

MATERNAL 25 HYDROXYVITAMIN D LEVEL AND ITS CORRELATION IN THAI GESTATIONAL DIABETES PATIENTS

Navaporn Napartivaumnuay MD., Sathit Niramitmahapanya MD.*, Chaicharn
Deerochanawong MD.*, Thongkum Suthornthepavarakul MD.*, Veerasak Sarinnapakorn
MD.*, Praon Jaruyawongs MD**

*Department of Internal Medicine, Rajavithi Hospital, Medical College of Rangsit University,
Bangkok, Thailand**

*Department of Gynecology and Obstetrics, Rajavithi Hospital, Medical College of Rangsit
University, Bangkok, Thailand***

Abstract:

Objective: The purpose of this study was to identify 25 Hydroxyvitamin D (25OHD) level in Thai pregnant women with gestational diabetes and non-gestational diabetes.

Method: This prospective study was conducted in 197 pregnant women at Rajavithi hospital, a tertiary care medical center in Bangkok during October 2010 to July 2011. The plasma 25 hydroxyvitamin D concentration and HbA1c level during the 75g OGTT in GDM and non GDM were evaluated. The International Association of Diabetes and Pregnancy Study Groups (IADPSG) recommendation were used for diagnosing GDM in this study.

Result: In the selected 197 Thai pregnant age from 18 to 49, mean aged 32.1 ± 5.9 year old, the mean plasma 25OHD level was 34.3 ± 8.3 ng/dl. 3.1 % of the patients had 25OHD deficiency (<20 ng/dl), 22.3% of the patients had 25OHD insufficiency (20-29ng/dl) and 74.6 % had normal 25OHD level. Among the 197 women, 70 patients (34.8%) were GDM. In GDM group, 29 patients (41.4%) had abnormal 25OHD level, 5.7% and 35.7% of 25OHD is deficiency and insufficiency respectively. Among those with GDM, plasma 25OHD concentration were significantly lower than non GDM (32.3 ± 10.3 vs 35.5 ± 6.7 ng/dl, $p=0.001$). Fasting blood glucose and HbA1C independently predict low level of 25OHD level in Thai GDM after applying regression model and adjusted for age, BMI, trimester and family history of DM ($P=0.031$, $P=0.014$ respectively). Higher pre-pregnancy BMI was associated with GDM and lower 25OHD level.

เสนอโดยนางสาวนพร นภาทิวาอำนวย ตำแหน่ง นายแพทย์ โรงพยาบาลราชวิถี
ในการประชุม 9th IDF-WPR Congress & 4th AASD Scientific Meeting
ซึ่งจัดขึ้นระหว่างวันที่ ๒๔ - ๒๗ พฤศจิกายน ๒๕๕๕ ณ ประเทศญี่ปุ่น

Conclusion: Finding from this study suggested that Thai GDM had lower level of 25OHD than non GDM. Fasting plasma glucose and Hb1Ac independently predict low level of 25OHD level in GDM.

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