

EFFECT OF DIABETES MELLITUS TYPE 2 ON THE BIOCHEMICAL PARAMETERS OF THE OBESE PATIENTS

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ABSTRACT : Our study aims to investigate the influence of the diabetes mellitus on some biochemical parameters in obese people. The used total number of samples was (110) samples from (110) individuals, it divided into three groups, the first group (G1) consist of (40) individuals (Group of obese without diabetes), the second group (G2) consist of (40) individuals (The group of obese people with diabetes) and the third group (control group) consist of (30) individuals (healthy individuals without obese and diabetes). Our study showed differences significant between G1 and G2 at the glucose level. And no there any difference significant at remains the used biochemical tests at level ($P \leq 0.05$). And there are differences high significant in G1 as compared with control group at level of Cholesterol, TG, LDL-Ch, VLDL-Ch, BMI and there are different high significant in HDL-Chat level ($P \leq 0.05$), wherever, control group have higher value than G1 in HDL-Ch, but no there any different significant between G1 and control group at glucose level at a level ($P \leq 0.05$). Also, our study showed significantly high levels of Cholesterol, TIG, LDL-C, VLDL-Ch, Glucose and BMI in G2 as compared with the control group, while the level of HDL-Chis higherin control group as compared with G2 at a level ($P \leq 0.05$). Diabetes mellitus and obesity hurt the general health and lead to disorder in the average level of biochemical compounds in serum.

Key words : Diabetes mellitus, biochemical parameters, obesity.

INTRODUCTION

Obesity is a global health pandemic problem. Obesity is a metabolic disorder, an obese person is who have body fat or excess weight, and that may be the effect on general health (they usually have great body mass index) (World Health Organization, 2000; Casazzaj *et al*, 2015).

The obese person have several complications and risk on his health conditions such as arthritis, metabolic syndrome, and cancer. Metabolic syndrome is including diabetes, high blood pressure, and heart diseases. The healthy diet and exercise are perfect methods for losing weight and prevent obesity. And the surgery is the ideal way to the people which failure in exercise and healthy food (Polikandrioti and Stefanou, 2009; Anja Schienkiewitz *et al*, 2017).

Diabetes mellitus is an ancient disease. Egyptian manuscript has first recorded the condition at 3000 years ago, but in 1936, starting the world know the difference between types diabetes mellitus 1 and 2 (Ahmed, 2002).

Type 2 diabetes mellitus is chronic disease spreading over the world more and more. It becomes wide-spreading, the affected people expected to be double in the next ten years in human society (Olokoba *et al*, 2012).

The pancreas cannot produce insulin in Type 2 diabetes or provide at the little amount. The diseases are showed the clinical signs either produced amount is not enough, or the cells resist it. Insulin resistance occurs, especially in muscle cells, liver cell and fat cell (Eckstein *et al*, 2019; Shah *et al*, 2019).

Diabetes mellitus is a disorder characterized by persistent hyperglycemia. Chronic hyperglycemia leads to damage in many organ tissues, results in several complications lead to a dangerous health condition such as the increased risk of cardiovascular diseases (Malek *et al*, 2019; Kempegowda *et al*, 2019).

Clinical Signs of type 2 diabetes often develop slowly. The clinical signs included increased thirst, frequent urination, increased hunger, Unintended weight loss, Fatigue, Blurred vision, Slow-healing sores, frequent infections, Areas of darkened skin, usually in the armpits and neck (Maruthur *et al*, 2016).

Most people with type 2 diabetes are obese; therefore the obesity is a predisposing factor to infect by type 2 diabetes. (34%) of adults in the United States, America are overweight and more than (11%) of people with diabetes have age more than 20 years. The relationship between obesity and diabetes is unclear; improved