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Gene expression profile of IL-18 and renalase in patients with recent-onset type 2 diabetes mellitus and their influence on Cardiorenal Syndrome

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INTRODUCTION: Type 2 diabetes mellitus (T2DM) is associated with increased cardiovascular and renal risk, highlighting the need for early biomarkers such as IL-18 and renalase. **METHOD**: Cross-sectional study including 63 individuals (26 T2DM and 37 controls). Clinical, glycemic, lipid and inflammatory parameters were assessed, as well as IL-18 and renalase gene expression by RT-qPCR. Statistical analyses included comparative tests, Spearman correlation and multiple regression. **RESULTS**: The T2DM group showed higher age ($p=0.012$), as well as increased glucose and HbA1c levels ($p<0.001$). Triglycerides were higher ($p=0.003$) and HDL was lower ($p=0.018$), with no difference in LDL. Microalbuminuria was increased in T2DM ($p=0.041$), with no change in creatinine. Renalase expression was higher in T2DM ($p=0.0406$), while IL-18 showed no difference ($p=0.1833$). Positive correlations were found between HbA1c and triglycerides ($\rho=0.38$; $p=0.006$), glucose and renalase ($\rho=0.29$; $p=0.031$), and HbA1c and renalase ($\rho=0.41$; $p=0.004$). In multiple regression, age was an independent predictor of HbA1c ($p=0.004$), and renalase remained associated with T2DM. **DISCUSSION**: These findings indicate that T2DM is associated with metabolic alterations and increased renalase expression, related to glycemic control, suggesting its potential as an early cardiometabolic biomarker, while IL-18 was not significantly associated.

KEYWORDS: Type 2 diabetes mellitus; Renalase; IL-18; Biomarkers.

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