Endothelium-dependent higenamine-induced aortic relaxation in isolated rat aorta.

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Abstract

The pharmacological action of higenamine in isolated rat aorta was investigated. Although the beta-adrenoceptor antagonist propranolol (1 x 10(-5) M) completely blocked the beta-adrenoceptor agonist higenamine in inducing a positive chronotropic activity in isolated mouse atria, the higenamine-induced aortic relaxation was not completely antagonized by this concentration of propranolol. The present data also demonstrate that the higenamine-induced aortic relaxation was attenuated in the absence of endothelium. These findings suggest that the beta-adrenoceptor specificity to higenamine in aorta is different from that of beta-1 in atria; moreover, the beta-adrenoceptors sensitive to higenamine are mainly located in the endothelial layer.