PREVALENCE OF DYSLIPIDEMIA IN ADULTS WITH T1DM AND ITS CORRELATION WITH MICROALBUMINURIA

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ABSTRACT : To evaluate the prevalence of dyslipidemia in type 1 diabetes mellitus adult patients. To assess the risk factors in the development of dyslipidemia in these patients and to clarify the characteristics in patients with dyslipidemia such as: (Age, gender, duration, family history, HbA1c, BMI etc.), also to clarify the associated microalbuminuria in dyslipidemia. All lipid parameters included (TC, TG, LDL, HDL, VLDL and non-HDL) were normal in common, and abnormal percentages ranged (7.8-28.4%) from total patients. Patients which were at age ≤5 years old at the diagnosis have a significant correlation with high total cholesterol than other patients. The duration of T1DM in adult patients with ≥10 years duration are statistically significant in correlation with high VLDL and high TG than other patients. Also obese patients with BMI ≥30 are linked with high VLDL and high TG more than other patients. Patients with family history of T2DM also linked with low HDL than patients with no family history of T2DM. Poorly controlled HbA1c patients are associated with high non-HDL than patients with controlled HbA1c. Only 25(34.2%) out of 73(100%) have MAU excretion in their urine. A significant relationship between MAU and total cholesterol, Non-HDL, VLDL and TG. Age at the diagnosis is a risk factor for high total cholesterol. Duration of T1DM and patients with BMI ≥30 are more likely to develop high VLDL and high TG than other patients subgroups. Family history of T2DM is linked with low HDL. HbA1c is associated with high non-HDL. High total cholesterol, high non-HDL, high TG and high VLDL are a risk factors in the development of microalbuminuria in T1DM adult patients.

Key words : Dyslipidemia, T1DM, total cholesterol, adult patients.

INTRODUCTION

Dyslipidemia is a metabolic abnormalities found in common in young and adult patients with type 1 diabetes mellitus and can expand the risk of cardiovascular diseases (Maahs *et al*, 2008). In T1DM patients, atherosclerosis can happen in an early periods of life, causing increased morbidity and mortality compared with normal community (Craig *et al*, 2018). The prevalence of dyslipidemia in the broad population, has recently elevated (Lemkes *et al*, 2010). Patients with T1DM have a two into four times higher risk to develop atherosclerosis in comparison to non-diabetic people (Schnell *et al*, 2013), and cardiovascular events about (50-70%) of the total mortality in these patients (Regensteiner *et al*, 2015). Diabetic nephropathy is a main causative factor of morbidity and mortality among young adults with T1DM. With no nephropathy with diabetes, death rates in patients

with T1DM is similar to the rates in the general population, although it is significantly higher in patients with abnormal UAE rate than other patients (Groop *et al*, 2009; Orchard *et al*, 2010). Dyslipidemia was associated with MAU and retinopathy progressing in the DCCT/EDIC and many other studies (Jenkins *et al*, 2003; Raile *et al*, 2007; Marcovecchio *et al*, 2009). Many other studies have linked microalbuminuria with the rest of lipid profile parameters (Jenkins *et al*, 2003; Marcovecchio *et al*, 2009; Demirel *et al*, 2013). Since, there are no recent studies in our community - at the best of author's knowledge - considering the recent manners about dyslipidemia in type 1 diabetes mellitus for these ages regarding nephropathy, we considered to suggest this study to seek differences and changes considering above circumstances on a bigger sample size.