Abstract

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Vitamin D Status and Periodontal Disease Among Pregnant Women.

Boggess KA, Espinola JA, Moss K, Beck J, Offenbacher S, Camargo CA.

Departments of Obstetrics and Gynecology, University of North Carolina at Chapel Hill, Chapel Hill, NC.

BACKGROUND: Maternal periodontal disease is found in up to 40% of pregnant women and is associated with adverse pregnancy outcomes. Vitamin D deficiency may play a role in periodontal disease and tooth loss, and insufficient vitamin D status is common among pregnant women. The objective of this study was to examine the relationship between maternal vitamin D status and periodontal disease.

METHODS: A case-control study was conducted. Cases were defined as pregnant women with clinical moderate/severe periodontal disease; controls were pregnant women who were periodontally healthy. Maternal data was chart abstracted and serum was collected between 14-26 weeks' gestation. Serum 25-hydroxyvitamin D (25(OH)D) levels were measured using liquid chromatography - tandem mass spectrometry. Median serum 25(OH)D levels and prevalence of vitamin D insufficiency (defined as <75 nmol/L) were compared between cases and controls. The odds ratio (OR) and 95% confidence interval (CI) for moderate/severe periodontal disease among women with vitamin D insufficiency was calculated using multivariable logistic regression, adjusting for maternal race, season of blood draw and other potential confounders.

RESULTS: 117 cases were compared to 118 controls. Cases had lower median 25(OH)D levels than controls (59 vs. 100 nmol/L, P<.001) and were more likely to have vitamin D insufficiency (65% vs. 29%, P<.001). The adjusted OR (95%CI) for moderate/severe periodontal disease among women with vitamin D insufficiency was 2.2 (.99-4.5).

CONCLUSION: Vitamin D insufficiency (serum 25(OH)D < 75 nmol/L) is associated with maternal periodontal disease during pregnancy. Vitamin D supplementation represents a potential therapeutic strategy to improve maternal oral health.

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