Prevalence of Microalbuminuria and its Relationship to Non-Traditional Risk Factors in Recently Diagnosed Type 2 Diabetes Mellitus: Observations from the ADOPT Study

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Microalbuminuria (MA) is a risk factor for cardiovascular (CV) disease and early mortality in type 2 diabetes mellitus (T2DM). The prevalence and associations of MA, defined as albumin:creatinine ratio (ACR) > 30 mg/g, were studied in 4,134 drug-naive T2DM patients (FPG ≤180 mg/dl) diagnosed within 3 years, entering a randomized double-blind comparative drug intervention trial (ADOPT). The overall prevalence of MA was 15.2% and was not affected by disease duration or age. Patients with MA (MA+) were more frequently male, significantly more obese (*P* < 0.0001), and had a significantly higher white blood cell count (WBC) (*P* < 0.001). Additionally, MA+ patients had higher blood pressure (BP) and prevalence of hypertension (HTN), as well as worse metabolic control than patients with normoalbuminuria (MA-).

Risk Factor	MA+	MA-	*P*-value
ACR, mg/g	87.2, 43–138	4.0, 3.5–10.0	
HbA_{1c}, %	7.5 ± 0.99	7.3 ± 0.92	< 0.0001
FPG, mg/dl	155.6 ± 28.6	151.2 ± 26.1	< 0.0001
Systolic BP, mmHg	137.0 ± 16.4	132.1 ± 15.2	< 0.0001
Diastolic BP, mmHg	81.1 ± 9.3	79.4 ± 8.7	< 0.0001
Dx HTN+*, %	83.3	76.3	< 0.0001

Mean ± SD, or Geometric Mean, IQR for ACR, *prior diagnosis of HTN or BP ≥ 130/85

Treatment with ACE Inhibitors and/or AII Receptor Blockers was also more frequent in MA+ (21.5%) vs MA- (17.7%) patients (*P* < 0.024). LogACR significantly correlated with HbA_{1c} (r = 0.056, *P* = 0.0004), FPG (r = 0.054, *P* = 0.0006), SBP (r = 0.110, *P* < 0.0001), DBP (r = 0.085, *P* < 0.0001) and WBC (r = 0.086, *P* < 0.0001). MA was significantly related to traditional and non-traditional CV risk factors and its prevalence, in our cohort, was high and similar to the 12.3% reported in newly diagnosed T2DM by the UKPDS. This emphasizes the need for more aggressive, comprehensive treatment of MA, hyperglycemia, hypertension and other associated CV risks in T2DM.