

Macroplate fixation of fractures of the edentulous atrophic mandible: immediate function and masticatory rehabilitation.

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Source

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Abstract

The present study aimed at evaluating the treatment outcome of fractures of the edentulous atrophic mandible by means of an extraoral approach using open reduction and internal fixation with macroplates. Eighteen patients with 21 fractures of the atrophic mandible, who had been treated between 1997 and 2006, were retrospectively analysed. Mandible height was categorised according to the Luhr classification and the patients' general health (The American Society of Anesthesiologists (ASA) classification). Three types of titanium macroplates were used. Demographic data, treatment outcomes and the pre- and postoperative ability to wear mandible dentures were evaluated. The study population consisted of five men and 13 women with a median age of 78 years. The mean follow-up duration was 28 months. The most common cause of fractures was accidental falls (50%); the mandible was affected in 77.8%. Three fractures occurred in class I (bone height 15-20 mm), seven in class II (10-15 mm), and 11 in class III atrophy (<10 mm). According to the ASA classification, the collective showed a mean value of 3. An overall complication rate of 16.7% was noted, consisting of two minor and one major complication that required a second intervention. Five patients needed removal of the osteosynthesis material for prosthetic reasons. Only 50% of the patients were able to wear their dentures before surgery, and all but one were able to wear their prosthesis postoperatively. Treatment of atrophic mandible fractures with macroplates by means of an extraoral approach showed good results and a low complication rate. This procedure allows elderly patients to instantly load the mandible in the means of prosthetic and masticatory rehabilitation, preventing the necessity for second interventions.