Acta Scientific Otolaryngology (ISSN: 2582-5550)

Volume 6 Issue 5 May 2024

Short Communication

Anterograde Minimally Invasive Technique for Gingival Recession (AMIT)

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Received: March 13, 2024

Published: April 09, 2024

Abstract

This study introduces the Anterograde Minimally Invasive Technique (AMIT) as a new perspective for treating gingival recession, offering substantial advantages over traditional techniques, particularly the classic tunneling technique.

The choice of starting the incision on the non-adherent mucosa in AMIT reflects a commitment to precision and minimized disruption. This targeted initiation may contribute to a more controlled surgical process, potentially reducing the risk of unintended tissue damage.

The proposed technique's unique incision point prompts considerations of its adaptability across various cases of gingival recession. In conclusion, the shift in the incision point from the free gingival edge in MITT introduces a novel perspective with potential benefits in tissue preservation, aesthetics, precision, and patient experience.

Keywords: Cementoenamel Junction (CEJ); Gingival Recession

Introduction

Gingival recession, defined as the exposure of the root surface due to the migration of the gingival margin apical to the cementoenamel junction (CEJ), can manifest as localized or generalized defects across one or more tooth surfaces [1]. With a high incidence in the general population [2,3], its classification, initially proposed by Miller in 1985 [4], has been widely adopted, although subsequent limitations have led to the development of various alternative classifications focusing on different aspects of gingival recession [5-9]. Miller suggested a revised classification, incorporating papilla status and highlighting the increasing emphasis on gingival aesthetics [10]. Gingival recession defects result from multifactorial causes, with plaque-induced periodontal inflammation and mechanical trauma from improper tooth-brushing habits being identified as significant etiological factors [3,11]. Various surgical and non-surgical techniques are employed for treating gingival recession [12]: Coronally Advanced Flap (CAF) [13,14], connective tissue graft (CTG), Coronally Advanced Tunnel technique and modifications [15], Chao Pinhole Surgical Technique (PST) 16, Guided Tissue Regeneration (GTR). This article introduces an innovative approach, the Anterograde Minimally Invasive Technique (AMIT), designed to address gingival recession with reduced invasiveness compared to traditional methods [18].

Surgical technique

After local anesthesia infiltration, a 1 cm vertical or oblique incision of the nonadherent mucosa is performed using a n° 5 blade down to the bony plane. The head of a small blunt dissector is inserted into a subperiosteal plane, creating a tunnel gently under the muco-gingival junction (Figure 1). The length of this tunnel depends on the extent of the gingival recession, corresponding to the dental elements involved. Detachment of adherent gingiva toward the dental collar is performed with a lateral movement and

controlled force without detaching the papillae. Muscle fibers and any remaining collagen bundles on the inner aspect of the flap alveolar mucosa were cut using curettes with extreme care to avoid perforation of the flap. The dental collar is carefully detached from the tooth creating a tension-free full-thickness flap. At this point, a collagen graft can be inserted through the small incision and then placed on the exposed roots of the involved tooth elements. The mucoperiosteal flap is fixed in the desired position by means of interpapillary mattress sutures that are placed 2 mm below the papilla with an 3/0 or 4/0 absorbable suture.

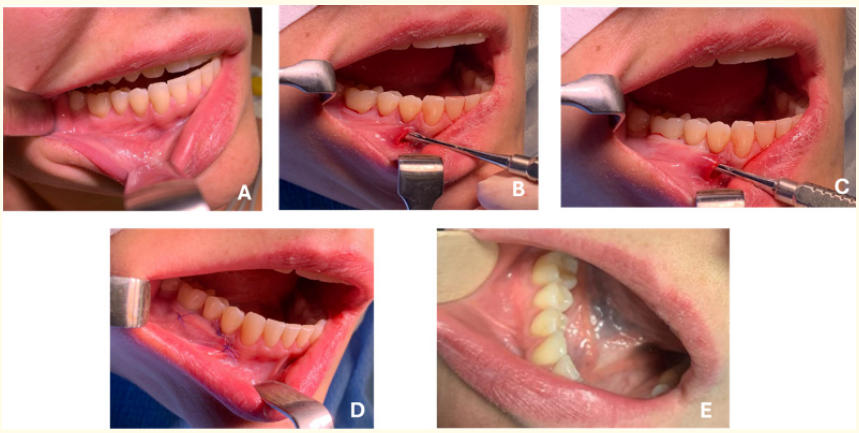

Figure 1: AMIT Surgical Technique. A: Multiple gingival recession Class I according to Miller Classification; B: Mucosal incision and sub-periosteal dissection; C: Subperiosteal dissection to reach and peel off the adherent gingiva of the last element affected by gingival recession; D: Mucosal interpapillary sutures; E: one year post-operative result.

Discussion

This study introduces the Anterograde Minimally Invasive Technique (AMIT)as a new perspective for treating gingival recession, offering substantial advantages over traditional techniques, particularly the classic tunneling technique [18-21]. While the conventional approach involves incisions from the free edge of the gingiva, AMIT introduces a novel perspective by commencing with a small incision on the non-adherent mucosa. This significant alteration impacts several aspects of the surgical procedure and potential outcomes: AMIT's approach underscores the importance of preserving papillae integrity, emphasizing a focus on aesthetic outcomes. By initiating the incision away from the free gingival edge, the technique aims to maintain the continuity of papillae and enhance overall visual appeal. The choice of starting the incision on the non-adherent mucosa in AMIT reflects a commitment to precision and minimized disruption. This targeted initiation may contribute to a more controlled surgical process, potentially reducing the risk of unintended tissue damage. AMIT aims also to minimize trauma to gingival tissues, notably evident in the preservation of gingival morphology and the reduction in the amount of manipulated tissue compared to the classic tunneling technique. This, in turn, appears to contribute to faster healing times, reducing postoperative discomfort and facilitating a quicker recovery for patients treated with this technique. The size of the incision in AMIT is notably smaller compared to the classic tunnel technique. This not only reduces the overall invasiveness of the procedure but also enhances patient comfort during both the surgical intervention and the postoperative period. AMIT 's initiation point aligns with a simplified set of surgical steps, facilitating ease of adoption for clinicians and residents. The departure from the free gingival edge in the initial incision may streamline the procedure while maintaining efficacy. The proposed technique's unique incision point prompts considerations of its adaptability across various cases of gingival recession. Further research is warranted to assess the applicability and efficacy of AMIT in different clinical scenarios. In conclusion, the Anterograde Minimally Invasive Technique (AMIT), starting the incision on the non-adherent mucosa, provides a new approach to gingival recession treatment with significant advantages. AMIT emerges as a promising technique for gingival recession treatment; however, further research is necessary to confirm

and delve deeper into these preliminary findings. Exploring additional variables, such as long-term efficacy and applicability in different clinical contexts, may help solidify AMIT's position as a valid alternative to conventional techniques.

Conclusion

In conclusion, the shift in the incision point from the free gingival edge in AMIT introduces a novel perspective with potential benefits in tissue preservation, aesthetics, precision, and patient experience. As with any innovative technique, continued research and clinical validation are essential to ascertain its effectiveness and broaden its applicability in diverse clinical settings.

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