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Evaluation of association of vitamin D insufficiency with gestational diabetes mellitus

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Context-Gestational Diabetes Mellitus(GDM) is glucose intolerance of any severity with onset or first recognition during pregnancy.Low maternal Vitamin D is associated with adverse outcomes for both mother and fetus in pregnancy.Vitamin D facilitates the secretion of insulin from pancreatic beta cells, thus appearing to regulate insulin secretion.
Objective-To study and compare vitamin D in GDM and normal pregnant females
Methods–All pregnant women were enrolled after considering inclusion and exclusion criteria.A total of 84 females were enrolled into two groups each; GDM cases and controls were healthy pregnant women.GDM was defined according to DIPSI guideline (blood sugar >200mg/dl Diabetes Mellitus, 140-199mg/dl GDM, 120-139mg/dl glucose intolerance).Vitamin D was measured in both and analyzed. Vitamin D deficiency was defined as <20ng/dl). All the analysis was carried out on SPSS 16.0v.
Patients–18-40 years old consenting pregnant females at 24-28 weeks of gestational age were included.
Interventions-Education about Vitamin D in pregnancy
Main outcome measure–Vitamin D levels
Results–Vitamin D was found to be significantly (p=0.0001) lower among women with GDM (20.50±9.61) than normal pregnant (30.15±10.26). Vitamin D deficiency was more common in women with GDM(56%) than normal pregnant female(19%). The risk of deficiency of vitamin D was 10.11 times significantly higher among women with GDM than normal pregnant female (OR=10.11, 95%CI=4.67-21.91,p=0.0001). There was no significant difference in age among deficient and insufficient vitamin D between GDM and normal pregnant female. A significant (p=0.04) difference was observed in age between GDM and sufficient normal pregnant female. There was significant (p=0.0001) difference in the BMI among insufficient vitamin D between women with GDM and normal pregnant female. There was significant (p=0.0001) difference in blood sugar among deficient, insufficient and sufficient vitamin D women with GDM and normal pregnant female. Only BMI was mildly significantly correlated with vitamin D level among women with GDM (r=0.28, p=0.009). There was no correlation of vitamin D level with age, BMI and blood sugar among normal pregnant females. Blood sugar was moderately correlated with vitamin D level among all women (r=0.44, p=0.0001).
Conclusions–Vitamin D deficiency was more common among women with GDM (56%) than without(19%). The risk of vitamin D deficiency was 10.11 times higher in women with GDM than without.

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