Association between Albuminuria and Severity of Coronary Artery Disease detected by Angiography in Patients with Type 2 Diabetes Mellitus

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Abstract

Background: Diabetes mellitus (DM) is the most prevalent metabolic disease worldwide and is the most potent risk factor for coronary artery disease (CAD). Consequently, finding a clue to diagnose the presence of CAD as early as possible in diabetic patients is very important. Micro albuminuria is a strong and independent indicator of increased cardiovascular risk among individuals with and without diabetes.

The aim of this study was to find any correlation between the degree of albuminuria and the severity of CAD in patients with type 2 DM.

Methods: This was a cross sectional study that included 86 patients with type 2 DM whom underwent elective coronary angiography for suspected coronary artery disease in Mansoura Specialized Medical Hospital from March 2014 till March 2015. Albumin creatinine ratio was determined for all patients and severity of CAD was assessed using the SYNTAX score.

Results: The patients were classified into 3 groups based on levels of urinary albumin creatinine ratio (ACR); group 1 consisted of patients with ACR<30 mg/gm (26 patients), group 2 consisted of patients with ACR 30-300 mg/gm (38 patients) and group 3 consisted of patients with ACR> 300 mg/gm (22 patients). Age ranged between 41 and 70 years with mean age 58.37 ± 7.20 years, sex distribution was 48 males (55.8%) and 38 females (44.2%). The SYNTAX score and ACR were significantly positively correlated ($p<0.001$). Regression analysis revealed ACR as an independent predictor for the severity of CAD ($P<0.001$).

Conclusion: There is a strong relationship between the degree of albuminuria and extent and complexity of CAD in patients with type 2 DM and this association in independent of traditional risk factors.

Keywords: Coronary artery diseases; Albuminuria; Diabetes; Risk factors