EVENT ABSTRACT

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Spiderimplant: an innovative implantological approach to the treatment of atrophic maxilla.

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Aim.
The authors describe a new implantological methodology for the treatment of atrophic maxilla without the need of any reconstructive surgical procedures (such as sinus augmentation, bone graft, and guide bone regeneration). This minimally-invasive approach, called “Spiderimplant”, consisting of the joining of several components such as fixtures, customized bone plates, screws and abutments.
Materials and Methods.
CASE 1: A 68-year-old Caucasian female present complete edentulism with severe atrophy of the left maxilla. The patient is treated to “Casa di cura E. Montanari” Private Hospital in Morciano di Romagna, Italy. The patient refuses invasive treatment such as onlay graft, split-crest and guide bone regeneration. After careful evaluation of edentulous maxillary area with a 3D model, the patient is informed about surgical “Spiderimplant” procedure and she accepts this new treatment with written consent. The patient is treated with traditional implants (Tekka, Global D, Lione, France), when it is possible, and with Spiderimplant (Spiderimplant Srl, Fano, Italy) in zone 24. The CAD/CAM technology is used to create the Spiderimplant. Under local anesthesia, a supra-crestal incision is made. Piezo electrical preparation is preferred. Then, a Spiderimplant consisting of the plate-abutment and two mini-implants (Twinimplants 2.9 x 6 mm) is applied in zone 24 using the specific protocol. After suturing the soft tissues, the removable complete denture is immediately applied in the mouth of the patient. Definitive loading with fixed prosthesis is made at 6 months from surgery. The patient is given proper oral hygiene instructions and scheduled for follow-up every 3 months for 5 year.
CASE 2: A 66-year-old Caucasian male present severe maxillary atrophy in zone 24-25. A 3D model of the maxillary arch and the surrounding bone is made and used as the preoperative model. CAD/CAM technology was used to create one customized Spiderimplant (consisting of the joining of 1 abutment and 1 customized bone plates). In this case, three 2.7 x 6 mm mini-implants (Spiderimplant Srl, Fano, Italy) are used in zone 24. All the surgical procedures for the placement of Spiderimplant are similar to Case 1. In this case also two traditional implants (Tekka, Global D, Lione, France) are inserted in zone 25 and 27. After suturing the soft tissues, the prosthesis provisional is immediately applied in the mouth of the patient: this prosthesis is fixed immediately to two Tekka implants. Definitive fixed prosthesis is made at 6 months from surgery. The patient is given proper oral hygiene instructions and scheduled for follow-up every 3 months for 5 year.
Results.
At the follow-up appointments, there were no discernable clinical or radiographic changes around the dental implants, including Spiderimplant. Furthermore, bone formation around the Spiderimplant placement is observed, as highlighted by transparent 3D CT image protocol. After a 5-year follow-up period, the patient maintained a good aesthetic and functional result.
Discussion.
This new surgical technique seems to be safe and accurate, confirmed by absence of clinical or radiographic changes and the maintenance of good aesthetic and functional results after a 5-year follow-up. Indeed, radiological and clinical evidence show a correct integration of endosseous components and a perfect soft tissue integration of superficial elements (customized bone plates). It is important to highlight that the connection between customized plates and mini-implants is always self-locking. Moreover, the versatility of this system allows its use for several clinical situations. Future experimental and clinical studies are needed to confirm the current excellent results.

References

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Keywords: Oral implants, Jaw bones, Atrophic maxilla, Zygomatic implants, Minimally-invasive surgery

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