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Uric acid and regional body fat distribution in Patients with Type 2 Diabetes mellitus

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Background: The progressive increase in serum uric acid may be linked to the rising prevalence of overweight and obesity. The relationship between hyperuricemia and the regional distribution of body fat and in patient with type 2 diabetes mellitus (DM) is not well established.
Aim: The aim of this study was to investigate the relationship between uric acid and abdominal fat distribution in patient with type 2 DM.
Methods: A total of 323 subjects with type 2 DM were included in this study. All subjects were classified into quartile by uric acid. Clinical and anthropometric profile, such as body mass index (BMI), waist and hip circumferences, waist-to-hip ratio(WHR), skinfold thickness, and lipid profiles were measured. Abdominal fat amount was measured by single slice abdominal computed tomography scanning.
Results: Uric acid was positively correlated with BMI(r=0.170), waist circumference (r=0.177), visceral fat area (r=0.156), and subcutaneous fat area (r=0.260) in men. Patients within the highest quartile in men showed significantly higher visceral fat area, subcutaneous fat, BMI, WHR, and waist circumference. Patients within the highest quartile in women showed significantly higher visceral fat area. In multiple regression analysis, there was no significant association between the visceral fat area and the serum uric acid levels (b-coefficient = 0.120, p = 0.115).
Conclusion: Our data shows that uric acid levels were correlated with visceral fat area patients with type 2 DM, especially in men. We need further study the correlation between uric acid levels and central obesity in more patients.