

Effect of quercetin on the echocardiographic parameters of left ventricular diastolic function in patients with gout and essential hypertension.

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Abstract

OBJECTIVE: Introduction: Gout is associated closely with an increased risk of cardiovascular (CV) events including heart failure. The aim: Improvement of treating patients with gout and essential hypertension (EH) by applying course therapy of quercetin of the echocardiographic parameters of the left ventricular diastolic function.

PATIENTS AND METHODS: Materials and methods: 84 male patients with gout and EH. The main group consists of 43 patients who have performed treatment with quercetin and a comparative group of 41 patients who were performed treatment without quercetin.

RESULTS: Results: In patients with gout in combination with EH, the addition of quercetin to antihypertensive and urate-lowering treatment have a protective effect on cardiac diastolic function (the baseline-adjusted changes during 12 months were significantly lower in the quercetin group than in the comparative group for E/e' ($-0,41 \pm 0,01$ vs. $-0,08 \pm 0,01$, $p = 0,001$) and LV mass index, g/m^2 ($-3,28 \pm 0,02$ vs. $-2,04 \pm 0,03$, $p = 0,02$). Also this combination contributed to faster and more pronounced achievement of the target level of uric acid (reduction by 33,7%), normalize renal function (the rate of glomerular filtration, $ml/min/1,73 m^2$ level increase by 13,3%) and also had a cumulative antihypertensive effect (reduction of systolic blood pressure by 5,5% and diastolic blood pressure by 3,6%) without increasing the dose or adding new antihypertensive drugs.

CONCLUSION: Conclusion: adding quercetin to antihypertensive and urate-lowering regimens for 12 months in patients with gout and EH improve echocardiographic parameter of diastolic function left ventricular, purine metabolism, renal function and additional normalize blood pressure.

KEYWORDS: essential hypertension; gout ; left ventricular diastolic dysfunction; quercetin