



Association between Vitamin D level and some physiological and biochemical parameters in pre and post menopause type 2 diabetic patients

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Abstract: This study aimed to evaluate the role of vitamin D and Estradiol hormone in the development of diabetes disease and their effect in pre and post-menopausal females. The hormones including (Estradiol and Insulin) and the physiological parameters (Vitamin D, Hemoglobin A1c, Fasting Blood Glucose, insulin resistance, insulin sensitivity, systolic and diastolic blood pressure). This case-control study was done in a period of March 2016 to October 2016, where the samples collected from Al-Sadr Teaching Hospital in Najaf Province. The number of samples was (80) patients with type 2 diabetes with an average age (36-65 year), all of them were with type 2 diabetes are divided to premenopausal and post menopause. Also, the study included 40 apparently healthy people with an average age (36-65 year), as control matched with disease group. According to the comparison of premenopausal and postmenopausal women in both diabetic patients and in control group, the results showed significant ($p \leq 0.05$) elevation in Estradiol hormone level rates, Insulin hormone level rates and insulin resistance in both groups. On the other, the comparison of premenopausal patients with diabetic and premenopausal control groups the statistical analysis showed significant elevation ($p \leq 0.05$) in Hemoglobin_{A1c} levels rate (HBA_{1c}), fasting blood glucose (FBG), Estradiol hormone level rates, Insulin hormone level rates, insulin resistance, insulin sensitivity and diastolic blood pressure. According to the comparison of postmenopausal diabetic patients and postmenopausal control group, there were significant differences ($p \leq 0.05$) in Hemoglobin_{A1c} levels rate (HBA_{1c}), fasting blood glucose (FBG), Estradiol hormone level rates, Insulin hormone level rates, insulin resistance and insulin sensitivity. In post-menopausal control group a significant negative correlation has been found between vitamin D and fasting blood glucose (FBG) level. In both premenopausal and postmenopausal diabetic patients and control group there were highly significant negative correlation between Insulin and insulin sensitivity, while highly significant positive correlation with insulin resistance. In post-menopausal diabetic patients, there were significant negative correlation between insulin and HBA_{1c}. According to premenopausal control group, there were highly significant positive correlation between hemoglobinA1c (HBA_{1c}) and fasting blood glucose FBG, while significant inverse correlation with insulin sensitivity. On the other hand, in premenopausal and postmenopausal diabetic patients groups there were highly significant positive correlation between hemoglobinA1c (HBA_{1c}) and fasting blood glucose (FBG).