

## Effect of Treatment with Vitamin D on Maternal and Neonatal Indices in Pregnant Women with Hypocalcemia: A Randomized Controlled Trial

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### Abstract

#### Background

The impact of concomitant vitamin D deficiency and maternal hypocalcemia on fetal growth has is not clear. The aim of this study was to determine the effect of treatment with vitamin D on maternal and neonatal indices in pregnant women with hypocalcemia.

#### Materials and Methods

This clinical trial was conducted on 110 pregnant women (22-26 weeks of gestational age) with simultaneous mild hypocalcemia ( $8 < \text{serum calcium} < 8.5 \text{ mg/dL}$ ) and vitamin D deficiency ( $25 \text{ (OH) D} < 75 \text{ nmol/L}$ ). The study subjects were randomly allocated to intervention ( $n=55$ ) and control ( $n=55$ ) groups. In the control group, the subjects were given daily prenatal capsule until delivery. In the intervention group, the subjects were given 50,000 Units vitamin D weekly for eight weeks in addition to prenatal capsules until delivery similar to the control group. At delivery, maternal calcium and 25 (OH) D level and neonatal indices (weight, height, and head circumference) were measured and compared between the groups.

#### Results

At delivery, mean maternal vitamin D level was  $97.5 \pm 23.4 \text{ nmol/L}$  in the intervention group and  $48.9 \pm 17.2 \text{ nmol/L}$  in the control group, respectively ( $P < 0.001$ ). Mean maternal calcium level in the intervention group was higher than the control group ( $9.0 \pm 0.6 \text{ mg/dl}$  vs.  $8.8 \pm 0.5 \text{ mg/dl}$ ) but the difference was not statistically significant ( $P > 0.05$ ). Mean neonatal weight, height, and head circumference were not significantly different between the two groups ( $P > 0.05$ ).

#### Conclusion

In pregnant women with mild hypocalcemia, treatment with vitamin D would not have effect on mean serum calcium and neonatal indices.

**Key Words:** Body height, Body weight, Hypocalcemia, Pregnancy, Vitamin D deficiency.

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