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## Vitamin D and Pregnancy Complications Dilemma

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### Background:

Vitamin D deficiency during pregnancy has been associated with some adverse neonatal outcomes as well as an increased risk of late pregnancy complications that include preeclampsia, gestational diabetes mellitus and increased risk of preterm labor.

### Aim of work:

To assess the correlation of pregnant serum Vit D level and different pregnancy complications regarding both mother and fetus and assess whether fetomaternal morbidities are associated with hypovitaminosis D or not.

### Patients and Methods:

322 participants who met the inclusion criteria were classified into 2 groups. The first one was 110 pregnant with normal pregnancy regarding both fetal and maternal conditions were selected as control group. The second one was 212 pregnant suffering from pregnancy complications and were further subdivided into, 58 cases with severe preeclampsia toxemia associated with intrauterine growth restriction, 82 cases with GDM, 26 cases of abortion, 16 cases of undisturbed ectopic pregnancy, 14 cases with premature rupture of membranes=PROG and 16 cases with inevitable preterm labor. Serum recovered from peripheral blood samples by centrifugation was aliquot stored till used at -80 °C. Specific quantitative ELISA immunoassay kits from Sunlong Biotech Co. Ltd. were used to measure 25-OH-VitD (in ng/mL) and 1,25-DiOH-VitD (in pg/mL) (cat# SL2762Hu and SL2845Hu, Hangzhou, Zhejiang, China). The direct DiOH-VitD/OH-VitD ratio was calculated for each patient.

### Results:

25 -OH -Vit D showed significant differences only between control and GDM groups while there were no significant differences among control and other groups. On the other hand, 1,25-DiOH-VitD assay showed a very marked significant reduction in comparing control versus all of 6 complicated groups. Very similar to 1,25-DiOH-VitD pattern, DiOH-VitD/OH-VitD ratio showed no significant difference among the complicated groups. However, there were very marked significant reductions comparing control vs. all of the 6 complicated groups.

### Conclusions:

There is a strong association of vit D status and certain pregnancy complications. 1,25 Di-OH-Vit D assay seems to be more reliable than 25-OH-Vit D and could be used as a suitable biomarker in assessment of vit D status in pregnancy. Vit D supplementation during pregnancy may assist in reducing related complications.

### Key words:

Vitamin D, Pregnancy Outcomes, Pregnancy Complications