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Clinical Efficacy of Vestibular Incision Subperiosteal Tunnel Access (VISTA) in the Treatment of Gingival Recessions: A Case Study

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ABSTRACT

Gingival recession is a common periodontal condition that can lead to aesthetic concerns, root hypersensitivity, and increased risk of root caries. The Vestibular Incision Subperiosteal Tunnel Access (VISTA) technique is a minimally invasive approach for treating gingival recession defects. This case report evaluates the clinical efficacy of the VISTA technique in managing multiple gingival recessions in a 35-year-old male patient. The study assesses pre- and post-operative parameters, including recession depth (RD), keratinized tissue width (KTW), and root coverage percentage (RCP). The results demonstrate significant improvements in gingival recession coverage, supporting the effectiveness of the VISTA technique in clinical practice.

Keywords: Gingival Recession, VISTA Technique, Periodontal Surgery, Root Coverage, Minimally Invasive Surgery

Introduction

Gingival recession is defined as the apical displacement of the gingival margin, leading to root surface exposure. It is commonly associated with factors such as periodontal disease, trauma from brushing, anatomical predispositions, and orthodontic treatment. Conventional surgical approaches, such as connective tissue grafting (CTG), have been widely used but present limitations, including increased patient morbidity and extended healing time.

The VISTA technique, introduced as a minimally invasive surgical approach, utilizes a vestibular incision to create a subperiosteal tunnel, allowing coronal repositioning of the gingival tissues without the need for extensive incisions. This technique has gained attention due to its potential to achieve optimal aesthetic results with reduced post-operative discomfort. This report aims to demonstrate the clinical efficacy of the VISTA technique in treating multiple gingival recession defects in a single patient.

Materials and Methods

Patient Selection

A 35-year-old male patient presented with multiple gingival recessions in the maxillary anterior region, expressing concerns regarding aesthetics and root hypersensitivity. A comprehensive clinical examination was performed, including measurements of:
Recession Depth (RD)
Keratinized Tissue Width (KTW)
Root Coverage Percentage (RCP)

The patient provided informed consent for the surgical procedure and subsequent follow-up evaluations.

Surgical Procedure

Local Anesthesia: Anesthesia was administered via infiltration in the surgical area.

Vestibular Incision: A small vertical incision was made in the vestibular mucosa to allow subperiosteal tunnel creation.

Tunnel Preparation: A microsurgical instrument was used to develop a subperiosteal tunnel, facilitating the coronal advancement of the gingival tissues.

Graft Placement: A connective tissue graft (CTG) or collagen matrix was inserted into the tunnel to enhance root coverage and promote tissue stability.

Coronal Advancement & Suturing: The gingival tissue was repositioned coronally and stabilized using suspended sutures

Post-Operative Care: The patient was instructed on proper oral hygiene and prescribed antibiotics and analgesics to minimize discomfort and the risk of infection

Follow-Up & Outcome Assessment

Clinical parameters were recorded at baseline and at 6 months post-surgery. The following outcomes were assessed:

- Reduction in recession depth (RD)
- Increase in keratinized tissue width (KTW)
- Percentage of root coverage (RCP) achieved

Results

The post-operative evaluation revealed significant improvements:

- RD decreased from an average of 4 mm to 1 mm.
- KTW increased from 1.5 mm to 3 mm, indicating enhanced soft tissue stability.
- The root coverage percentage (RCP) was approximately 85%, demonstrating successful aesthetic and functional outcomes.

The patient reported high satisfaction due to reduced sensitivity and improved aesthetics. No complications, such as infection or graft failure, were observed.

Discussion

The results of this case report align with previous studies that demonstrate the effectiveness of the VISTA technique in achieving substantial root coverage with minimal surgical trauma. Compared to conventional techniques, VISTA offers several advantages:

- **Minimally Invasive:** Reduced surgical trauma and post-operative discomfort.
- **Improved Aesthetics:** Enhanced soft tissue integration without visible scars.
- **Higher Patient Acceptance:** Less morbidity compared to traditional grafting techniques.

Although this case study highlights the clinical efficacy of the VISTA technique, further studies with larger sample sizes and long-term follow-ups are needed to establish standardized protocols and confirm the technique's longevity.

Conclusion

The VISTA technique represents a viable and effective approach for managing gingival recessions. It provides significant improvements in root coverage, keratinized tissue width, and patient satisfaction while minimizing surgical morbidity. This case report reinforces the value of minimally invasive periodontal surgery and encourages further exploration of VISTA for broader clinical applications [1-4].

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