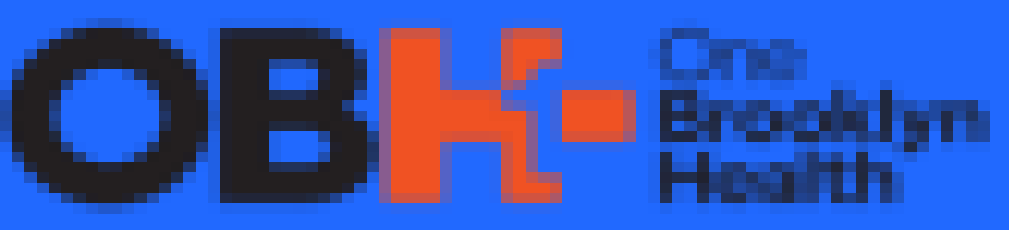


# Effect of Gestational Diabetes on Periodontal Health

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## INTRODUCTION

Gestational diabetes is defined as a chronic systemic disease that affects the kidneys and cardiovascular system during pregnancy. Diabetes affects protein, lipids, and carbohydrate metabolism, which is manifested by hyperglycemia. Patients must frequent their primary care physicians to evaluate their blood work and to maintain overall health. An HbA1c (glycosylated hemoglobin) of 6.5% and higher, with a fasting blood sugar level of 126 mg/dL is indicative of diabetes. Periodontitis is defined as a chronic, inflammatory disease of the periodontium, affecting the gingiva and periodontal ligament. It is caused by an influx of gram negative bacteria present in the oral cavity, such as *P. gingivalis*, *T. denticola*, and *T. forsythia*.

## CASE REPORT

A 32 year old female in her second trimester presented to Kingsbrook Jewish Medical Center with a referral from her doctor for evaluation of mouth pain. The patient reported throbbing mouth pain (5/10 on pain scale) for the last two weeks. Medical clearance from doctor given. • Intraoral exam: Erythematous gums, halitosis, generalized plaque and calculus on all tooth surfaces, especially on the lingual of mandibular anteriors and buccals of maxillary molars. Teeth #23-26 have +1 mobility with 4-5 mm PD and +2 recession. Maxillary anteriors have 3 mm PD with no recession. All posterior teeth ranged from 4mm-6 mm PD. • Radiograph: FMX shows interproximal calculus between the mandibular anteriors and all posterior teeth. FMX shows recession and generalized bone loss. • Clinical Diagnosis: Moderate chronic periodontitis. • Treatment: UL SRP, LL SRP, UR SRP, UL SRP. Peridex 0.12% mouthwash 15 mL 2x a day, daily.

## IMAGES



## DISCUSSION

Gestational Diabetes Mellitus, or GDM, is a type of diabetes that is diagnosed during pregnancy and is present throughout a patient's lifetime after pregnancy. Multiple studies have shown that patients who develop GDM during pregnancy have an increased amount of inflammatory mediators (increased leukocytes, C-reactive proteins, tumor necrosis factors), putting this demographic at a higher risk of infection. Periodontitis is one of those infections. These inflammatory mediators inhibit production of insulin by destroying the beta cells in the pancreas or inhibiting the effect of insulin. Risk factors for developing GDM include: family history of DM II, previous development of GDM during previous pregnancy, BMI > 25, and a polycystic ovarian syndrome. While periodontitis is usually more common in older individuals, developing GDM puts the demographic at a high risk of developing periodontitis at an earlier age. The same can be said for the converse statement. Pregnant women with periodontitis are at a higher risk of developing gestational diabetes.

## IMAGES



## RESULTS

• Systematic reviews and meta analysis were conducted on ten studies (one cohort study, six case control studies, three cross sectional studies) with 5724 participants. • The results were statistically significant with a p < 0.05 and confidence interval of 95%, showing that women with gestational diabetes are more likely to develop periodontitis.

## CONCLUSION

There is a strong correlation between gestational diabetes and the development of periodontitis. It is important to receive medical clearance from patient's OB/GYN in order to properly evaluate the patient. A complete medical history, list of medications, familial history, comprehensive exam with periodontal charting is imperative to properly evaluate and treat the patient to maintain overall optimal oral health and systemic health.