The effects of Tiletamine-Zolazepam (Zoletil®) anesthesia with Doxapram hydrochloride (Dopram-V) for evaluation of laryngeal function in healthy dogs

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Abstract

Laryngeal dysfunction in dogs and horses is assessed most accurately by endoscope as direct visualization of a larynx under a light plane of anesthesia. Mild depression of intrinsic laryngeal motion due to anesthesia results in a difficulty to detect subtle changes in laryngeal function.

The aim of present study was to evaluate the effect of combined administration of Zolazepam-Tiletamine (Zoletil®) and Doxapram HCl on intrinsic laryngeal function in healthy dogs. Fifteen healthy dogs were employed in this study. The animals were premedicated using subcutaneous injection of atropine (0.045 mg/kg), followed by induction with Zolazepam-Tiletamine (Zoletil®) (10 mg/kg, intravenously). Intrinsic laryngeal motion, observed in each dog, was recorded on videotape after induction. Thereafter, Doxapram HCl was intravenously administered (2.2 mg/kg). Thereafter, the intrinsic laryngeal motion was re-recorded. Area of the rima glottidis was calculated using a computer-assisted analysis program. Statistical significance (P≤0.05) was assessed by pair T test in SPSS program (version 12).

The results showed that Zolazepam-Tiletamine (Zoletil®) with Doxapram HCl was associated with the increasing of intrinsic laryngeal motion. When compared to the resting state, the area of the rima glottidis was significantly increased after Doxapram HCl administration during both inspiration and expiration. Therefore, the combined administration of Zolazepam-Tiletamine (Zoletil®) and Doxapram HCl could be an alternative method for diagnosis of laryngeal dysfunction.

Keywords: Laryngeal evaluation; Tiletamine-Zolazepam (Zoletil®); Doxapram Hydrochloride; Rima glottidis