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VISFATIN HORMONE CONCENTRATION IN DIABETIC OBESE WOMEN

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ABSTRACT

Background: Visfatin is an adipokine secreted mainly by visceral adipose tissue and has been linked to obesity. Visfatin has insulin mimetic properties. Visfatin also play an important role in the development of several chronic diseases and inflammation.

Aim of the study: To evaluate serum visfatin concentrations in women of different body weights to determine the relationships with obesity and diabetes mellites in women.

Methodology: In this study, 58 women of different body weights. Anthropometric measurements were recorded for all participants. Blood samples were collected to assay the biochemical parameters, including the levels of visfatin, insulin, glucose and lipid profile.

Results: The results were showed that diabetic women exhibited significantly higher visfatin and leptin levels than lean women. Furthermore, diabetic obese women showed significant increase of total cholesterol (T.C), triglyceride (T.G) and low-density lipoprotein-cholesterol (LDL-C) than lean women. However, diabetic women had significantly lower high-density lipoprotein-cholesterol (HDL-C) than lean women. Whereas, no significant differences of adiponectin and insulin found between groups.

Conclusions: The results of this study revealed that visfatin levels were increased in diabetic obese women. This suggests that visfatin levels strongly associated with obesity and diabetes.

Key words: Visfatin, Obesity, Diabetes, Adipose tissue, Adipokines.

I. INTRODUCTION

Obesity is chronic medical condition characterized by excessive fat accumulation in body [1]. It is one of the most important factors that lead to many metabolic complications include type 2 diabetes, insulin resistance and cardiovascular disease [2].

The World Health Organization (WHO) reports that in 2016, about 2 billion people were overweight, with 650 million meeting the obesity criterion [3].

Obesity is measured by using Body Mass Index (BMI) that determined by dividing the weight of the person in kilograms by their square height in meters, therefore, individuals can be classified into three categories, normal (BMI= 18-24.9 kg / m2), overweight (BMI= 25-29.9 kg / m2) and obese (BMI= 30 kg / m2) [4].

The main source of fatty acids (FFA) in the fasting state is adipose tissue which is used for energy use and heat production. Adipose tissue also recognized as large endocrine and paracrine organ in human body which is secretes hundreds of bioactive molecules called adipokines [5]. These molecules are proteins secreted mainly by adipocytes and have role in several function in the body including energy metabolism, glucose homeostasis, inflammation, insulin resistance, immunity, appetite and satiety [6].