

## Microalbuminuria and Blood Pressure in Obese Children

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**Introduction and aim:** Microalbuminuria in adults is considered to be an early marker of renal as well as systemic vascular disease. Its role in adults with hypertension has also been determined. In children with hypertension, however, its significance has yet to be established. Aim of this study was to analyze the association between albuminuria and blood pressure in obese children.

**Methods:** In 65 children (mean age: 12.5±3.2 yrs) with obesity (BMI >95th percentile) fasting glucose, insulin, uric acid, antropometrical data (BMI, Waist Circumference), lipid profile, 24-h urinary albumin excretion (UAE) and casual and ambulatory systolic (SBP) and diastolic BP (DBP) were analyzed. Statistical analysis were performed using t-test,  $\chi^2$  test and linear regression.

**Results:** Hypertension was found in 28% and other elements of metabolic syndrome (MS) in 36% of children. Mean UAE was 26.88±58.29 mg/24h and microalbuminuria (MA) was present in 14 children (21%), of whom 9 had hypertension. In children with elevated BP, UAE was significantly higher in comparison to subjects with normal BP (p<0.01).

Patients with elements of MS had similar UAE compared to those without these abnormalities.

Children with UAE greater than median level had higher uric acid, triglycerides, HDL cholesterol and a tendency for higher 24-h SBP (p=0.08) and SBP load (p=0.06). Univariate analysis showed correlations between UAE and 24-h SBP (p,r=0.27), SBP load (p,r=0.29), and SBP index (p,r=0.34).

**Conclusions:** Our results suggest that the SBP is the strongest factor that influences UAE in obese children. Because an increased blood pressure in children imposes an increased risk for target organ damage and cardiovascular events, microalbuminuria could serve as an indicator of elevated BP in obese children.