

OSTEOGENIC DISTRACTION – CLINICAL CASE

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CONGRE

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(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.¹ 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.² 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





Fig. 1 – X-ray before distraction.

Fig. 2-5 - Intra oral photos before distractor.

Group[®]). This device was only placed after levelling of the the distractor is removed. upper arch, which was finished in a 0,016 x 22 SS archwire

A 21 years old female patient, came to the Institute of (Fig. 2-5). This wire was selected as it provided stability Orthodontics in the Faculty of Medicine of the University of during activation of the distractor and allowed better sliding Coimbra, looking for orthodontic treatment for correction of the teeth (activation plan was: 0,9mm/day). During the of the malocclusion and reduction of the bilateral cleft surgery the bone division and distractor placement were palate. Cephalometric analysis showed that the patient was performed, as well as, the testing of the device by opening skeletal Class I with retrusion of both the maxilla and and closing the activation screw (Fig. 6-9). After surgery, a 7mandible. The treatment plan consisted on the placement of day latency period began, at the end of which, distraction fixed appliances with Roth 0,018 prescription and an initiated for two weeks (Fig. 11-14). On the third week, a intraoral bone anchored distractor ("Liou" KLS Martin consolidation period of 7 weeks starts (Fig. 15-18) and then







Latency period

Distraction period

Consolidation period

Fig. 6-9 - Placement of Distractor. Remodeling period



Fig. 10 – X-ray after distraction.

With diff.





Fig. 11-14 - 2ª Week after surgery. Distraction period.



Fig. 15-18 - 4ª Week after distractor. With one week of consolidation period.

Discussion

Through this therapy it was possible to achieve a good clinical result. Good gingival tissue progressive formation of bone and the creation of an adequate tissue volume, leading to volume and cleft reduction were obtained. The use of this technique is an efficient a better aesthetic outcome.^{5,6} Another advantage is that when we do our secondary method in situations in which the bone and tissue defect is very extensive and where the bone graft from the illiac crest, the bone quantity required is much less, which makes it predictability of a conventional bone graft is lower.³ The progressive tissue distension has more stable and more predictable. All of these provide a greater predictability and less risk of failure due to loss of blood perfusion.⁴ The osteogenic distraction allows a guarantee the success of a future rehabilitation.^{5,6}

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.

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