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# Use of oxygen gel as an optimizer of tissue healing in donor and recipient areas along with the free gingival grafting technique

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## Background & Aim

The free gingival graft is a standard procedure widely used to augment and cover root surfaces in patients with recession. The main disadvantage of this graft procedure is the discomfort caused at the donor site on the palate. Currently, in order to optimize the tissue healing process of surgical beds and with the aim of reducing the discomfort caused by surgery, the use of an oral gel containing active oxygen is being discussed. Thus, the objective of this clinical case was to report the use of oxygen gel, both in the donor and recipient beds, in the free gingival graft technique and to evaluate its influence on the gingival healing process.

## Case Report & Results

A female patient, age 51 years old systemically healthy, presenting gingival recession around the lower premolars on both the sides. The recession was Miller Class I recession on both the sides (Figure 1). The treatment plan included correcting the gingival recessions surgically with the free gingival graft (FGG). The surgery was performed on both the sides on the same day. The blue®m oxygen gel was topically applied only on the two premolars on the right side (44, 45) and compared with the left side premolars (34, 35). Patient monitoring and photos suggest that the oral oxygen gel may have increased the re-epithelialization of the wounds of the palatal donor site as well as the recipient.

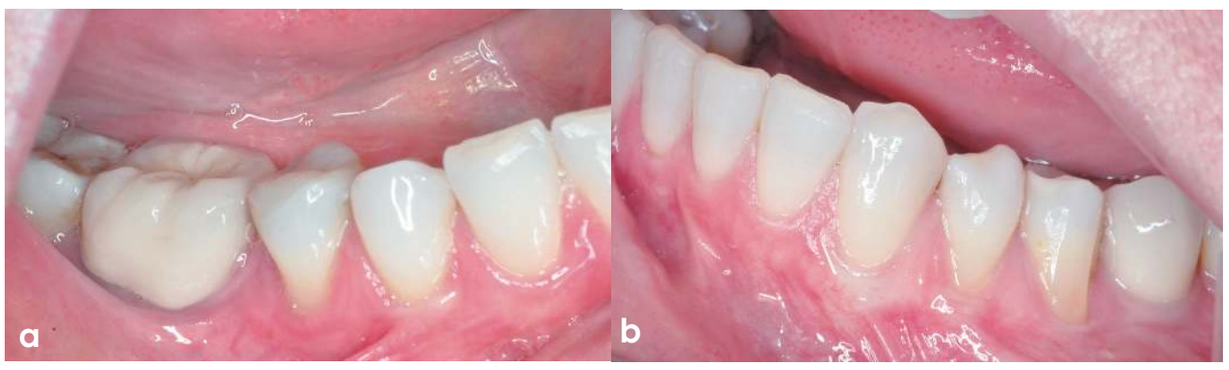


**Fig. 1** – (a) Tooth numbers 34 and 35 and (b) numbers 44 and 45 exhibiting Miller Class 1 gingival recession.

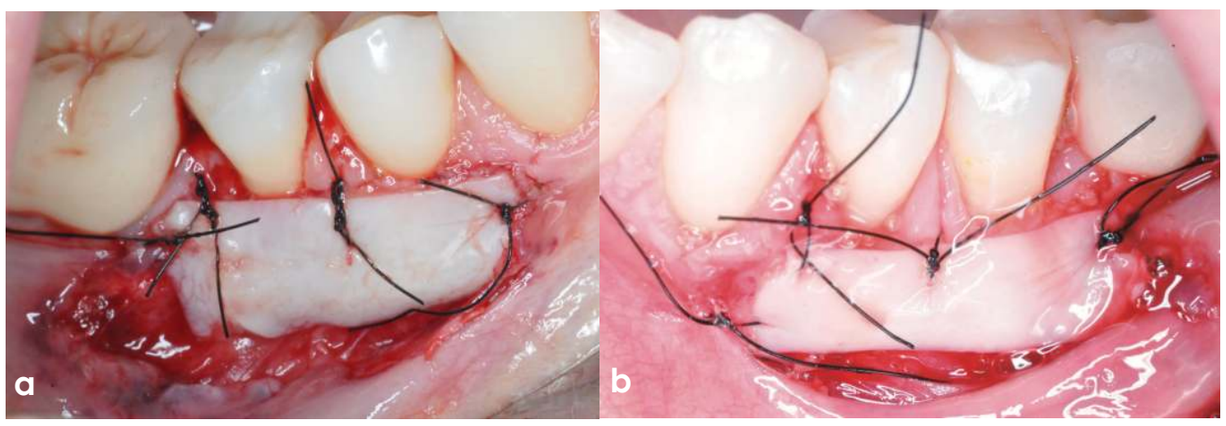


**Fig. 2** – Graft placed and stabilized with a suture (a) on 34 and 35; (b) on 44 and 45

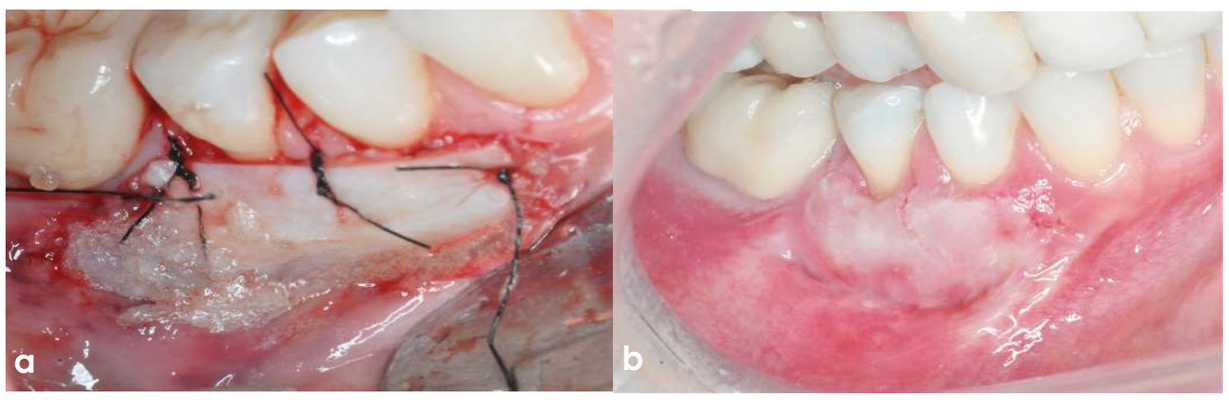


**Fig. 3** – (a) Oxygen gel applied to the receiving bed, on the side right. The gel was applied over the entire length of the graft and was not washed out; (b) Grafted region on the side between 44 and 45, ten days post op. Mild presence of inflammation and keratinization of the graft epithelium can be seen.

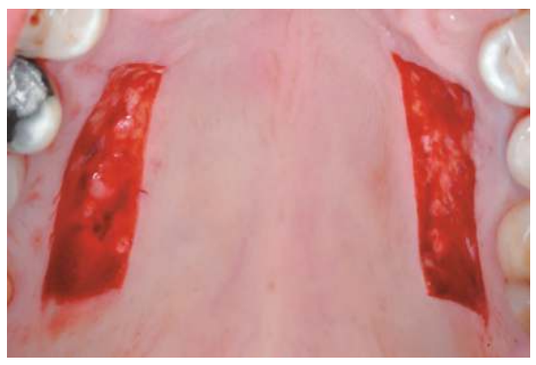

**Fig. 4** – Appearance of the palate after harvesting the gingival graft.

**Fig. 5 –** blue®m consistency and texture

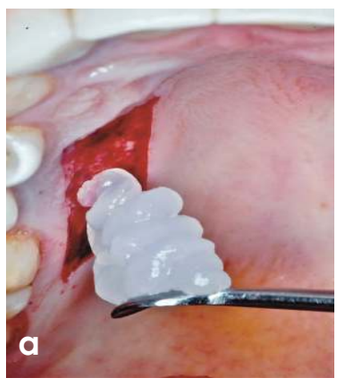



**Fig. 6** – (a) Application of oxygen gel in the donor region on the right side of the palate; (b) Fresh application of the oxygen gel at the donor site on the right side, three days after surgery.

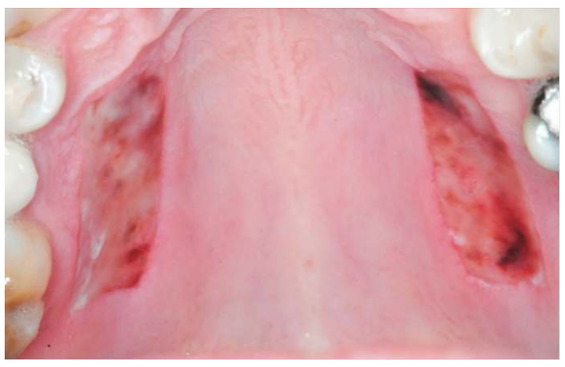

**Fig. 7 -**Donor areas of the palate after three days, beginning of reepithelialization, being more apparent in the area on the right side, where the oxygen gel was used exhibiting advanced healing.

## Conclusion

The reported clinical case suggests that the oral oxygen gel (blue®m) optimizes the process of tissue healing at the donor (palate) and at the recipient site (root cover areas). However, further clinical research should be carried out to affirm its therapeutic benefits.

## References

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2 Dryden MS, Cooke J, Salib RJ, Holding RE, Biggs T, Salamat AA et al. Reactive oxygen: a novel antimi- crobial mechanism for targeting biofilm-associated infection. J Glob Antimicrob Resist 2017; 8:186-91.