23. MANAGEMENT OF SEVERE LATERAL MANDIBULAR ATROPHY THROUGH INFERIOR ALVEOLAR NEUROVASCULAR BUNDLE LATERALIZATION AND IMMEDIATE IMPLANT PLACEMENT. CLINICAL CASE

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Introduction. Rehabilitation of the mandible with severe atrophy in the lateral area represents a challenge due to extreme vertical resorption and proximity to the mandibular canal. Deficient bone volume limits conventional implantation, with the risk of damage to the inferior alveolar neurovascular bundle (IANVB) and insufficient primary stability. While vertical bone augmentation techniques require multiple-stage procedures, with increased morbidity and variable predictability, the method of lateralization of the IANVB with immediate implantation offers an effective solution in a single surgical procedure, without the above mentioned drawbacks.

Case presentation. Patient O. V. 52 years old, presented with functional masticatory difficulties. After clinical and paraclinical examination using OPG and CBCT, a diagnosis of secondary partial edentulism (Kennedy class 2) was established on the left mandible, with C-h type atrophy according to C.E. Misch, as a result of the loss of teeth 3.4, 3.5, 3.6, and 3.7. Given the height of the remaining bone (less than 5 mm), vertical bone augmentation in pre-implant preparation involved a high degree of morbidity and prolonged healing time. The treatment plan considered most favorable and predictable was IANVB lateralization with immediate implant insertion.

Discussions. Under local anesthesia with intravenous sedation, an incision was made, the mucoperiosteal flap was elevated, followed by vestibular cortical osteotomy with a piezotome to expose and lateralize the IANVB. Following canal release and nerve preservation, the implant sites were prepared and 4.0x10.0 mm implants were inserted in the positions of teeth 3.4, 3.6, and 3.7. The bone deficit was filled with autogenous bone chips (collected intraoperatively) and A-PRF membranes. The flap was repositioned and sutured. The postoperative period progressed without complications. The patient experienced transient paresthesia within the nerve's sensory distribution, an anticipated outcome specific to the approach. Clinical monitoring showed a favorable evolution, with complete neurosensory recovery at 4 months postoperatively. At the 6 month follow-up visit, clinical and radiographic parameters confirmed optimal osseointegration, allowing for prosthetic loading.

Conclusions. Lateralization of the IANVB remains an optimal surgical method with predictable long-term results that can be applied in cases of severe atrophy of the mandibular alveolar ridges. This case demonstrates the effectiveness of this technique through the immediate insertion of standard implants, shortening treatment time and avoiding the need for bone grafts.

Keywords. Severe mandibular atrophy, IAB lateralization, Neurosensory recovery.

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