

Evaluation of Short-Term Success Rate of Pterygoid Implants Placed With or Without Surgical Guide

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ABSTRACT

Background and Objectives: Pterygoid implants represent an alternative approach for rehabilitation of posterior maxilla, and it challenges the standard procedures such as sinus lifting which has high morbidity and long healing time. There is limited data in the literature regarding the use of surgical guide to increase the success rate of pterygoid implants. Therefore, this study compared the results of pterygoid implants placed with or without surgical guide. In addition, evaluation of the effect of smoking on the success rate of pterygoid implants was a secondary aim.

Methods: A prospective interventional study in which patients receiving free-hand (without surgical guide) pterygoid implants, designated as control group (12 participants, 19 implants) was compared to patients receiving guided pterygoid implants (9 participants, 11 implants). In both groups, standard two-piece implants were used. Osteointegration was tested clinically by reverse torqueing at 25 N/cm after 3 months from surgery.

Results: In the free-hand group, 18 implants osseointegrated with 1 implant failed, and in the guided group, 9 implants osseointegrated with 2 implants failed. There was no statistically significant difference regarding implant success rate between the two groups. In addition, smoking did not show statistically significant correlation with implant success.

Conclusion: Both groups showed high but similar success rate. As surgical guide did not increase the success rate of pterygoid implants, surgeons need to consider cost/benefit analysis of guided surgery in pterygoid implants. In addition, smoking did not result in increase of pterygoid implant failure, making its use within these patients recommended.

Keywords: Pterygoid, Dental Implant, Posterior Maxilla, Guided Implant Surgery, Rehabilitation, Smoking.

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