pins; 2– Tissue-supported surgical guide (after teeth extraction), retained with anchor pins to place dental implants (two of them, immediate); 3– Tissue-supported prosthetic guide, retained with anchor pins, to do a pick-up of provisional abutments and finalize the provisional prosthesis.

Three months after provisionalization patient initiated the procedures for the definitive zirconia monolithic prosthesis, with a titanium-bar framework. Then, a centric relation splint was done to protect the prosthesis and temporomandibular joints. Within a follow-up period of 1 year, the success/survival rate is 100%, and patient is very satisfied with the rehabilitation, that has an alpha score according to the modified USPHS criteria.

Conclusion: Sequential surgical guides to assist patients with severe periodontitis for immediate full arch implantation and immediate restoration can expand the indications of guide assisted implant surgery. It meets the safety requirements in clinical applications.

Informed consent from the patient was obtained to publish in open access.

References

1. Lanis A, Llorens P, Álvarez Del Canto O. Selecting the appropriate digital planning pathway for computer-guided implant surgery. *Int J Comput Dent.* 2017;20(1):75–85.