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CLINICAL CASE

FULL ARCH SOLUTION WITH IMMEDIATE LOADING, ZYGOMATIC AND HELIX SHORT IMPLANTS IN A CASE OF ATROPHIC MAXILA

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NeoArch® Solution

CLINICAL CASE

Full arch solution with immediate loading, zygomatic and Helix Short implants in a case of atrophic maxila

RESPONSIBLE SURGEON

DR. GENINHO THOMÉ

BRAZIL

CEO of ILAPEO;

Scientific President of Neodent®;

MSc and PhD in Implantology;

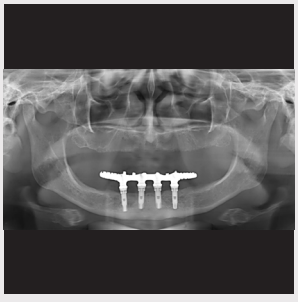
Chairman of the Board of Directors of Neodent®.

Collaborating team:

Dr. Carolina Accorsi Cartelli, Dr. Jean Uhlendorf and Dr. Sérgio Rocha Bernardes.

PATIENT MEDICAL HISTORY

A 66-year-old patient was being treated for chronic diseases that had been compensated with the use of medication and been smoker for 40 years. Upon intraoral physical examination, it was observed that the patient was completely edentulous in the maxilla with the use of a conventional complete denture and a total edentulous mandible already rehabilitated with four implants and an implant-supported full arch prosthesis. Initial computed tomography was performed for bone evaluation, in which could be observed an atrophic maxilla.



PLANNING

After tomographic evaluation and request for the maxilla prototype, it was decided that bilateral posterior zygomatic implants and three conventional implants would be performed in the anterior region. For the surgical and prosthetic planning, the following steps were carried out: anatomical impression, adjustment of the wax orientation planes and teeth testing, where it was possible to confirm that the prosthesis would be of the protocol type. The multifunctional guide was made by duplicating the wax assembly.

Images kindly provided by Dr. Geninho Thomé.

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DESCRIPTION OF THE SURGICAL PROCEDURE

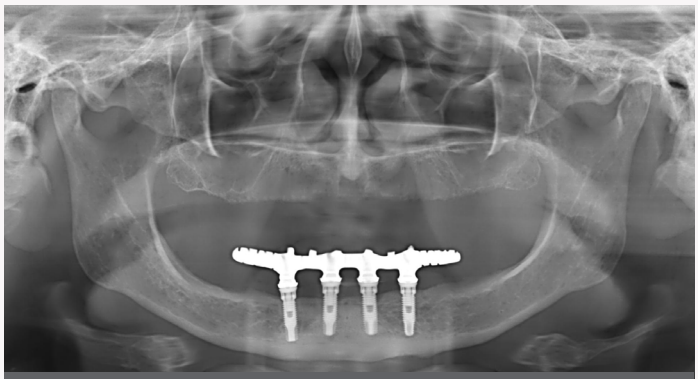
The procedure was performed under intravenous sedation, and with local anesthesia in the superior alveolar, incisor and palatine nerves. A supracrestal and oblique incision was made, flap detachment with sufficient visualization of the zygomatic arch. Instrumentation was performed with the drills following the manufacturer's instructions for type II bone and the installation of two Zygoma-S GM implants 3.75 x 40mm and 3.5 x 40mm in the regions of teeth 16 and 26 respectively. Two Helix Short Neoporos® implants of 4.0 x 8.0 mm in the regions of teeth 12 and 22 and finally, a Helix Short Acqua™ 6.0 x 7.0mm implant in the midline region of the maxilla. The three anterior implants had a final torque greater than 60 N.cm. Next, five angled GM Exact Mini Conical Abutments with a transmucosal height of 1.5 and 2.5 mm were used, with a torque of 20 N.cm, with the GM Exact Mini Conical Abutments 60º for regions 16 and 26 and with an angulation of 17º for regions 12 and 22 and midline. Then a simple suture was performed. The patient's upper denture was then captured using the removable denture conversion system recommended by Neodent®. The patient's postoperative medication prescription included the use of antibiotics and analgesics for pain control. The suture was removed 10 days after surgery and there was good soft tissue healing.

NEODENT® MATERIALS

- GM Zygoma-S
- Helix Short
- GM Exact Mini Conical Abutment
- Slim Mini Conical Abutment Open Tray Impression Coping

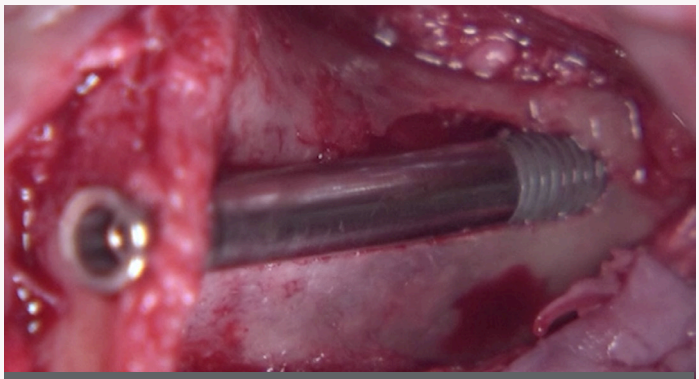
PROSTHETIC DESCRIPTION

After 45 days of the surgical procedure, a transfer impression was taken to make the definitive prosthesis. The Slim Mini Conical Abutment Open Tray Impression Coping were installed, attached to each other and to the multifunctional guide using acrylic resin and occlusal registration in centric relation, followed by the insertion of the impression material, the addition silicone. Based on the plaster model obtained in the laboratory and a test of the teeth in wax to confirm the final position of the prosthesis, a titanium bar was milled, and the definitive prosthesis was acrylized. The prosthesis was adjusted following the bilateral balanced occlusion.

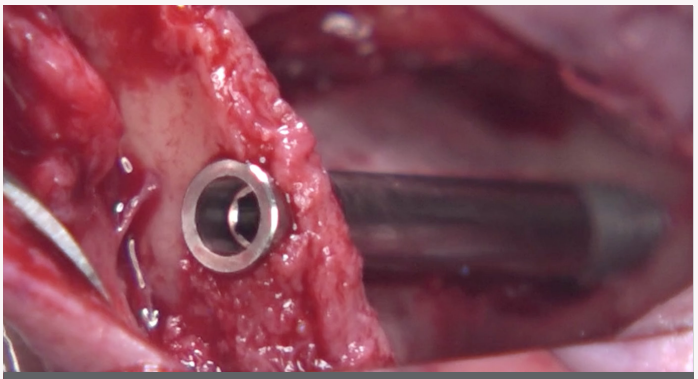


1. Initial radiographic aspect.

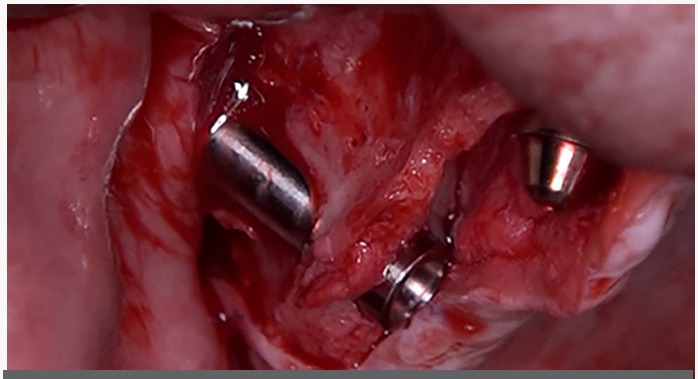
2. Initial clinical aspect, buccal view.



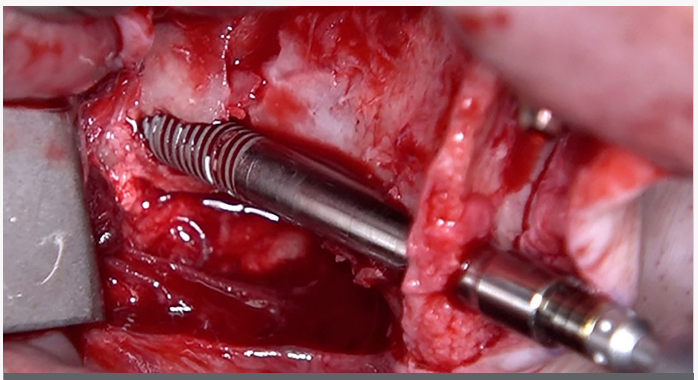
3. Intraoral aspect after the implant placement in the left zygomatic region, focus on the apical region of the implant.



4. Intraoral aspect after the implant placement in the left zygomatic region, focus on the cervical region of the implant.



5. Intraoral aspect after the implant placement in the right zygomatic region, focus on the cervical region of the implant.

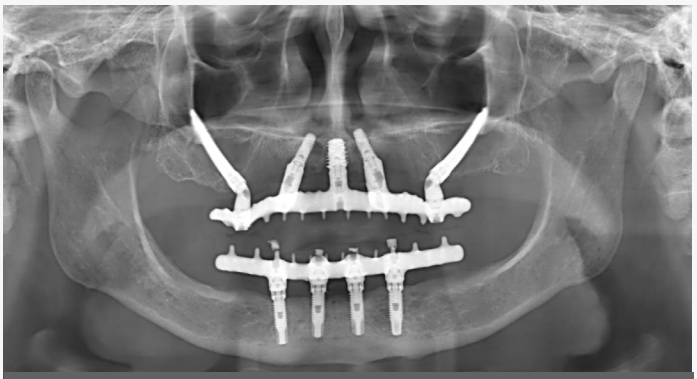


6. Intraoral aspect after the implant placement in the right zygomatic region, focus on the apical region of the implant.

7. Intraoral aspect after installation of immediate provisional prosthesis.

8. Intraoral aspect in one month follow-up after the surgical procedure.

9. Intraoral aspect after installation of definitive prosthesis.



10. Radiographic aspect after the definitive prosthesis installation.

11. Intraoral aspect in six months follow-up after the surgical procedure.

12. Follow-up of six months after installation of the definitive prosthesis.

TIPS AND INSIGHTS

What were the other treatment options?

In this case, we would have the option of making a new removable prosthesis, but the patient was interested in a fixed rehabilitation, like the one the patient had in the lower arch. For an implant-supported fixed rehabilitation to be possible, one option would be a bilateral maxillary sinus lift, waiting six to eight months for the evaluation and then planning the implants and fixed prosthesis protocol. The other option would be to use zygomatic implants in the posterior regions and conventional implants in the anterior region, allowing a single surgery and application of immediate loading. The second option was chosen.

What were the challenges during the treatment and how were they solved?

The analysis of the panoramic radiography in this case is a very important point to highlight, as it alone would not allow a real notion of the case, which could lead the dentist to a serious planning error. It was possible to carry out a correct planning of the case when analyzing the CT together with a prototype of the maxilla and consequently the ideal conduction of the case considering the rehabilitation with implants and prosthesis protocol.

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It is the clinician's exclusive responsibility to evaluate the patient's health conditions and viability of the procedure. The reproduction of this clinical case does not imply the success of similar procedures, as it will depend on the clinician's technique and ability, on patient's conditions on the previous and post procedure.

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