

Biochemical and clinical correlates of microalbuminuria among type 2 diabetes mellitus patients attending the Diabetic Centre, Teaching Hospital Jaffna

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Background: Diabetes Mellitus (DM) is an emerging threat to public health. DM affects quality of life and leads to premature death. Microalbuminuria (MA) being an early predictor of vascular complication is an ideal marker to identify DM complications. This study aimed to identify the biochemical and clinical correlates of MA among patients diagnosed with type 2 DM attending the Diabetic Centre, Teaching Hospital Jaffna.

Methods: A descriptive cross-sectional study was conducted on a systematic random sample of 408 type 2 DM patients from November 2017 to January 2018 at Diabetic Centre, Teaching Hospital Jaffna. An interviewer administered questionnaire was used to collect data. Details of clinical and biochemical parameters, co-morbidities and complications were obtained from the last available laboratory reports and medical records. Albumin creatinine ratio (ACR) measured by immunoturbidimetric assay method on a random spot sample of urine was extracted from laboratory reports. Data were entered and analyzed using the Statistical Package for the Social Science (SPSS) version 21. P value was considered significant at ≤ 0.05 .

Results: The study sample comprised 137 males and 271 females with a mean age of the 59.8 years (SD 10.6). The prevalence of MA and overt nephropathy were 26.5% ($n \leq 108$, 95%CI 22.2%-30.8%) and 11.5% ($n \leq 47$, 95%CI 8.4%-14.6%) respectively. Age ($p \leq 0.031$), triglyceride level ($p \leq 0.012$) and duration of DM ($p < 0.0001$) was significantly positively correlated with ACR. Abnormal fasting plasma glucose ($p \leq 0.028$), greater duration of DM ($p \leq 0.003$), greater waist circumference ($p \leq 0.047$), presence of hypertension ($p \leq 0.015$), ischemic heart disease ($p \leq 0.008$), retinopathy ($p \leq 0.002$) and nephropathy ($p < 0.0001$) were significantly associated with the presence of MA. Gender, BMI, HbA1c and abnormal blood pressure had no significant association.

Conclusion: The overall prevalence of MA in type 2 DM patients attending the Diabetic Centre, Teaching Hospital Jaffna was 26.5%. The biochemical and clinical correlates identified in this study merit further researcher to guide health promotion efforts in Sri Lanka.

Keywords: Microalbuminuria, diabetes mellitus, correlates, Jaffna