[gw22-e0067]

EFFECT OF SERUM URIC ACID LEVEL ON BLOOD PRESSURE RESPONSE TO ANTIHYPERTENSIVE DRUG IN MALE HYPERTENSIVES

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10.1136/heartjnl-2011-300867.572

Objective The authors explore the relationship between the serum uric acid levels and blood pressure (BP) response to antihypertensive drugs treatment in male hypertensives by a hospitalisation-based retrospective analysis.

Methods According to serum uric acid (SUA) levels, 804 male inpatients with diagnosis of hypertension were divided into two groups, the hyperuricaemia patients (SUA>420 μmol/l, n=305) and patients with normal SUA levels (SUA<420 μmol/l, n=499). Multiple regression analysis models was used to examine the effect of serum uric acid levels on BP response to antihypertensive drugs during hospitalisation, after adjustment for age, diabetes mellitus, chronic kidney disease (CKD) and dyslipidaemia.

Result The hypertensive patients with hyperuricaemia have higher body mass index (BMI), dyslipidaemia ratio, systolic BP (diastolic BP), serum creatinine, antihypertensive therapeutic intensity score ($p<0.05$) and lower estimated glomerular

filtration rate (eGFR), BP compliance rate ($p<0.05$) than the normal group. Serum uric acid levels was positively correlated with BMI, total cholesterol, triglyceride, serum creatinine, systolic BP, diastolic BP ($p<0.05$), and was negatively correlated with high-density lipoprotein cholesterol and eGFR ($p<0.001$). In multivariable analyses adjusting for age, the mean difference from systolic BP (diastolic BP) goal, BMI, diabetes, smoking, family history, lipid metabolic disorders, hospitalisation time, antihypertension therapeutic intensity score and CKD, the male patients with hyperuricaemia have less decrease in systolic BP of 5.20 mm Hg (95% CI: 3.11–7.30 mm Hg), and have less decrease in diastolic BP of 1.55 mm Hg (95% CI 0.22 to 2.88 mm Hg).

Conclusions The results suggest that serum uric acid levels could affect blood pressure response to the antihypertensive therapy in male hypertensives.