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Editorial

Short implant in posterior maxilla: Mandate to the path of success in dentistry

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For patients who need a permanent tooth replacement, dental implants have shown to be the best option. In the majority of cases, dental implants can be properly placed; nevertheless, some clinical circumstances, including diminished bone dimension, may be very difficult. This issue typically arises in the posterior maxillary bone, where sinus pneumatization following tooth extraction frequently results in insufficient vertical bone height for implant insertion. The gold standard for sinus floor elevation with extremely predictable outcomes has been lateral window surgery followed by bone grafting before implant insertion.

New ideas for dental prosthesis planning were introduced by the rehabilitation using implants, and this method gave patients a reliable masticatory function in addition to well-established aesthetic options. Despite this, a rehabilitation technique like this necessitates the possibility of basal bone or remanent tooth socket osseointegrated implant implantation. Otherwise, implant-supported prosthesis planning will be constrained, necessitating alternative treatments to meet the needs of the patient.

For implant therapy to be regarded as a primary treatment option, it must satisfy both aesthetic and functional standards. The immediate placement of endosseous implants into extraction sockets is known to achieve a high success rate of between 94 and 100%, in comparison to the delayed placement, with the aim of reducing the process of

alveolar bone resorption and treatment duration.

In order to obtain optimal primary implant stability, the osteotomy site should be inadequately prepared and the drilling should stop at a diameter that is smaller than the implant diameter. One should be mindful of some risk concerns while using short dental implants, such as a larger crown-implant length ratio, high bone density in the area, and a higher bite force. As a result, some techniques are needed to reduce stress. These include splinting numerous implants together with splinted crowns, reducing the size of the crown in the bucco-palatal dimension to reduce the lateral force on the restoration, and eliminating cantilever as much as possible. As an alternative, short dental implants have been suggested treatment to make implantation operations more straightforward in badly damaged alveolar ridge, in order to protect important structures, reduce surgical pain and the possibility of complications connected to invasive surgical techniques.¹

By using short dental implants, the necessity for bone augmentation may be reduced. In a recent analysis of randomised clinical trials involving implants inserted in enhanced sinuses, the predictability of short implants was evaluated. When compared to long implants, short implants (length less than 8 mm) have a predicted survival rate and three times less postoperative problems. Similar to lengthy implants, short implants in posterior partial edentulous region have shown a high initial survival rate. As previously indicated, shorter dental implants may be the best option for

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treating atrophic alveolar bone since they have been linked to less biological issues, lower morbidity, lower costs, and shorter surgery times. [Figure 1]

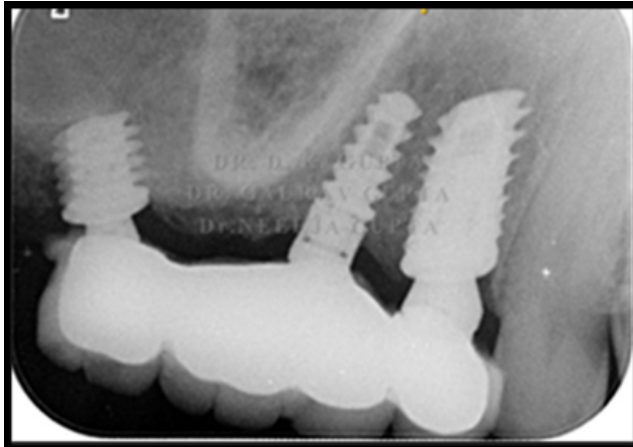


Fig. 1: X-ray showing short implant swiss implants placement in posterior maxilla.

Despite a contentious beginning, immediate implants are commonly accepted. The literature that is now available regularly reports a high success rate, averaging between 94 and 100%. A reduction in morbidity, a decrease in alveolar bone resorption (clinical studies show an average of 4.4 mm of horizontal and 1.2 mm of vertical bone resorption after 6 months of extraction), preservation of gingival tissue, preservation of papilla in the aesthetic zone, reduction in treatment time and cost are just a few advantages of immediate implants.

One should be aware of some risk concerns while using short dental implants, such as a larger crown-implant length ratio, high bone density in the area, and a higher bite force. As a result, some techniques are needed to reduce stress. These include splinting numerous implants together with splinted crowns, reducing the size of the crown in the bucco-palatal dimension to reduce the lateral force on the restoration, and eliminating cantilever as much as possible.

Short implants may be at risk of biomechanical issues such as overloading or non-axial loading, which can result in crestal bone loss. Occlusal table reduction and occlusal cusp attenuation should be carried out in order to reduce the likelihood of such issues. The fact that the prosthesis was modified to increase a favourable load distribution makes this instance compatible with all of those that have been previously described.²

The outcome of the treatment may also depend on the quality of the bone and the placement of the implant. According to certain research, the mandible has a higher survival percentage for short implants than the maxilla. It can be secondary to differences in bone density between the two jaws. This was also attributed to a decrease in stress concentration around the implant and an improvement in the mechanical characteristics of the implant-bone interface, which helped to compensate for the shorter implant length by facilitating primary stability and early osseointegration.

Conflict of Interest

None.

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