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Effect of atorvastatin in endothelial function according to dosage

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Purpose: The aim of this study was to evaluate the effect on endothelial function of statin according to dosage. **Methods:** We enrolled the 100 patients with hypercholesterolemia between 2014 and 2015. The patients were randomly divided as two groups according to dosage of atorvastatin; 20mg (n = 50, mean age:61years) and 40mg (n = 50, mean age:60years). We measured the aortic pulse wave velocity (PWV) as index of arterial stiffness, intima-media thickness (IMT) of both common carotid artery and laboratory test including of lipid profile, liver profile, renal profile and serum high sensitivity C-reactive protein (hs-CRP) at baseline and 1 year after medication of statin (1year±2 month). **Results:** The total cholesterol, LDL and CRP level in both groups was significantly decreased 1 year later. However, fasting blood glucose (FBS) and ALT in both groups was significantly increased 1 year later. The IMT in both groups was significantly decreased after 1 year. The PWV in 40mg group was significantly decreased, but not 20mg. In multi-variates analysis, the dosage of atorvastatin was independent associated with PWV. **Conclusions:** These results suggest that the moderate to high dose of atorvastatin might be more effective in the endothelial function.

	Atorvastatin 20 mg (n = 50)	Atorvastatin 40 mg (n = 50)	p
Change of LDL	-44.7 (±26.2)	-52.1(±26.5)	0.028
Initial PWV	9.7 (±2.1)	11.1 (±2.0)	0.001
Change of PWV	+ 0.844 (±1.583)	- 1.414 (±0.148)	0.001
Initial IMT	0.957 (±0.338)	1.037 (±0.337)	0.242
Change of IMT	- 0.126 (±0.263)	-0.242 (±0.235)	0.023
Initial hs-CRP	0.14 (±0.15)	0.46 (±0.73)	0.003
Change of hs-CRP	- 0.05 (±0.15)	-0.29 (±0.73)	0.028
Initial ALT	22.3 (±7.3)	19.1 (±5.7)	0.015
Change of ALT	1.38 (±8.55)	9.66 (±11.84)	0.001
Initial FBS	97.6 (±9.5)	101.5 (±21.8)	0.251
Change of FBS	2.9 (±11.1)	9.2 (±15.3)	0.001

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Clinical impact of carotid atherosclerosis and uric acid in metabolic syndrome

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Purpose: The aim of this study was to access the carotid atherosclerosis and uric acid in metabolic syndrome (MS). **Methods:** The subjects consisted of 1032 patients who visited cardiology department between 2012 and 2014. In all the subjects, we performed a survey on demographic and cardiovascular risk factors and determined blood pressure, body mass index (BMI), waist and laboratory, and echocardiographic parameters. This study was used ATP III definition for the metabolic syndrome. Result: The patients were 517 men and 515 women (50:50%) with mean age of 61.4 years and mean BMI of 24.4kg/m². The prevalence of the metabolic syndrome was 41.8%, predominantly among women (women: 57.4%, men: 40.6%). The mean values of serum uric acid and carotid intima-media thickness (IMT) were 5.3 mg/dL and 0.80 mm. After adjusting, the uric acid and carotid IMT for MS were 1.25 (1.13-1.39, p<0.001) and 3.4 (1.85-6.35, p<0.001). **Conclusions:** The prevalence of MS showed an increase according to serum uric acid values and carotid IMT. MS might be significantly associated with hyperuricemia and carotid atherosclerosis.

	MS (n = 435)	No MS (n = 597)	p-value
IMT- Lt (mm)	0.80±0.28	0.76±0.28	0.027
IMT- Rt (mm)	0.81±0.30	0.77±0.27	0.005
CRP (mg/dl)	5.9±10.9	4.5±7.6	0.036
Uric acid (mg/dl)	5.5±1.8	5.2±1.9	0.035

	Beta	95% CI	p value
Age > 60years	1.261	0.898 - 1.771	0.180
Female	2.071	1.411 - 3.041	<0.001
eGFR < 60	1.187	0.795 - 1.771	0.402
LV EF < 50%	0.851	0.514 - 1.338	0.485
CRP	1.010	0.993 - 1.028	0.265
Uric acid	1.258	1.134 - 1.395	<0.001
IMT	3.428	1.851 - 6.349	<0.001