

Implant-Prosthetic Rehabilitation of an Edentulous Maxilla with Guided Implant Surgery: A Case Report and Literature Review

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Abstract

Background: The immediate function has become an accepted treatment modality for fixed restorations in completely edentulous patients. It is well known for having sufficient bone volume and density at the implant site to achieve primary stability, which is crucial for osseointegration and immediate loading. A new osteotomy technique has been recently introduced to increase primary stability by preserving autogenous bone chips at the implant site. In this report, a novel osseous densification approach was utilized in the treatment of completely edentulous patients, loaded immediately. The treated patients showed 100% survival rate in the first 6 months.

Objective: The current report purpose was to evaluate the clinical and radiographic outcomes of the immediately loaded full arch fixed prosthesis using a new osteotomy technique.

Material and Methods: Two consecutive patients received 7 implants (NobelBiocare, Parallel and Active, NobelBiocare) supporting 2 jaws (maxilla). The immediate restorations were supported by four implants, of which the two posterior implants were tilted. A new drilling technique (Densah, Versah) was used when bone volume and/or density was not enough to achieve primary stability. The provisional functional acrylic prosthesis was delivered on the same day of the surgery. All patients were followed for 5-6 months. Survival rate was determined at the patient and implant level. Radiological measurement of the marginal bone levels was performed.

Results: The overall follow up was 5-6 months. There was no implant failure in the first 6 month of the surgery, rendering cumulative survival rate 100% at the implant and patient level. The average marginal bone loss was 0.3 mm. Survival and success rate in the axial and tilted implants were not different. Good soft tissue was observed in the patients.

Conclusions: The present report indicated that a new drilling technique in the fully edentulous patients requiring an immediate loading with a low bone volume and/or density can be used successfully, and that acceptable marginal bone levels can be maintained.