Quad Zygomatic Implants and immediate loading for the Severely Atrophic Maxilla; A Case Report.

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Diagnosis of the case;

The zygomatic implant is another means to establish posterior support in patients who lack remaining alveolar bone. Zygomatic implants have a high primary stability enabling immediate loading with a fixed restoration avoiding the average nine-month wait and multiple surgeries required with grafting. The limited intraoperative visibility, the vicinity of critical anatomical structures, as well as the inherent intricacies of the curved zygomatic bone, make this type of surgery a demanding procedure.

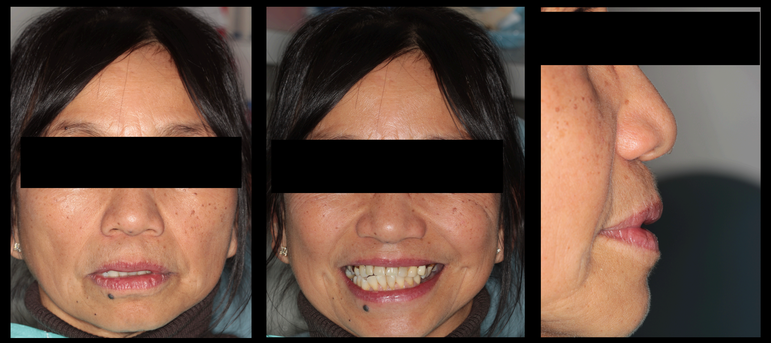

Figure 1. Initial extra-oral photographs of the patient

Treatment Procedure;

A 58-Year-old Hispanic female with no significant medical history presented to the private practice with this chief complaint; “My partials move when I eat; I need implants”. Upon a comprehensive oral exam and CBCT scan review, a diagnosis of a partially edentulous atrophic maxilla and mandible was concluded (Fig.1 & 2). Patient was presented with both grafted and graft-less options for a fixed dental implant restoration.

Figure 2. Initial intraoral photographs of the patient

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Treatment Procedure;

Patient decided to proceed with the graft-less approach/zygomatic implants after the pros and cons of each treatment modality was discussed with her. Preprosthetic diagnostic evaluation included an evaluation of esthetics, phonetics, lip, and orofacial contours. Maxillary and Mandibular immediate dentures were fabricated. To aid in implant placement complete dentures were duplicated in clear acrylic for the guide.

Surgery was performed under Intravenous (IV) sedation. Full thickness mucoperiosteal flap was elevated with clear visualization of the maxillary buttress, nasal aperture, and the zygomatic base. The surgical guide was placed to idealize the depth and implant prosthetic emergence (Fig. 3).

After placing four zygomatic implants and suturing the mucosa, the immediate processed dentures were tried in, utilizing the palatal seat for the Maxilla and occlusal record that was made prior to surgery for the mandible. After picking up the temporary cylinders in the mouth, the prosthesis was removed, and all borders, palate, and extensions consistent with a complete denture cut back. The prosthesis was returned to the patient's mouth and occlusion was adjusted (Fig. 4).

Postoperative medications included Augmentin, Medrol dose pack, Norco, Motrin, OTC decongestant, and chlorhexidine for 1 week.

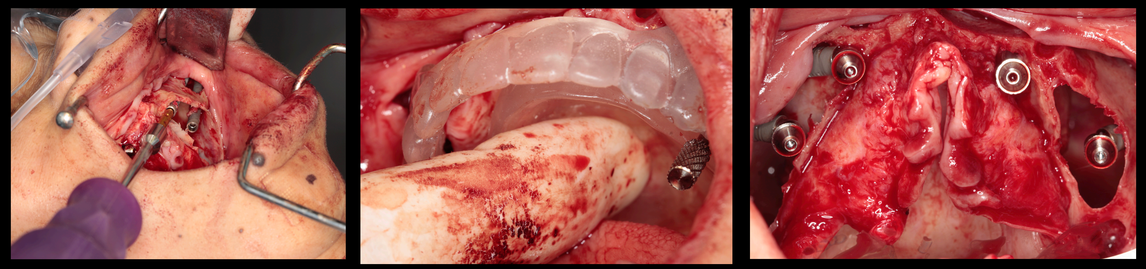

Figure 3. Sugical procedure of zygomatic implant surgery under IV sedation

Figure 4. Same day acrylic teeth for maxillary and mandibular arch

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Treatment Results;

The patient was given follow-up instructions, including diet restrictions. The patient was seen postoperatively at 1, 3, 8 and 16 weeks, respectively. At the conclusion of the 6-month healing time, construction of the definitive prosthesis will be commenced. The options for a definitive prosthesis fall within two categories: metal-acrylic and zirconia. Patient reported improvements in self-esteem and quality of life compared with the time she was wearing the removable prostheses.

Conclusion;

Bilaterally placing zygomatic implants and immediately loading the prosthesis is a predictable treatment option for the reconstruction of the severely atrophic maxilla (Fig. 5 & 6). Advantages include fewer surgical procedures, shortened treatment time, predictable immediate load, no need for adjunct grafting and overall a higher acceptance rate from patients'prospective.

Figure 5. Pre-op CBCT

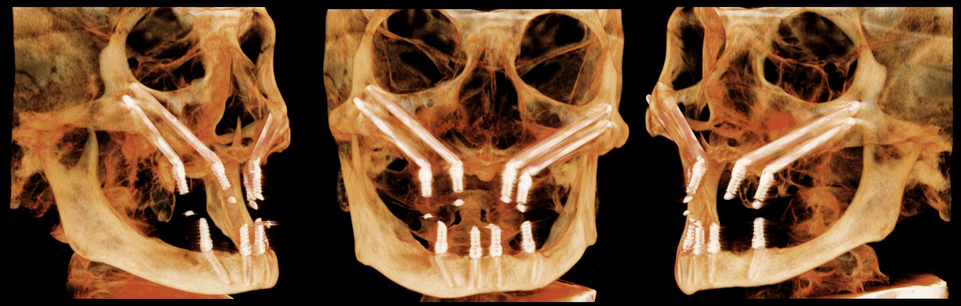

Figure 6. Post-op CBCT

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Treatment of the atrophic maxilla is a challenge from both perspectives; surgical and restorative. This case proves that the use of four immediately loaded zygomatic implants is a predictable tool in restoring these patients to function and esthetics in a shortened treatment time.Immediately loaded prostheses have a profound and immediate effect on a patient's Oral Health Quality of Life. This is seen with regards to increased function, better esthetics, and positive psychological changes. Patients with fixed prostheses report improvements in self-esteem and quality of life compared with those with removable prostheses (Fig. 7 & 8).

Figure 7. Three weeks post-op

Figure 8. Three months post-op