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P-066 - RELATIONSHIP OF OSTEOGLYCIN WITH RENAL FUNCTION AND VASCULAR TISSUE IN PATIENTS WITH TYPE 2 DIABETES

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Resumen

Introduction: Osteoglycin (OGN) is a basic component of the vascular extracellular matrix that mainly acts a regulator of the bone metabolism, and it is involved in several biological processes and pathologies. The aim of this study was to determine the serum OGN levels in type 2 diabetes (T2D) patients to assess its usefulness as a biomarker of mildly impaired kidney function. We investigated the possible origin of circulating OGN in T2D patients by evaluating the expression of OGN in vascular tissue.

Material and methods: Cross-sectional study including 147 T2D patients (65 ± 8 years, 58.5% males), and 75 healthy controls (63 ± 10 years, 36% males). The T2D group was classified according to the estimated glomerular filtration rate (eGFR) ? 90 mL/min/1.73 m^2 (n = 62) and 90 mL/min/1.73 m^2 (n = 85). The OGN expression was determined by RT-qPCR and immunohistochemical detection in the calcified femoral artery of T2D patients and non-calcified femoral artery of control subjects.

Results: The circulating OGN was significantly increased in T2D patients compared to the controls (p 0.001). T2D patients with normal eGFR showed lower serum OGN levels than those with mildly decreased eGFR (p = 0.013) after adjustment for sex and age. The serum OGN levels were independent estimators of impaired kidney function risk (OR = 1.08; 95%CI [1.01/1.13]; p = 0.023) in T2D patients. The mRNA quantification and the immunohistochemical detection showed a significant OGN upregulation in vascular tissue samples from T2D patients compared to those from healthy controls.

Conclusions: We suggest that serum OGN could act as an albuminuria-independent biomarker of incipient impaired kidney function in T2D patients and that its origin may come from the expression in vascular tissue.