

Anesthetics, Analgesia, & Alfaxalone



Alfaxalone is a synthetic neurosteroid anesthetic used in many countries as an IV induction agent. Similar to propofol in regard to good quality of anesthetic induction and cardiopulmonary variables, it may be given IV to effect or as a continuous rate infusion. It is unclear, however, if alfaxalone provides any analgesia. Ketamine and medetomidine are often used in cats in combination for premedication and induction. This combination is known to provide good anesthesia and some postoperative analgesia.

The objective of this prospective, blinded study was to compare physiologic parameters and postoperative pain in cats undergoing ovariohysterectomy (OHE) using alfaxalone vs ketamine-medetomidine anesthesia. Twenty-one cats were randomly divided into 2 groups. One group received alfaxalone at 5 mg/kg IV, followed by 2 mg/kg IV boluses given if response to surgical stimuli or a 20% increase in blood pressure over anesthetic baseline were noted. The second group received medetomidine at 30 µg/kg IM followed by ketamine at 5 mg/kg IV; 2 mg/kg IV ketamine was given as described for alfaxalone. All cats received meloxicam at 0.2 mg/kg IV postoperatively. Postoperative physiologic parameters, sedation, and pain were assessed at multiple times. Results showed that ketamine-medetomidine produced better analgesia after OHE than alfaxalone. Both groups, however, developed a primary hyperalgesia. The authors suggest that alfaxalone is appropriate for the induction and maintenance of anesthesia for OHE in cats but that additional sedatives and analgesics should be given.

Global Commentary

Few studies assess the contribution of general anesthetics to postoperative analgesia—probably because most, if not all, only produce unconsciousness and some muscle relaxation but not analgesia. Controversially, alfaxalone exhibited pre-emptive analgesic effects in rats, but it remains unclear if alfaxalone could provide some analgesia in a clinical setting. In this study, premedication was excluded to assess the effect of alfaxalone on postoperative pain and to mimic practice conditions, where a single drug injection protocol is often preferred for short procedures. However, I always try to combine sedatives with opioids in my premedication protocols. I keep in mind the invasiveness of the surgery, not its duration, to select the type of opioid and dose. This study showed that cats receiving ketamine and medetomidine had better post-surgical analgesia than alfaxalone cats but, more importantly, that neither anesthesia protocol prevented primary hyperalgesia. These results show the importance that premedication plays in anesthesia, particularly for providing the patient with a suitable, long-lasting, and, ideally, preemptive analgesic regimen.—*Francisco Laredo, BVSc, PhD, Cert. VA, MRCVS (Anesthesia & Analgesia), Spain*

Source

Alfaxalone or ketamine-medetomidine in cats undergoing ovariohysterectomy: A comparison of intraoperative parameters and post-operative pain. Guerrero KSK, Reichler IM, Schwarz A, et al. *Vet Anaesth Analg* 41:644–653, 2014.

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