

## Effects of atorvastatin and artichoke leaf extract treatment on lipids and oxidative stress parameters in rats fed on high cholesterol diet

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The effect of atherogenic diet and treatment with artichoke leaf extract and atorvastatin (alone and in combination) on lipid levels and oxidative stress in plasma, erythrocyte hemolysate, liver tissue and abdominal aorta in rats was investigated. Experimental animals were divided in five groups (ND – standard diet; AD – atherogenic diet which is standard diet supplemented with 2% cholesterol, 3% sunflower oil and 1% sodium cholate; AD + Ator – atherogenic diet and treatment with atorvastatin; AD + Ator + Art – atherogenic diet and treatment with atorvastatin and artichoke leaf extract; AD + Art – atherogenic diet and treatment with artichoke leaf extract). Cholesterol rich diet led to increase in basic lipid parameters in plasma as expected, but therapy did not decrease those values. Therapy showed positive effects on abdominal aorta wall thickness ( $p \leq 0.001$ ) (treatment with combination of atorvastatin and artichoke leaf extract gave the best result) and parameters of oxidative stress (GSH ( $p \leq 0.01$  in plasma, erythrocyte hemolysate and liver tissue), MDA ( $p \leq 0.01$  in erythrocyte hemolysate), PAB ( $p \leq 0.05$  in plasma), SOD ( $p \leq 0.01$  in erythrocyte hemolysate), PON ( $p \leq 0.01$  in plasma)). Our results indicate that hypercholesterolemia with lipid abnormalities and oxidative injury was induced with atherogenic diet. Administration of atorvastatin and artichoke leaf extract led to improvement of disturbed oxidative status and had beneficial effect in induced hypercholesterolemia. Our results proved that artichoke leaf extract is better antioxidant than atorvastatin.

### Biography

Crevar Sakac Milkica is a postgraduate student at the Faculty of Pharmacy in Belgrade, Serbia. She works at the Department of Medicinal Chemistry as a teaching assistant in carrying out practical training of three courses of Medicinal Chemistry. She has published four papers in international journals.

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