

Diabetes and Associated Co-morbidities: Clinical Considerations in Endodontics

Diabetes is a chronic disease that occurs either when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Insulin is a hormone that regulates blood glucose.

Gene transfer between human microbiomes

1. Oral cavity
2. Skin
3. Gastrointestinal tract

4. Blood

Pathological niches
Oral cavity

Pulp necrosis
Root canal serves as a reservoir for a wide variety of ARGs

Apical periodontitis
Exposure of root canal microbiota to medullary bone vasculature

HGT between diverse human microbiomes

Antimicrobial resistance

Predispose
• Immunodeficiency
• Dysbiosis

Susceptibility to different infections and recurrent use of antimicrobial agents

Individuals with chronic hyperglycemia (>200 mg/dl)

TESTS AND DIAGNOSIS

- Fasting plasma glucose
- Random plasma glucose test
- Oral glucose tolerance test
- Hba1c test

SPECIFIC MICROBES

Classification	HbA1c	FPG	OGTT
Normal	≤ 5.6%	≤ 99 mg/dl	≤ 139 mg/dl
Prediabetic	5.7% to 6.4%	100 mg/dl to 125 mg/dl	140 mg/dl to 199 mg/dl
Diabetic	≥ 6.5%	≥ 126 mg/dl	≥ 200 mg/dl

DENTAL FINDINGS IN DIABETIC PATIENT

CLINICAL

RADIOLOGICAL

MICROSCOPIC

ENDODONTIC MANAGEMENT

- Pre operative assessment:** Glycemic control, Dental history, Medical history, Antibiotic prophylaxis
- Intra operative consideration:** Shorter appointments, Suitable local anesthetics, Infection Control, Irrigation methods
- Post operative Care:** Antibiotics and analgesics, Regular follow ups

REFERENCE-Mauri-Obradors E, Estrugo-Devesa A, Jané-Salas E, Viñas M, López-López J. Oral manifestations of Diabetes Mellitus. A systematic review. Med Oral Patol Oral Cir Bucal. 2017 Sep 1;22(5):e586-e594. doi: 10.4317/medoral.21655. PMID: 28809366; PMCID: PMC5694181.