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Vitamin D status in women with pregnancy complicated by gestational diabetes

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Background: Worldwide gestational diabetes prevalence is progressively increasing, reaching to 2-20% reliant on geographical area. Emerging data advocates that Vitamin D supplementation can improve insulin sensitivity and glucose tolerance. Vitamin D deficiency has been linked to gestational diabetes mellitus (GDM), which leads to undesirable pregnancy outcomes. An association between the two conditions has been established, yet remains equivocal. Hence, the goal of this work is to study the association of vitamin D status with GDM among pregnant women.

Methods: A retrospective case-control study was conducted at Women's Specialized Hospital, King Fahad Medical City, From February 2012-July 2017. Pregnant women with GDM that presented to our clinic were matched for age, parity, and body mass index, family history of diabetes mellitus or GDM and gestational age to the pregnant women with not having GDM based on 1:2 ratios. OGTT (Oral Glucose Tolerance Test) and serum 25-hydroxyvitamin D [25(OH) D] which were performed between 24-28 weeks of gestation were recorded. The main outcome was to establish association of GDM with vit D deficiency.

Results: The study included 300 women with 100 cases and 200 controls. Only 13% women had sufficient vitamin D level; with 36% frank deficiency and 51% had insufficiency. Pregnant women with GDM had significant association with lower vitamin D levels (32.07 ng/mL) as compared to women without GDM having no vitamin D deficiency (44.76 ng/mL) ($P < 0.001$ odds ratio [OR] 3.22, 95% confidence interval [CI] 1.36 to 7.64, $P = 0.001$). Whilst pregnant women who took vitamin D were associated with normal OGTT results, those who did not take vitamin D were associated with abnormal OGTT test results (p value = 0.009 odds ratio [OR] 0.47, 95% confidence interval [CI] 0.27 to 0.83, $P = 0.001$).

Conclusion: High prevalence low vit D level was found among pregnant women with GDM. Such results warrant future well-designed clinical trial to determine the potential role of vitamin D supplementation in improving pregnancy outcomes.

Biography

Zarqa Saleem is Assistant consultant Obstetrics and Gynecology King Fahad medical city Riyadh. She Completed her Residency training from King Fahad medical City Riyadh, MBBS from Allama Iqbal Medical college Pakistan. Urogynae training at urogynae department King Fahad Medical City Riyadh. She is actively participating in junior training and academic activities.

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