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The Relationship between Serum Levels of Meteorin-Like (Metrnl) and Type 2 Diabetes Mellitus

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ABSTRACT— It has been found that adipose tissues are able to produce certain secreted protein called Meteorin- like (Metrnl) as a novel adipokine, homologous to the neurotrophin metrn It may be considered as a hormone present in the circulation and secreted by white adipose tissues and skeletal muscles. This study was a trial to evaluate the relationship between metrnl serum level and insulin resistance. Patients and Method The study included 120 individuals categorized into two groups Group1 that included 68 patients with type II Diabetes Mellitus (T2DM). The source of the sample was the patients who attended the Diabetic Center at one of the major hospital in Basrah City. The second group included 52 healthy individuals. Metrnl (pg/ml) and several biochemical parameters were estimated for all participants including fasting blood glucose (mg/dL); Insulin) mIU/L); hemoglobinA1 (%); Alanine aminotransferase; aspartate aminotransferase and lipid profiles; Result: s. Metrnl was significantly increased in T2DM patient (4853±2930), p >0.05 compared to healthy (568±208). In conclusion: This study confirmed the positive correlation between metrnl plasma level and T2DM. Accordingly, an increase in metrnl plasma level may be workable procedure in insulin sensitivity.

KEYWORDS: Metrnl, diabetes mellitus, insulin resistance

1. INTRODUCTION

Diabetes Mellitus (DM) is a disorder in which the body cannot produce adequate insulin or it cannot respond normally to the insulin, resulting in a high blood glucose levels. [1] Diabetes Mellitus type1 also called insulin- dependent diabetes, begins in childhood. While type 2diabetes (T2DM) is more common than type 1, usually develops in people above the age 40-45 years. It is a non- insulin dependent DM develops when the tissues become unable to respond to insulin (insulin resistance). which is due to the decreased number of insulin receptors. Therefore glucose uptake by the cells is slow process. As a result of increased blood glucose; adipose cells convert glucose to fat [2], [3]. It has been found that adipose tissues are able to produce certain secreted protein called Meteorin- like (Metrnl) also known as Subfatin was discovered as a novel adipokine [4], [5], homologous to the neurotrophin metrn It may be considered as a hormone present in the circulation and released by white adipose tissues and skeletal muscles [6], [7]. The secretion stimulated either in the skeletal muscle after exercise or in adipose tissue after exposure to certain conditions like cold [8]. Previous reports have shown that the metrnl circulating level in (T2DM) is contradictory [9], [10]. This study was a trial to evaluate the relationship between metrnl serum level and insulin resistance.

2. PATIENTS AND METHODS

2.1 Patients

This study was a cross sectional study, carried out in Basrah City, Iraq. The study included 120 individuals