

## **Mode of action of halothane on histamine-induced airway constriction in dogs with reactive airways**

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<http://hinari-gw.who.int/whalecomwww.ncbi.nlm.nih.gov/whalecom0/pubmed/3740505>

<http://erepository.uonbi.ac.ke:8080/xmlui/handle/123456789/31036>

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### **Abstract:**

o determine if clinical concentrations of halothane have direct relaxant effects on airway smooth muscle, the authors compared dose-response curves to histamine in the control state (thiopental) and during halothane anesthesia (1.0 and 1.5 MAC), in six basenji-greyhound (BG) dogs untreated and pretreated with atropine aerosols (10 mg X ml<sup>-1</sup>). Pulmonary resistance (RL) and dynamic compliance (C<sub>dyn</sub>) were continuously monitored. Baseline airway tone was not significantly different during thiopental, halothane (1.0 MAC and 1.5 MAC), and after atropine aerosol administration. During thiopental anesthesia, histamine produced dose-related increases in RL and decreases in C<sub>dyn</sub>. Both halothane and atropine significantly attenuated the bronchoconstriction induced by histamine 1 mg X ml<sup>-1</sup>. There was no significant differences in the extent of antagonism of histamine-related bronchoconstriction between halothane (1.0 MAC and 1.5 MAC) and the atropine aerosol. Moreover, in four dogs halothane anesthesia in the presence of atropine offered no additional protection compared with atropine alone. Because the protection afforded by halothane was not greater than that of atropine pretreatment alone, and the addition of halothane to atropine failed to increase the protection, it is concluded that block of vagal reflexes was the major action of halothane responsible for the attenuation of histamine-induced bronchoconstriction.