

ABSTRACT

The aim of the work: is to assess the adequacy of urinary podocalyxin as a biomarker for early detection and disease progression of podocytopathy in high body mass index metabolic syndrome patients with normal and impaired kidney functions.

Methods: This is a cross-sectional study where all participants were subjected to full history taking, complete physical examination with assessment of BMI and laboratory investigation to assess the inclusion and exclusion criteria. Then a fresh morning urinary sample was obtained to measure both urinary Albumin/Creatinine ratio and Urinary Podocalyxin where urinary podocalyxin is measured by using human podocalyxin ELISA Kit.

Results: urinary podocalyxin showed that it can differentiate between group BI(albuminuric with normal renal functions) and BII(impaired renal functions) at the suggested cut point 285 pg/ml with 52% sensitivity and 45 % specificity with low PPV 48.8% and NPV 48.6% by using ROC analysis with p value 0.008 but it can't differentiate between group A(completely normal renal functions) and neither of group BI nor BII.

Conclusion: Urinary podocalyxin despite being more sensitive for the diagnosis of early diabetic nephropathy than urinary albumin/creatinine ratio and being used as a marker of CKD progression in diabetic patients still urinary albumin creatinine ratio is the gold standard for diagnosis and follow up of diabetic nephropathy. Urinary podocalyxin is nonspecific and can't be related to BMI in metabolic syndrome patients.

Keywords: podocytopathy, urinary podocalyxin, metabolic syndrome.

Key Messages: Podocytopathy is a major consequence of metabolic syndrome and obesity. There is a significant correlation between urinary podocalyxin, systolic blood pressure and LDL cholesterol. Urinary podocalyxin despite being more sensitive for the diagnosis of early diabetic nephropathy still urinary albumin creatinine ratio is the gold standard.