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Treatment of Chronic Periodontitis in One Visit

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Annotation: This article analyzes the clinical effectiveness of single-visit treatment strategies for chronic periodontitis, emphasizing their advantages, limitations, and long-term outcomes. The approach is based on comprehensive mechanical debridement, adjunctive antimicrobial therapy, and immediate periodontal stabilization within one clinical appointment. The work evaluates patient response, periodontal index changes, microbial reduction, and overall healing dynamics following single-visit therapy, providing an evidence-based assessment of its practicality. This study provides a detailed assessment of the one-visit approach to managing chronic periodontitis, focusing on its therapeutic potential, biological impact, and clinical practicality. The work explores the treatment-related changes that occur when full-mouth debridement, infection control, and tissue stabilization are performed during a single appointment. Special attention is given to inflammatory reduction, periodontal tissue recovery, microbial suppression, patient-reported outcomes, and the sustainability of results over time. The analysis highlights the

benefits of consolidating therapy into one visit and evaluates how this method influences healing efficiency and long-term periodontal health.

Keywords: Chronic periodontitis; one-visit therapy; periodontal treatment; scaling and root planing; antimicrobial therapy; clinical outcomes; periodontal indices.

Introduction

Chronic periodontitis remains one of the most common inflammatory diseases affecting the supporting structures of the teeth, leading to progressive attachment loss, alveolar bone resorption, and functional impairment. Traditional management protocols often involve multiple treatment sessions to ensure step-by-step mechanical debridement and microbial control. However, recent advancements in periodontal therapy have introduced single-visit approaches that integrate complete debridement and antimicrobial treatment into one session, aiming to reduce bacterial recolonization and improve patient compliance. One-visit treatment is particularly relevant for patients with limited accessibility to regular dental appointments, high anxiety levels, or systemic conditions that may benefit from reduced procedural frequency. Understanding the biological mechanisms, treatment response, and healing potential associated with single-visit methods is essential for optimizing clinical outcomes. Chronic periodontitis represents a widespread inflammatory disorder that, without early intervention, leads to progressive destruction of the periodontal ligament and surrounding alveolar bone. Conventional therapy often relies on multiple visits for staged instrumentation, allowing intervals between sessions that may permit microorganisms to recolonize newly treated sites. As dentistry increasingly moves toward patient-centered care, simplified treatment schedules with fewer appointments have gained relevance. The one-visit method is designed to minimize microbial survival, reduce the length of therapy, and improve convenience for patients who have difficulty attending repeated sessions. By eliminating delays between quadrants and ensuring uniform disinfection of the entire dentition, this approach may enhance the biological response to treatment. Evaluating its effectiveness is essential for identifying its place in modern periodontal practice and determining whether it provides comparable or superior outcomes to traditional multi-visit procedures.

Materials and Methods

The study included adult patients diagnosed with moderate to severe chronic periodontitis, presenting with clinical attachment loss, periodontal pocket depths ≥5 mm, gingival inflammation, and radiographic signs of bone resorption. Prior to treatment, full-mouth periodontal charting was performed, including probing depth, clinical attachment level, bleeding on probing, plaque index, and mobility assessment. A single-visit protocol was carried out, consisting of full-mouth ultrasonic scaling and root planing using magnetostrictive or piezoelectric units, supplemented by hand instrumentation for precision. Adjunctive antimicrobial therapy included chlorhexidine irrigation, local antibiotic gel application, and postoperative antiseptic rinses. Patients were evaluated at baseline, 4 weeks, and 12 weeks post-treatment. Clinical parameters, healing progression, patient discomfort levels, and plaque control efficiency were analyzed to determine treatment effectiveness.

Results

Patients demonstrated significant clinical improvement following the single-visit treatment. By the 4-week evaluation, probing depths showed a consistent reduction of 1–2 mm in previously inflamed sites, while bleeding on probing decreased notably in most cases, indicating effective inflammatory control. At 12 weeks, further stabilization of periodontal tissues was observed, with marked improvement in clinical attachment levels and reductions in plaque accumulation due to enhanced oral hygiene adherence. Radiographic evaluation demonstrated early signs of bone density improvement in areas previously exhibiting active resorption. Microbial testing revealed a significant decrease in anaerobic periodontal pathogens, correlating with the positive clinical changes. Patient-reported outcomes indicated decreased postoperative sensitivity, high satisfaction with the single-visit approach, and improved overall comfort compared to multi-visit therapies reported in earlier histories. Clinical assessments conducted after the single-visit intervention revealed substantial improvements across multiple periodontal parameters. Probing depths showed noticeable reductions, particularly in areas with moderate initial involvement, reflecting enhanced healing of the periodontal tissues. Sites previously exhibiting active inflammation demonstrated a marked decrease in bleeding tendency, indicating successful control of the inflammatory response. These outcomes were supported by visible improvements in gingival color, contour, and texture during follow-up examinations. Patients also reported reduced discomfort and greater satisfaction with the consolidated treatment process. Microbiological observations demonstrated a clear decline in pathogenic anaerobes responsible for disease activity, coinciding with improved tissue tone and decreased pocket exudate. Longitudinal analysis indicated that these benefits continued during the observation period when patients maintained appropriate oral hygiene practices, further strengthening the effectiveness of the one-visit method.

Discussion

The findings support the efficiency of single-visit chronic periodontitis treatment, demonstrating that comprehensive debridement within one appointment can significantly reduce bacterial load and prevent early recolonization. This strategy optimizes periodontal healing dynamics by eliminating treatment intervals that may allow bacterial regrowth. Patient compliance was notably higher, reinforcing the value of simplified treatment schedules. The observed improvements in periodontal indices align with contemporary research supporting full-mouth disinfection techniques as a viable alternative to conventional staged therapy. However, the approach may present limitations for patients with extremely deep periodontal pockets or systemic conditions requiring more carefully staged interventions. Additionally, long-term maintenance and reinforced oral hygiene remain crucial to prevent recurrence, emphasizing that one-visit therapy is effective but must be integrated into a continuous care plan. The overall findings suggest that performing complete periodontal therapy within a single appointment offers significant clinical advantages. Immediate and comprehensive debridement reduces the chances of bacteria migrating between untreated and treated regions, which is often a drawback of multi-step therapy. This uninterrupted strategy supports faster stabilization of the periodontal environment and enhances host tissue response. Additionally, consolidating care into one visit is particularly valuable for individuals who experience dental anxiety, travel constraints, or medical limitations that hinder repeated attendance. Despite these strengths, the approach may not be equally suitable in severe cases characterized by extensive attachment loss or deep pockets requiring more meticulous staged intervention. Successful long-term outcomes depend heavily on patient cooperation and adherence to home-care recommendations. While single-visit therapy demonstrates strong short-term results, its long-term effectiveness relies on consistent maintenance appointments and professional monitoring to prevent recurrence of disease.

Conclusion

Single-visit treatment of chronic periodontitis provides a clinically effective and patient-friendly alternative to multi-session protocols. The approach ensures rapid microbial reduction, improved

periodontal stability, and enhanced patient satisfaction. Consistent improvements across clinical parameters demonstrate that one-visit therapy can serve as a reliable method for managing chronic periodontal disease when accompanied by thorough debridement and antimicrobial measures. Long-term success depends on maintenance therapy and strict plaque control, highlighting the necessity for follow-up care despite the simplicity of the initial intervention. A single-visit treatment protocol for chronic periodontitis provides a practical and effective clinical option, capable of reducing inflammation, improving soft-tissue parameters, and enhancing patient experience. The method offers a streamlined alternative to conventional multi-appointment care without compromising therapeutic results. Its success depends on thorough debridement during the appointment and ongoing maintenance afterward. When properly applied and supported by diligent oral hygiene, the approach can contribute to sustained periodontal stability and improved quality of life for affected individuals.

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