

ABDOMINAL OBESITY INVOLVES LOW IRON STATUS IN TYPE 2 DIABETES MELLITUS PATIENTS FROM THE DICARIVA STUDY

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INTRODUCCIÓN:

Type 2 Diabetes Mellitus (T2DM) is a major systemic disease which involves impaired pancreatic function and affects more than 500 million people worldwide. Obesity is a major factor involved in T2DM, as it is associated to chronic low-grade inflammation degree which has been suggested to play a crucial role in T2DM development. This powerful link between diabetes and obesity has inspired the term 'diabesity' highlighting this relationship. Recently, it has been proposed a link between dysmetabolic iron and cardiometabolic alterations including diabetes, cardiovascular disease and obesity. However, the relationship between iron status and diabesity it is controversial and has not been fully studied.

OBJETIVOS:

The objective of this study is to describe and evaluate the features of a long-lasting T2DM volunteers and the connection among obesity, classic T2DM biomarkers and iron metabolism status.

MÉTODOS:

537 T2DM (245 men, 292 women) were selected from Diabetes Cardiovascular Risk of VALLECAS (DICARIVA) study (a population-based cross-sectional study) considering absence of both excessive hs-PCR (<10mg/L) and transferrin saturation (TSAT) (<90%). T2DM were divided into three groups a) non-obese with normal waist perimeter; b) non-obese with increased waist perimeter; and c) obese. Shapiro-Wilks and Kolmogorov-Smirnov tests were performed to check for normality distribution. MANCOVA test was used to compare the previous groups followed by DMS post-hoc tests. Age was included as a covariate.

RESULTADOS:

Median age of the volunteers was 62±13 y 67±10 in men and women, respectively. BMI was higher in women ($p<0.001$) than men but the differences in blood pressure, glucose, and glycosylated hemoglobin were not significant. T2DM women had significantly lower serum iron, ferritin and TSAT but higher transferrin than T2DM men. All obese patients presented increased waist perimeter. A decline in serum iron and TSAT ($p=0.028$ and $p<0.001$, respectively) was observed in parallel to the increase in BMI and waist perimeter, more intensively in women compared to men ($p<0.001$).

DISCUSIÓN:

In this long-lasting T2DM volunteers, abdominal obesity is associated with altered iron transport to tissues mostly in women, suggesting that a high percentage of serum iron was non-protein bounded.

CONCLUSIONES:

It is concluded that T2DM patients with abdominal obesity have altered iron transport. Therefore, more research is needed to understand the connection between iron metabolism and T2DM and the role of iron in T2DM comorbidities.

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