OSTEOGENIC DISTRACTION – CLINICAL CASE

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Abstract

Osteogenic distraction is an efficient technique for extensive cleft palate reduction, helping the closure of the cleft and allows the conclusion of the orthodontic treatment.

Introduction

Osteogenic distraction is a surgical technique that consists in the separation of a bone surface into two vascularized parts that are gradually separated in a controlled manner using a device called distractor. This technique is an alternative when the defect is very large making it difficult and unpredictable to use a conventional bone graft to solve it. The aim of this clinical poster is to describe a case where a patient with bilateral cleft was subjected to this therapeutic approach.

Clinical case

A 21 years old female patient, came to the Institute of Orthodontics in the Faculty of Medicine of the University of Coimbra, looking for orthodontic treatment for correction of the malocclusion and reduction of the bilateral cleft palate. Cephalometric analysis showed that the patient was skeletal Class I with retraction of both the maxilla and mandible. The treatment plan consisted on the placement of a conventional bone graft is lower. The progressive tissue distension has a better aesthetic outcome. Another advantage is that when we do our secondary bone graft from the iliac crest, the bone quantity required is much less, which makes it more stable and more predictable. All of these provide a greater predictability and guarantee the success of a future rehabilitation.

Discussion

Through this therapy it was possible to achieve a good clinical result. Good gingival tissue volume and cleft reduction were obtained. The use of this technique is an efficient method in situations in which the bone and tissue defect is very extensive and where the predictability of a conventional bone graft is lower. The progressive tissue distension has less risk of failure due to loss of blood perfusion. The osteogenic distraction allows a progressive formation of bone and the creation of an adequate tissue volume, leading to a better aesthetic outcome. Another advantage is that when we do our secondary bone graft from the iliac crest, the bone quantity required is much less, which makes it more stable and more predictable. All of these provide a greater predictability and guarantee the success of a future rehabilitation.

Conclusion

Osteogenic distraction is an efficient technique for extensive cleft palate reduction, helping the closure of the cleft and allows the conclusion of the orthodontic treatment.

Financial sources

None.

References


Figures

Fig. 1 – X-ray before distraction.
Fig. 2-5 – Intra oral photos before distractor.
Fig. 6-9 – Placement of Distractor.
Fig. 10 – X-ray after distraction.
Fig. 11-14 – 2ª Week after surgery. Distraction period.
Fig. 15-18 – 4ª Week after distractor. With one week of consolidation period.