

Effects of Losartan vs. Enalapril on the Markers of Metabolic Syndrome

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To the Editor,

Al-Thanoon et al. reported that several markers of metabolic syndrome (MetS) were improved by the administration of losartan (50 mg/day) or enalapril (20 mg/day).¹ A significant increase in high density lipoprotein cholesterol (HDL-C) was noted only with losartan.¹ Some comments may be of interest.

The Losartan Intervention for Endpoint reduction (LIFE) trial included 9,193 hypertensive patients with electrocardiographically documented left ventricular hypertrophy.² These patients were randomized to losartan or atenolol and followed for 4.7 years. Losartan was superior to atenolol in reducing cardiovascular (CV) and total mortality.² In this study, losartan blunted the decrease in HDL-C and this was associated with fewer composite endpoints compared with atenolol.³ Also, in the LIFE trial, the rise in serum uric acid (SUA) levels was attenuated by losartan and has been related to CV outcomes.⁴ Losartan is the only angiotensin II type 1 receptor blocker with a hypouricemic effect.⁵ SUA levels are raised in MetS,⁶ and may predict CV events.⁷ The decrease in SUA levels by drugs used for vascular disease prevention (e.g. atorvastatin) is associated with a reduced risk of CV events.⁸ Therefore, it would be useful to know if there were any changes in SUA levels in the Al-Thanoon et al. study.¹

Non-alcoholic liver disease (NAFLD) is considered a manifestation of MetS which is also associated with raised SUA levels.⁹ Even abnormal liver function tests (LFTs) have been linked with increased vascular risk.¹⁰ A *post hoc* analysis of the Greek Atorvastatin and Coronary Heart Disease Evaluation (GREACE) study included 437 patients with coronary heart disease and moderately elevated ($<3 \times$ the upper limit of normal) LFTs [alanine (ALT) and aspartate aminotransferase (AST) activities].¹¹ These patients experienced a greater CV benefit from atorvastatin compared with those with normal AST/ALT activities.¹¹ Therefore, it would be interesting to know whether weight reduction together with antihypertensive treatment was associated with changes in AST/ALT activities in the Al-Thanoon et al. study.¹

The weight loss (4.2 and 3.0 kg in the losartan and enalapril group, respectively) was quite marked over this 2 month study.¹ Did the patients receive lifestyle advice? Also, it is important to consider that any effects on SUA, HDL-C and LFTs might be weight-related.

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