

Placental Calcification and Vitamin D Deficiency in Low-Risk Pregnant Women

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Abstract

Background: The placental calcification is often considered as a physiologic aging process of the placenta but it may be accompanied with the altered levels of vitamin D (vit D). The aim of this study was to evaluate association between placental calcification and vit D in low risk pregnant women.

Materials and Methods: In a case-control study eighty otherwise healthy pregnant women with a gestational age between 37-41 weeks were recruited and divided into the case (n=40), and control (n=40) groups (based on the result of the ultrasonography and according to the Grannum grading). The serum of calcium in pregnant women and vit D level in cord blood were measured by high performance liquid chromatography (HPLC). Neonatal anthropometric values were measured after birth, too.

Results: Most of the pregnant women (n=74, 92%) showed either insufficiency or deficiency of vitamin D in cord while calcium levels were normal in both groups. Serum calcium showed a significant difference between two groups [p=0.042, odds ratio (OR): 2.006, 95% confidence interval (CI): 1.024-3.928], but vitamin D did not (p=0.144, OR: 1.048, 95%CI: 0.984-1.115). Vitamin D level had a significant relationship with calcification of the placenta as well as maternal age, gestational age, and birth weight.

Conclusion: It is better to measure calcium and vitamin D in mothers with calcified placenta because the vitamin D level had a significant relationship with placental calcification and we recommend the administration of vitamin D in pregnant women.

Key Words: Calcification, Calcium, Placenta, Pregnancy, Vitamin D.

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