Scientific article

Periodontal disease and incidence of diabetes mellitus

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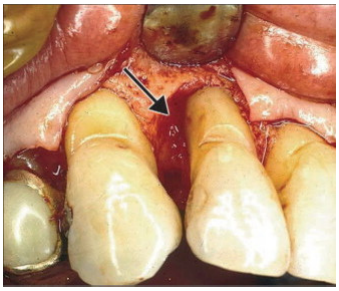

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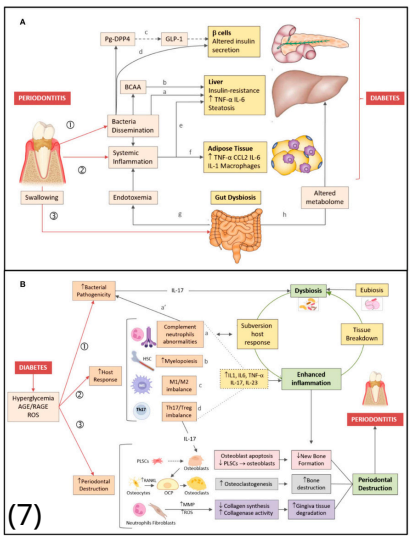
Introduction

Diabetes mellitus (DM) is a common metabolic disease resulting from a defect in insulin secretion, a defect in insulin action or a combination of both [1].
Periodontitis is a chronic, multifactorial inammatory disease in the underlying supporting tissues surrounding the teeth. Suerers may experience gingivitis, loss of periodontal attachment, resorption of alveolar bone, and eventually tooth loss [2]. Severe periodontitis, which is the sixth most prevalent chronic disease among the general population, aects nearly 750 million people worldwide and is thought to aect people's chewing ability, nutritional status and quality of life [3, 4].

Key Findings



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1. Patients with periodontitis show a 26% increased risk of developing diabetes mellitus.
2. Individuals with diabetes mellitus face a 24% higher likelihood of developing periodontal disease.
3. Chronic inammation is a shared factor linking the two conditions, driven by hyperglycemia and microbial activity in periodontal pockets [5].

Implications for Clinical Practice

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1. Early screening for diabetes in patients with severe periodontitis is critical.
2. Patients with diabetes should undergo regular periodontal evaluations to manage risks eectively.
3. Coordinated care between dentists and physicians can enhance patient outcomes by addressing shared risk factors [5].

Prevention and Management Strategies

1. Encourage routine dental check-ups and professional cleaning.
2. Promote glycemic control among diabetic patients to minimize periodontal risks.
3. Educate patients on oral hygiene practices, including regular brushing and ossing.
4. Advocate for smoking cessation, which signicantly reduces periodontal complications [5].

Predictor	Hazard ratio	*Z*-statistic	*P*
Age	4.92 (3.34–7.27)	8.03	<0.001***
Smoking	1.74 (1.38–2.22)	4.66	<0.001***
Diabetes	1.66 (1.49–1.86)	9.09	<0.0001***
Molar type	1.39 (1.15–1.67)	3.50	0.0004***
Probing depth	2.00 (1.63–2.46)	6.69	<0.001***
Furcation	2.64 (2.30–3.03)	14.02	<0.001***
Mobility	3.45 (2.98–4.01)	16.43	<0.001***
Total MMPPI score	1.98 (1.85–2.12)	19.96	<0.001***

MMPPI – Miller-McEntire Periodontal Prognostic Index; *Z* - Wald statistic value; *P* - Probability value; ***$P \leq 0.001$ (9)

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