



## Vertical splitting of the mandibular body as an alternative to inferior alveolar nerve lateralization

### HORIZONTAL AUGMENTATION

065

### ABSTRACT

The inferior alveolar nerve lateralization (IANL) technique allows placement of longer implants, gives better initial stabilization and reduces the treatment time, but nerve repositioning is a complex procedure, with a high risk of complications. This is why, in this article, the Authors present the vertical ridge-splitting technique as an alternative to IANL in order to allow the placement of longer implants for the rehabilitation of severely atrophic posterior mandibles. The ridge-splitting/expansion technique consists in the creation of a new implant bed by longitudinal osteotomy of the alveolar bone. The buccal cortex is repositioned laterally by green stick fracture and the technique is usually performed simultaneously with implant placement and significantly shortens the treatment time.

In this study, 143 patients, who had between 1.8 and 8 mm residual crestal height above the mandibular canal, were treated with the vertical splitting of the mandibular body, performed by piezoelectric surgery, followed by bone expansion and insertion of conical implants of 10 and/or 12 mm in length. The survival rate of the 636 implants inserted was of 99% at the end of 12 months, with minor complications.

As in one osteotomy the buccal cortical bone was fractured while screwing the implant, this was treated by creating perforations in the cortical bone for mechanical retention of the cortico-cancellous bone block (OsteoBiol® *Dual-Block*, Tecnos®, Giaveno, Italy). Then, the site was covered by a collagen membrane (OsteoBiol® *Evolution*), with an uneventful healing.

### CONCLUSIONS

The vertical ridge-splitting technique is a relatively simple procedure for the prosthetic rehabilitation of severely resorbed posterior mandibles. It can be performed in case of minimal bone height, allowing for greater implant stability, and minimizing the risk of neurological disturbance.

In one case treated in this study, it has been necessary to insert a cortico-cancellous bone block, covered by a collagen membrane which proved to support the proper healing.

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