

RELATIONSHIP OF VITAMIN D STATUS WITH INSULIN RESISTANCE IN TYPE 2 DIABETES MELLITUS

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ABSTRACT

Background

There is several evidence suggest that altered vitamin D (25Hydroxy (OH) D) and calcium homeostasis may play role in development of Type 2 diabetes mellitus (T2DM) and insulin resistance.

Objectives

The present study was designed to assess vitamin D status (25(OH) D) among patients with T2DM and to investigate the association between serum 25(OH) D levels with insulin resistance.

Methods and Materials

Eighty patient (30 males and 50 females) with T2DM and mean age (50.51± 10.70) were recruited from the diabetic center in Al-Mawane General hospital in Basrah governorate from 20th November 2014 to 25th April 2015. After an overnight fasting blood samples were collected for laboratory measurement of biochemical parameters [25(OH) D, insulin, fasting blood glucose, HbA1c].

Results

The present study revealed that serum 25hydroxy vitamin D had a mean value of (19.94 ± 9.59) ng/ml. This level showed a significant inverse relationship with insulin resistance (HOMA-IR) and HbA1c (p-value < 0.05). While the relationship between serum 25(OH) D with insulin sensitivity (HOMA-IS) revealed a positive significant association, on the other hand statistically significant not independent association was found with FBS and HOMA-%β.

Conclusions

Low 25 (OH) vitamin D level among diabetic subject affects glucose homeostasis. Vitamin D deficiency is strongly associated with insulin resistance and progression of Type 2 diabetes mellitus.

KEYWORD: Vitamin D, T2DM, Insulin Resistance

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