ABSTRACT

Vasicine is a quinazoline alkaloid contained in the plant Justicia adhatoda (syn. Adhatoda Vasic, Acanthaceae). The Indian plant is already used for thousands of years in traditional Indian medicine to treat asthma in particular (4). The aim of presented work was to determine the bronchodilatatory effect of new derivatives of 4-hydroxyquinazoline, respetively VN-011 (4-[2-(1-methylpyrrolidin-2-yl)ethoxy]quinazoline) and VN-013 (4-[2-(1-methylpyrrolidin-2-yl)ethylsulfanyl]quinazoline). The survey relaxing activity test substances, we used the methodology isolated rat trachea, which was contracted by carbachol at concentration of 10^{-5}M and maximum relaxation at the end of the experiment was induced by theophylline in concentration of 10^{-2}M. Using GraphPad the DRC, we examined substances calculated curves of EC_{50} (149±4,0 μmol/l for VN-011 a 69±2,0 μmol/l for VN-013) Our obtained results were compared with standard drug theophylline - EC_{50} was taken from the thesis (27). Both the tested derivatives (with ethoxy- and etylsufanyl fragment) showed by comparing of EC_{50} significantly higher dilatatory effects on smooth muscle of the trachea in rats than theophylline.