ANTIANAPHYLACTIC AND ANTIASTHMATIC PROPERTIES OF NEW PIPERAZINYL 7-(β-HYDROXYPROPYL)-THEOPHYLLINE DERIVATIVES IN GUINEA PIGS

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The present studies have demonstrated that new piperazinyl 7-(β-hydroxypropyl)-theophylline derivatives (R₃, R₆, R₇) possess antihistamine, antianaphylactic and antiasthmatic properties. The compound R₆ exerted especially pronounced selective protective action in experimental histamine asthma and provided effective prevention against anaphylactic shock in guinea pigs. The evidence was also presented that compound R₆ inhibited in vitro mast cell degranulation induced by the preparation 48/80 liberating endogenous histamine. It was shown that the compound R₆, i.e. 7-(N₁-(N⁴-benzyl)-piperazinyl)-theophylline efficiently competed with histamine of both endo- and exogenous origin and inhibited the mediator release from the mast cells.

Key words: theophylline derivatives, experimental histamine asthma, anaphylactic shock

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