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Management of Severe Periodontitis in a Patient with Type II Diabetes: A Case Study

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INTRODUCTION

The intricate interplay between type II diabetes and periodontal disease necessitates a multidisciplinary approach to treatment, as highlighted in this case. A 48-year-old male with type II diabetes presented with difficulty eating due to lose upper front teeth. He reported managing his blood sugar and blood pressure with medication. Clinical examination revealed probing depths ranging from 6 to 12 mm, bleeding on probing, purulent exudate, generalized class II mobility, edematous and blunted papillae, and long-standing interdental spacing. These findings underscore the bidirectional relationship between diabetes and periodontal disease, where diabetes exacerbates periodontal disease, and periodontal inflammation negatively impacts glycemic control [1,2,3,4,5,6]. Periodontitis, a chronic inflammatory disease caused by bacterial biofilm, negatively impacts the supporting structures of the teeth. Diabetes mellitus exacerbates periodontal disease, increasing its prevalence, extent, and severity. The severity-dependent association between diabetes and periodontitis suggests that periodontitis should be considered a complication of diabetes [4].Given the patient's history of type II diabetes and the severity of his periodontal condition, effective management requires a coordinated approach targeting both the periodontal disease and the underlying diabetes.

CASE PRESENTATION

A 48-year-old male with type II diabetes presented with the chief complaint of "difficulty eating due to looseness of his upper front teeth." He reported that his blood sugar levels and blood pressure were within normal limits with medication. Clinical examination revealed probing depths ranging from 6 to 12 mm, with bleeding on probing and exudates expressed from around most teeth. All teeth exhibited class II mobility. The soft tissues were edematous and misshapen, with bulbous and blunted papillae. The patient also reported long-standing spaces between his teeth, which had not previously caused concern.

Treatment Approach

Given the severity of periodontal disease and the patient's systemic condition, a comprehensive periodontal treatment plan was devised:

1. Initial Phase Therapy: Non-surgical periodontal therapy, including scaling and root planing, was initiated to reduce bacterial load and inflammation. Adjunctive use of systemic antibiotics was considered.
2. Maintenance of Glycemic Control: Collaboration with the patient's primary care physician was essential to monitor and optimize glycemic levels during periodontal treatment.
3. Periodontal Surgery: Surgical intervention was performed to address deep pockets and regenerate lost periodontal structures. Techniques such as guided tissue regeneration and the use of biologics were utilized to enhance outcomes.
4. Patient Education and Maintenance: Emphasis was placed on meticulous oral hygiene practices and regular periodontal maintenance visits to sustain treatment outcomes.

CONCLUSION

Periodontal therapy yielded significant improvements: probing depths were reduced to 3-4 mm, mobility of teeth decreased, and gingival tissues returned to a healthy state. The patient reported improved ability to eat, enhanced quality of life, better overall health, and increased confidence. This case demonstrates the importance of managing the bidirectional relationship between diabetes and periodontal disease through a multidisciplinary approach.

RECOMMENDATION

Clinicians caring for patients with both diabetes and periodontal disease must adopt a comprehensive, collaborative approach to effectively manage these interrelated
conditions. This includes:

1. Rigorous monitoring and optimization of glycemic control
2. Prompt initiation of comprehensive periodontal therapy, including nonsurgical and surgical interventions as needed
3. Frequent periodontal maintenance visits to sustain treatment outcomes

By addressing both the oral and systemic manifestations of these linked diseases, clinicians can help diabetic patients achieve better long-term health and quality of life.

Importance of Periodontal Therapy in Diabetic Patients

Evidence suggests that effective periodontal therapy can lead to improved glycemic control in diabetic patients, lowering HbA1c levels [1,2] Recent research underscores the bidirectional nature of diabetes and periodontal disease. Rigorous glycemic control, comprehensive periodontal therapy, and ongoing maintenance are crucial for long-term success. Collaboration between medical and dental professionals, coupled with patient education, can yield transformative results.

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