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Vitamin D and gestational diabetes: A randomized, controlled, double blind trial

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Abstract

Vitamin D deficiency (low 25-hydroxy-vitamin D3 (25VitD)) is associated with both type 2 diabetes. Gestational diabetes mellitus (GDM) is diabetes first diagnosed in pregnancy, and identifies women at markedly increased risk of future diabetes.

Hypothesis: The hypothesis of the study was that treatment with vitamin D would decrease the incidence, or ameliorate the severity of GDM.

Methods: We conducted a randomized, low-dose (LD) controlled double blind trial of vitamin D supplementation in women during pregnancy. Inclusion criteria were: pregnancy, gestation <20 weeks at study entry, and singleton pregnancy. Women were excluded if they had pre-gestational diabetes, had already received a diagnosis of GDM in this pregnancy, or were taking >1000 IU of vitamin D per day. Women were randomized to LD (400 IU) or high-dose (HD, 5000 IU) of vitamin D per day. The primary study endpoint was the glucose tolerance test at 26-28 weeks gestation. Secondary endpoints were HbA1c, HOMA-insulin-resistance, and obstetric and neonatal outcomes.
Results: 179 women were randomized, 90 to low-dose and 89 to high-dose. The study has recently closed. Final results will be presented.

Biography

Jenny Gunton completed her MBBS at University of Queensland, Australia and her specialist training in diabetes and endocrinology with the Royal Australasian College of Physicians. Her Ph.D. was completed at University of Sydney in 2003. She undertook postdoctoral studies in C. Ron Kahn's lab at Joslin Diabetes Center and Harvard Medical School. She now leads the Diabetes and Transcription Factors Group at the Garvan Institute of Medical Research, Sydney Australia, and is the current president of the Australian Diabetes Society. She has more than 40 peer-reviewed publications.