Association between vitamin D insufficiency and the risk for gestational diabetes mellitus in pregnant Chinese women.

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Abstract  
OBJECTIVE: To investigate the association between vitamin D deficiency and risk of gestational diabetes mellitus (GDM) in pregnant Chinese women.

METHODS: A nested case-control study was conducted. Clinical and biochemical data were analyzed for 200 subjects with GDM and 200 subjects with normal glucose tolerance (NGT).

RESULTS: The median (interquartile range) serum 25-hydroxyvitamin D (25OHD) levels were 22.39 (17.67, 29.38) and 25.86 (19.09, 34.88) nmol/L in the GDM and NGT groups, respectively. Rates of 25OHD deficiency or insufficiency were significantly higher in the GDM group than in the NGT group. Subjects with 25OHD levels <25 nmol/L had a 1.8-fold higher risk of GDM compared with subjects with higher vitamin D levels. In the GDM group, serum 25OHD was independently associated with HbA1c and insulin resistance after adjusting for confounding factors. In the NGT group, serum 25OHD was independently associated with fasting plasma glucose and systolic blood pressure after adjusting for maternal age and other confounding factors.

CONCLUSION: 25OHD insufficiency is very common in Chinese women. Low 25OHD status may be associated with insulin resistance and act as a risk factor for GDM.

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