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Title: Correction of endothelial dysfunction by inhibitors of phosphodiesterase-5 in combination with L-arginine

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Body: At the present time much attention is paid to the role and place of L-arginine, a precursor of nitric oxide (NO), in correction of endothelial dysfunction. The purpose of this study is a comparative evaluation of dose-response endothelioprotective effects of small doses of sildenafil (S) and tadalafil (T) in combination with L-arginine (L-arg). The experiments were performed on male rats Wistar. N-nitro-L-arginine methyl ester (L-NAME) was administered i.p. at a dose of 25 mg/kg/day. Conducted following functional vascular test: endothelium dependent vasodilatation (EDV) with acetylcholine, endothelium independent vasodilatation (ENDV) with sodium nitroprusside (NP). The test group of animals (n = 10):I–intact;II–L-NAME;III–L-NAME+S-0,22 mg/kg twice, i.g.;IV–L-NAME+T-0,09 mg/kg i.g., once; V –L-NAME+S+L-arg–200 mg/kg, i.p, once a day; VI –L-NAME+T+L-arg. Hypotensive effect has been identified with the introduction of a low dose of sildenafil in combination with L-arginine, in contrast, there wasn't observed any significant hypotensive effect with the introduction of tadalafil. We used the index of endothelial dysfunction (IED)-the ratio of calculated indicators-ENDV and EDV. In the group of L-NAME-IED was 5,4±0,6, intact-1,1±0,1,sildenafil-3,2±0,2, tadalafil-2,9±0,1; sildenafil+L-arginine-2,5±0,2;tadalafil+L-arginine-2,1±0,2. The results gained in the research serve in evidence of the effective correction of endothelial dysfunction with sildenafil and tadalafil on L-NAME-induced deficiency of nitric oxide and in reduce doses (in time of 10). The combined use of sildenafil and tadalafil in reduced doses with L-arginine showed an additive endothelioprotective effect.