

Lateralization of dental nerve: Case report and literature review

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Introduction

The placement of dental implants is a procedure that can be limited by the reduced amount of bone due to the atrophy of the alveolar ridge, which can occur in the posterior part of the jaw, limiting the placement of implants due to the proximity of the alveolar nerve. Procedures such as bone grafts, osteogenic distraction or placement of short implants have been described for the placement of implants in this site and to avoid damaging anatomical structures¹. The lateralization of the alveolar nerve is a technique that consists, in a very simplified way, in the lateral displacement of the neurovascular bundle, the placement of the dental implant and its subsequent replacement, thus being an option to avoid nerve damage and allow the use of implants of adequate length², however the complications are not completely obviated, since neurosensory distortion due to nerve damage or mandibular fractures could occur³. The objective of this study is to review the indications, technique and complications of dental nerve lateralization and to describe a case report.

Case Report

Patient Information

54 years old
No diseases
No Allergies
No smoking habits
No drinking habits
Removable partial denture 20 years
Painless

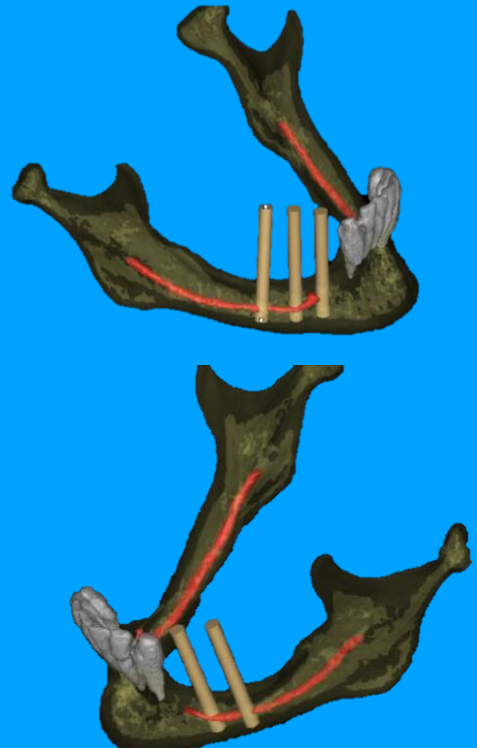


Fig. 1 Volumetric reconstruction for implant planning

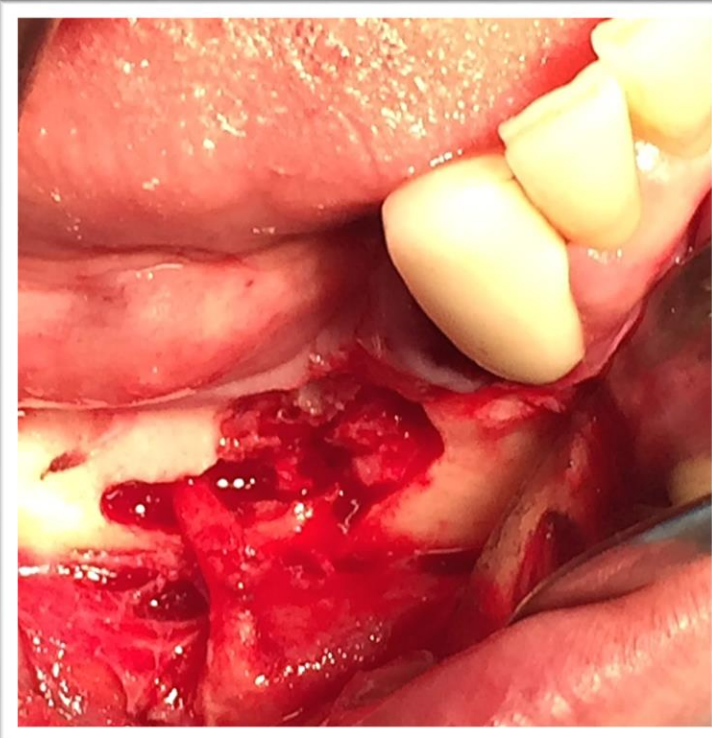


Fig. 2 Right dental nerve exposure

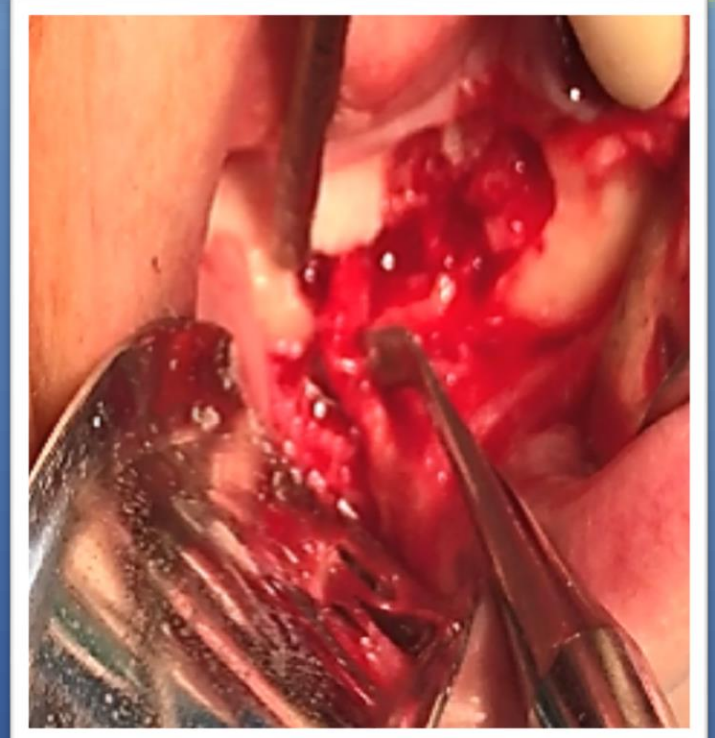


Fig. 3. Right dental nerve lateralization

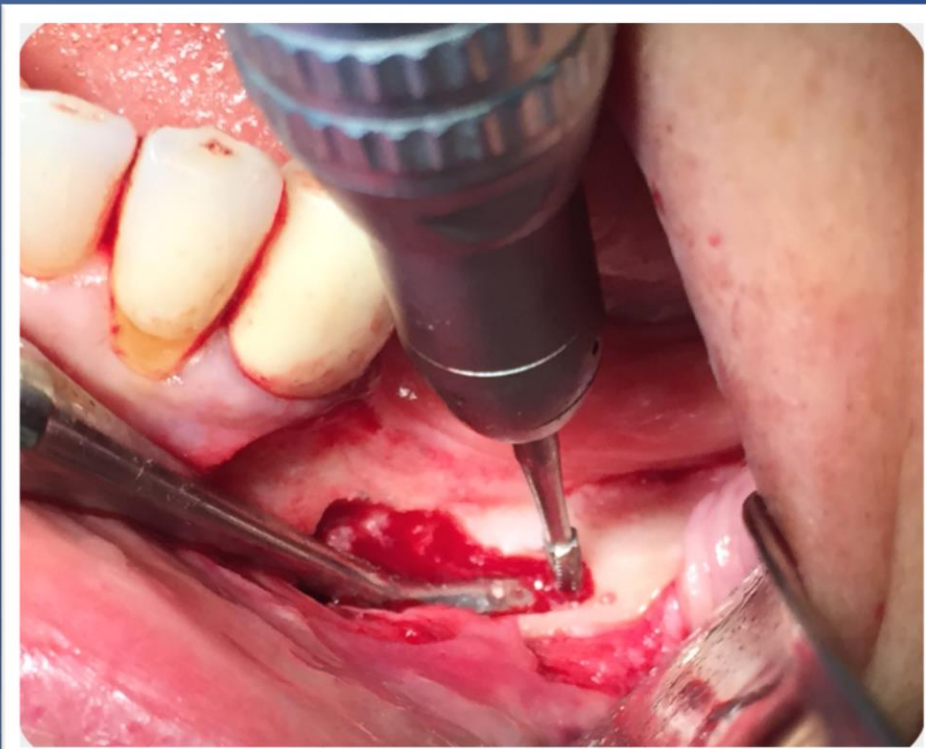


Fig. 4 Left dental nerve exposure

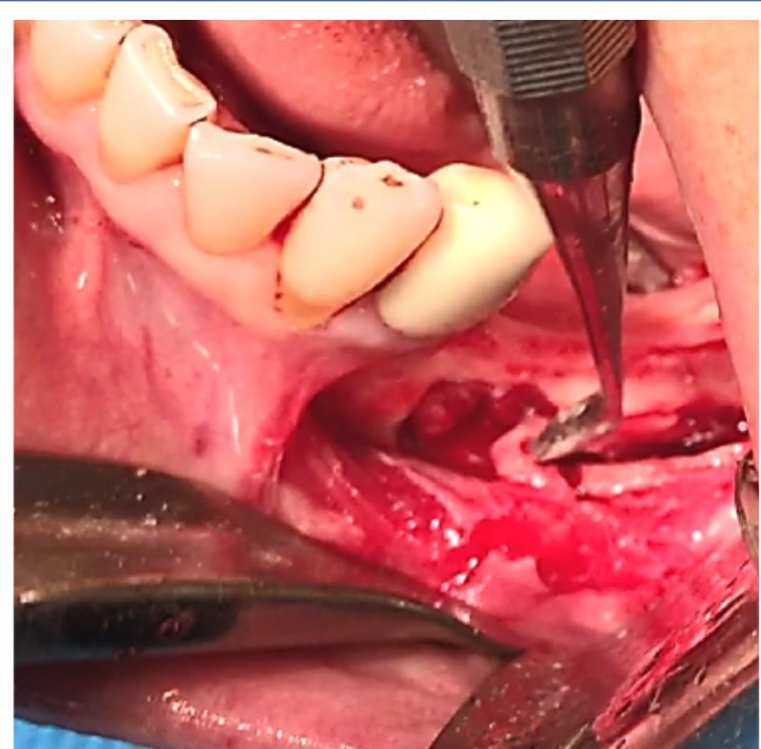


Fig. 5. Left dental nerve lateralization

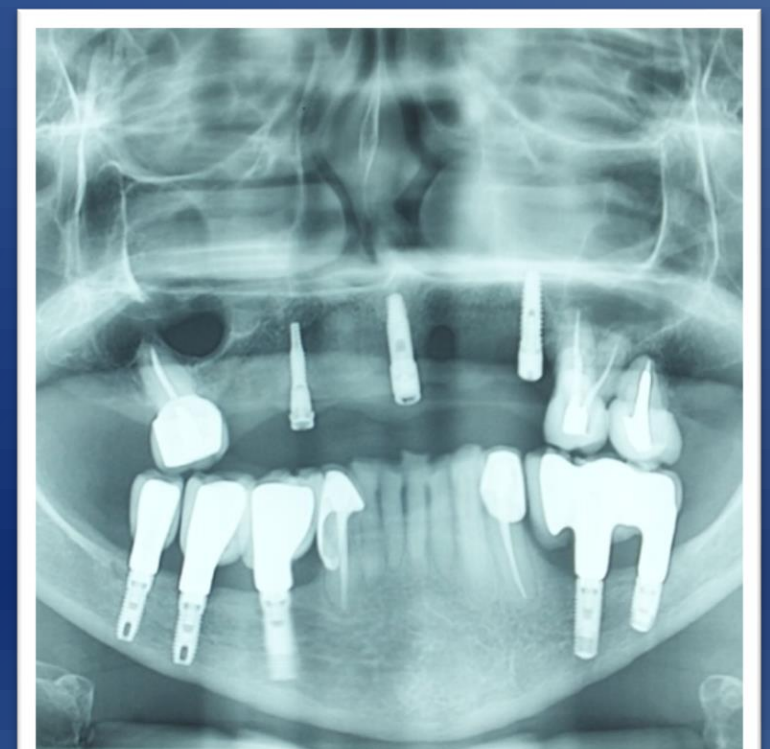


Fig. 6 Orthopantomography showing the final result

Discussion

Among the options for placing dental implants without damaging anatomical structures is the lateralization of the inferior dental nerve, a procedure that has been increasingly used lately as an option to short implants, which for Annibali⁴ have a survival rate of 92.3%, however according to Fernández⁵, its placement must be in a bone of at least 5 mm in height, which the patient often does not have, in these cases or if longer implants are required, the lateralization technique of the inferior dental nerve is indicated. Another option available is bone grafts, though these can result in higher costs and take a longer time and, if autologous, it will mean morbidity in an extra site³. Lateralization of the inferior dental nerve can have complications such as mandibular fracture due to weakness induced by osteotomy or nerve damage due to manipulation of this structure. The report of this last complication has been widely reported^{2,5,6-9}, however in our clinical case these postoperative complications did not occur.

Conclusion

Dental nerve lateralization is an excellent choice for implant placement, avoiding the need to use bone grafts for increasing the alveolar ridge; with good results and minimal neurosensory alterations.

References

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Declaration of conflict of interest for author(s)

The authors have no conflict of interest