

THE ASSESSMENT OF REHABILITATION METHODS IN PATIENTS WITH SEVERE UPPER JAW ATROPHY

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Keywords

implantation, zygomatic implants, bone grafting

Introduction

Insufficient bone volume is difficult to manage in rehabilitating patients with maxillary atrophy. The currently available solutions are:

- increasing the bone amount followed by standard implantation
- the alternative method by using zygomatic implants without preimplantation bone growth.

Purpose

Comparative evaluation of standard versus alternative methods of rehabilitation in patients with severe maxillary atrophy.

Material and methods

Study was axed on 12 patients, aged 32 - 67 years, mean age 54.5 years, divided into 2 groups. Patients in group I (7) were rehabilitated by zygomatic implants without bone grafting, and patients in group 2 (5) were rehabilitated by bone grafting, with delayed implantation. Patient data was processed in Sidexis 4.2 and Microsoft Excel.

Results

In group I, 4.42 implants / patient were used, 1 intervention was performed under general anesthesia, 1 under local anesthesia with intravenous sedation and 5 under local anesthesia only. The patients underwent a single surgery with an average duration of 134 minutes and the functional rehabilitation of the patients lasted an average of 6.28 days. In group II, 8.4 implants / patient were used, all 5 bone grafting procedures were performed under general anesthesia, and subsequent interventions were performed under local anesthesia, the average summary time of surgery was 385 minutes. The functional rehabilitation lasted on average 12.8 months.

Conclusions

The study demonstrated the effectiveness of both methods, but showed that the alternative rehabilitation method can be performed in a shorter time, with a smaller number of implants, mostly under local anesthesia, in a single surgery with a shorter duration.

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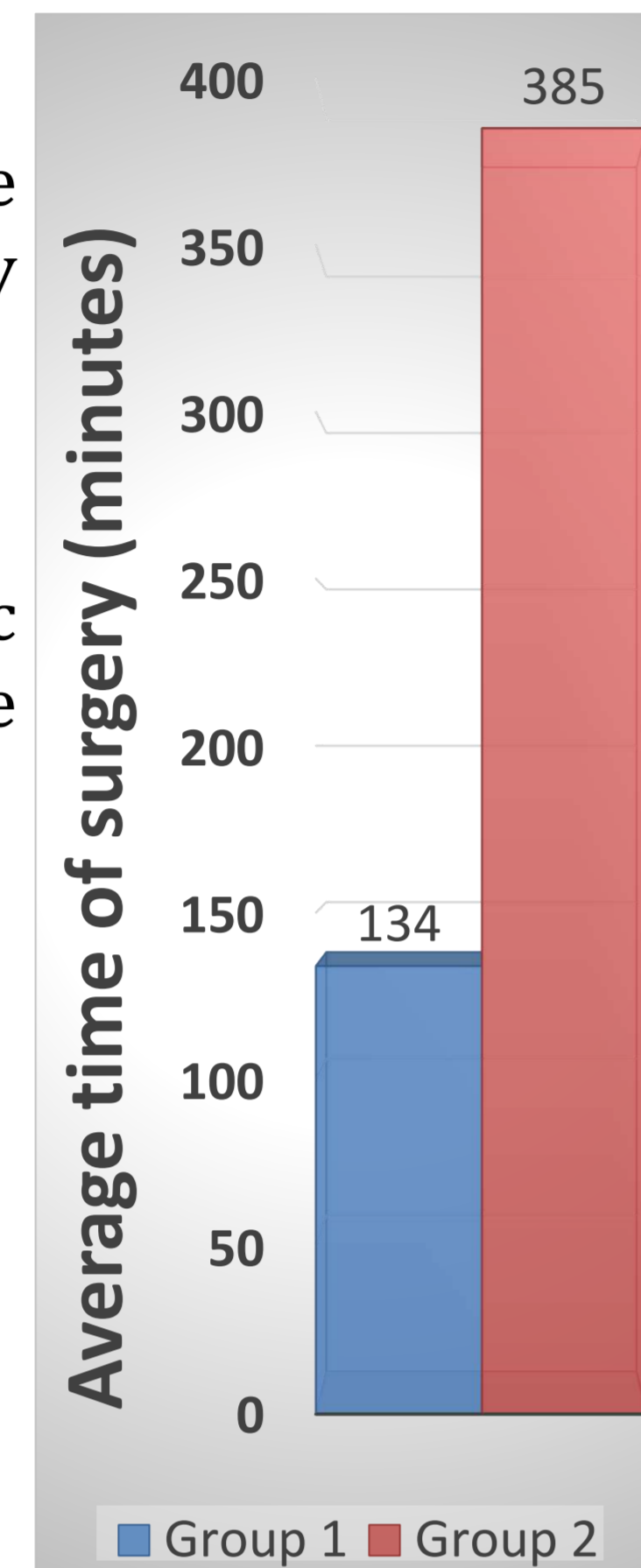


Chart 1
Average surgery time

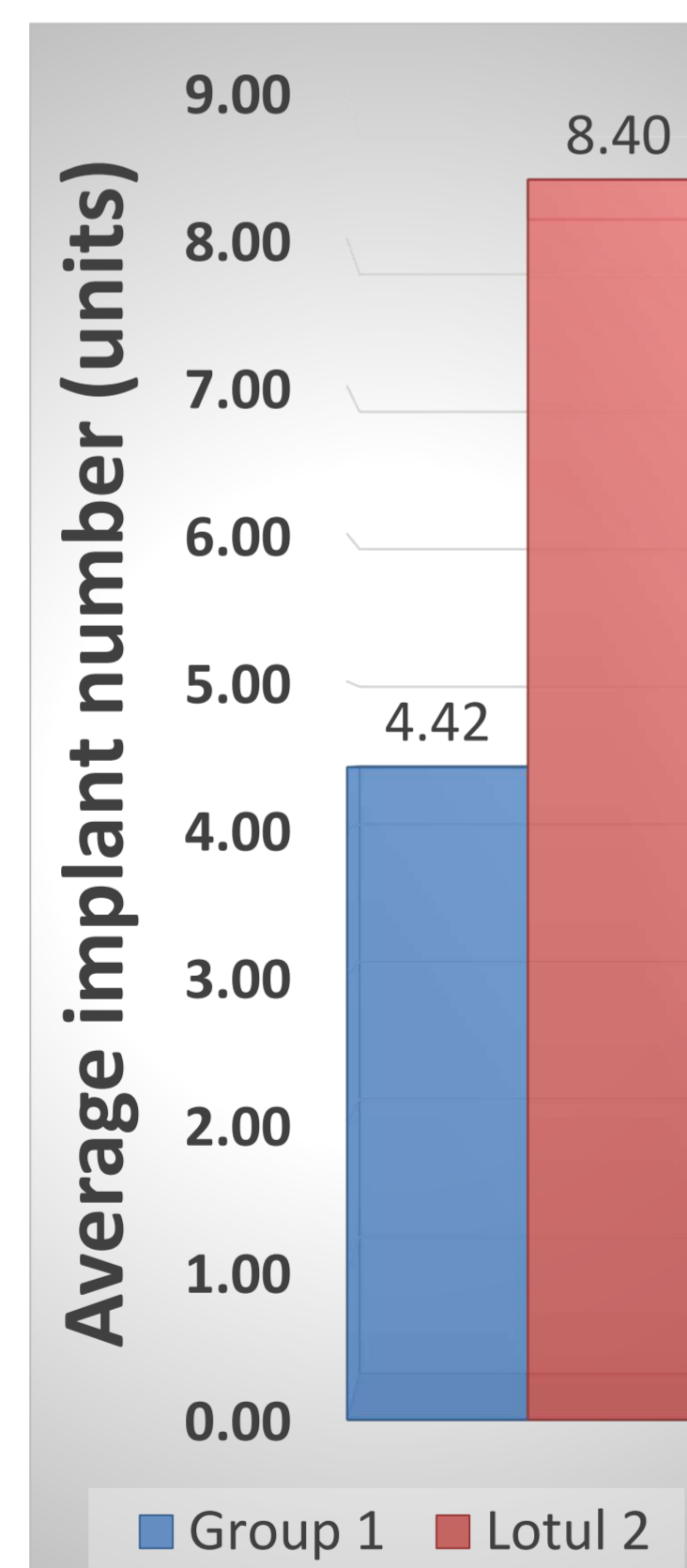
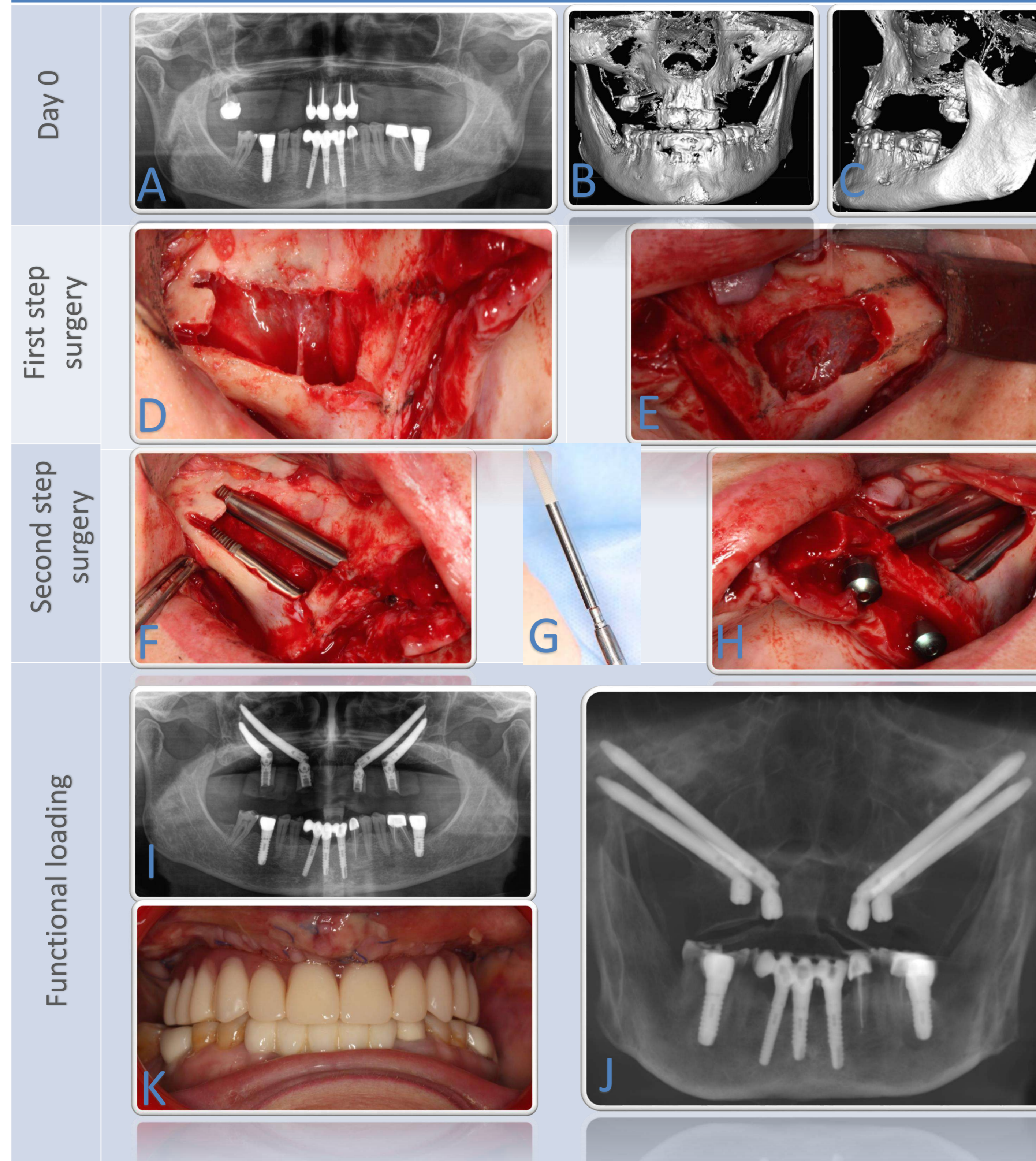


Chart 1
Average implant number

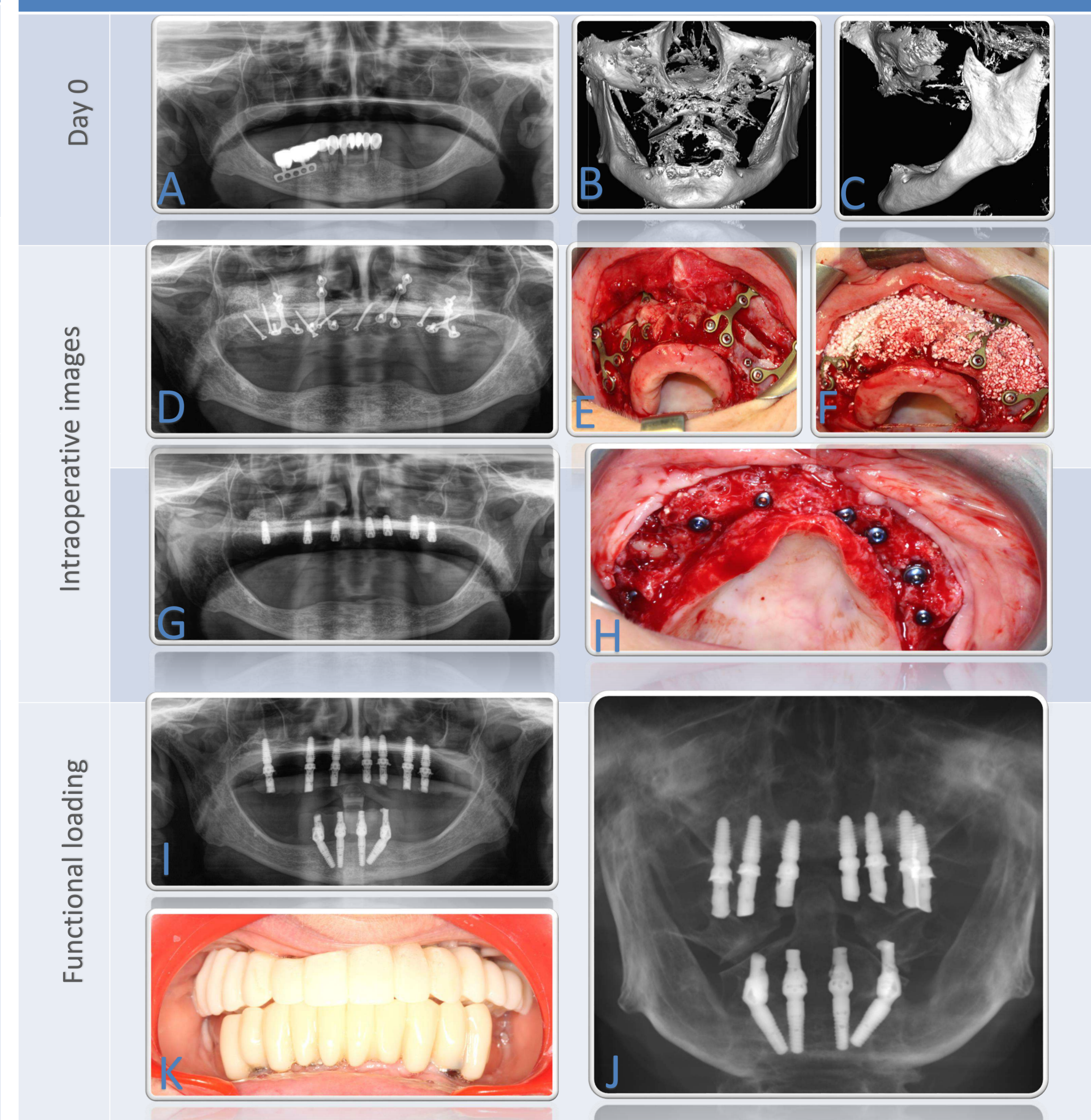
Zygoma protocol Group I



Average duration of functional rehabilitation 6.28 days.

Fig.1 Image: A- preoperative orthopantomography; B-preoperative CBCT 3D Reconstruction, anterior view; C- preoperative CBCT 3D reconstruction lateral view; D- Intraoperative image –sketching implant direction and osteotomy of sinus lateral wall (right side); E- Intraoperative image –sketching implant direction and osteotomy of lateral wall of sinus (left side); F- intraoperative image of implants in situ (right side); G- image of zygomatic-implant; H- intraoperative image of implants in situ (left side); I-postoperative orthopantomography after installing multi-unit abutments and fixing the temporary prosthesis; J- Postoperative CBCT image antero-posterior view; K- image of fixed temporary implant- supported prosthesis.

Bone Grafting protocol Group II



Average duration of functional rehabilitation 12.8 months.

Fig.2 Image: A- preoperative orthopantomography; B-preoperative CBCT 3d Reconstruction, anterior view; C- preoperative CBCT 3d reconstruction lateral view; D- Postoperative Orthopantomography bone grafting stage; E- intraoperative image of LeFort I osteotomy, repositioning and fixation with titanium plates; F- intraoperative image of bone grafting; G- postoperative orthopantomography after implants placement; H- intraoperative image of implants placement; I-postoperative orthopantomography after installing multi-unit abutments and fixing the temporary prosthesis; J- Postoperative CBCT image antero-posterior view; K- image of fixed temporary implant- supported prosthesis.