

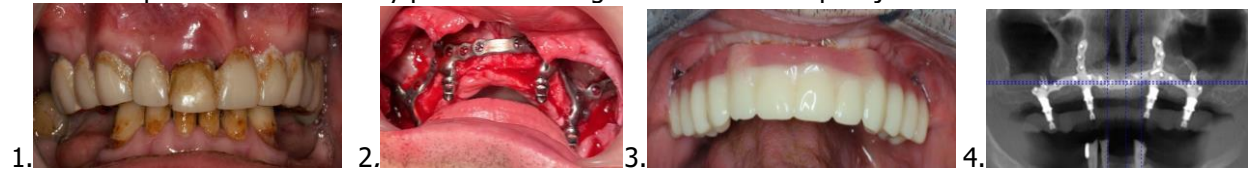
## PATIENT-SPECIFIC TITANIUM IMPLANT SOLUTION FOR TOTAL ATROPHIC UPPER JAW. A CASE REPORT

### Introduction.

Conventional implant procedures are often not possible in cases of significant atrophy, leaving patients with few treatment options. In this case report, we present a treatment method using a patient-specific titanium implant to address total atrophic upper jaw in a single operation. Every phase from first visit till 9 months postoperative was documented.

### Case Description;

A 48 year-old male presented to a prosthodontist with a failing total metal-plastic bridge. After dental revision, most of the maxillary teeth were extracted (excluding D13, D23) and removable partial denture was fabricated. As the patient was insisting on fixed prosthesis and due to extensive maxillary atrophy, simple implant based restoration was not possible. Primary D13, D23 extractions as well as soft tissue augmentation in the posterior region with Epiflex (decellularized human skin tissue) was carried out. Dual scan protocol was used together with an intraoral scanner using teeth in wax dentures with radio-opaque composite landmarks. Proper occlusion was achieved and using the dental arch as a reference implant pillar position was planned. Surgery was done under general anaesthesia (nasotracheal intubation). Implant was fixed with 29 bicortical screws. Surgery was 4 hours long. Immediate total prosthesis was fixed on the implant with ~15Ncm. Follow-up included the following sequence (1 day, 1, 2 weeks, 1,3,6 and 9 months after surgery) and except unrelated viral infection it was uneventful. The patient-specific titanium implant was successfully placed and integrated into the atrophic jaw.



1. *Fig. 1: Initial situation.* 2. *Fig. 2: Surgery phase with implant placement.* 3. *Fig. 3: Temporary fixed prosthesis.* 4. *Fig. 4: CBCT after operation.*

### Discussion.

This case report demonstrates the potential of patient-specific titanium implants as a treatment option for patients with significant alveolar bone atrophy. Further research is needed to fully understand the effectiveness and long-term outcomes of this procedure.