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Title :	Tracheal responsiveness to isoprenaline and beta2-adrenoreceptor blockade by propranolol in cigarette smoke exposed and sensitized guinea pig
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Abstract :	Objective: With regard to increased airway responsiveness of asthmatic patients and smoker subjects to isoprenaline, tracheal responsiveness to isoprenaline and β -adrenergic receptor blockade were examined on animals exposed to cigarette smoke (AECS) and AECS +sensitized guinea pigs. Methodology: Exposed to cigarette smoke and sensitization of animals were induced by their exposure to cigarette smoke for three months and by sensitization with injection and inhalation of ovalbumin (OA) respectively. The responses of tracheal chains of three groups (n=7) to isoprenaline (EC50) and (CR-1) were measured. Results: The tracheal responses of COPD and COPD+ asthmatic guinea pigs were significantly higher than those of control animals to isoprenaline ($p < 0.001$ for both cases). The (CR-1) value was also significantly higher in trachea of AECS and AECS+ asthma compared to that of control animals ($p < 0.05$ for both cases). There was no significant difference in EC50 and (CR-1) between AECS and AECS+ asthma animals. There was significant correlation between tracheal response to isoprenaline (EC50) and (CR-1) value, ($r = -0.731$, $p < 0.001$). However there was not any significant difference in maximum response of tracheal chains to isoprenaline between three groups of animals. Conclusions: The results of this study indicate an increased tracheal response to isoprenaline and enhanced β -adrenergic blockade by propranolol in both AECS and AECS+asthmatic animals.
Keywords :	beta2-adrenoreceptor blockade, cigarette smoke, sensitized guinea pig

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