L2 and L3, with poor coverage of T12. An in vivo study should be performed to evaluate the analgesic efficacy of this technique in mid to caudal abdominal surgeries.

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Evaluation of a combination of alfaxalone and methadone, with or without midazolam, for premedication in healthy dogs

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Introduction: The study objective was to evaluate sedative and physiologic effects of midazolam associated with a combination of methadone and alfaxalone for IM premedication in dogs.
Methods: Sixteen healthy dogs of various breeds, weighing 5−12 kg, classified ASA status I-II, randomly received a combination of 0.5 mg kg^{-1} of methadone and 1 mg kg^{-1} of alfaxalone with (MMA) or without (MA) 0.5 mg kg^{-1} of midazolam by IM injection. Quality of sedation was assessed at 10, 15, 20 and 25 minutes post-injection, by an observer blinded to treatment. Cardiovascular, respiratory variables and additional intravenous alfaxalone required for endotracheal intubation were recorded. Data were analyzed with mixed-effect linear model on rank or Mann-Whitney rank-sum test ($p \leq 0.05$).
Results: There was no significant difference over time in heart rate, respiratory rate, systolic blood pressure, SpO_2 and temperature between MA and MMA premedication. Sedation increased over time ($p < 0.01$), however dogs premedicated with MMA appeared significantly less sedated than dogs premedicated with MA at 15 ($p = 0.02$), 20 ($p = 0.02$) and 25 minutes ($p = 0.01$) post-injection. This was substantiated by the fact that dogs premedicated with MMA were almost four times more likely to show delirium than those premedicated with MA (OR 3.95, CI 0.69-7.21, $p = 0.02$). The amount of alfaxalone needed for intubation did not differ between treatments ($p = 0.92$).
Conclusion: Results suggest that adding midazolam to an IM combination of methadone and alfaxalone does not improve sedation scores or amount of agent needed for intubation in healthy dogs.

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Pharmacokinetics of bupivacaine with dexmedetomidine or epinephrine after intraperitoneal administration in cats

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Introduction: This study aimed to determine the pharmacokinetics of bupivacaine in combination with dexmedetomidine or epinephrine after intraperitoneal administration in cats.
Methods: Sixteen healthy adult cats (3.3 ± 0.5 kg) were included in a prospective, randomized, masked clinical trial after owners' consent. Anesthetic protocol included buprenorphine−propofol−isoflurane. Meloxicam (0.2 mg kg^{-1}) was administered subcutaneously before surgery. A catheter was placed in the jugular vein for blood sampling. A ventral midline incision was made and equal volumes of bupivacaine 0.25% (2 mg kg^{-1}) with epinephrine (BE; 2 µg kg^{-1}) or dexmedetomidine (BD; 1 µg kg^{-1}) were injected into the peritoneal space, over the right and left ovarian pedicles and caudal aspect of the uterus, before ovariohysterectomy ($n = 8$/group). Blood samples were collected for up to 8 hours after bupivacaine administration. Plasma concentrations and pharmacokinetics of bupivacaine were determined using liquid chromatography tandem mass spectrometry and non-compartmental model, respectively.
Results: Maximum bupivacaine plasma concentrations (Cmax) for BE and BD were 1155 ± 168 ng mL^{-1} and 1678 ± 364 ng mL^{-1} ($p = 0.29$) at 67 ± 13 minutes (Tmax) and 123 ± 59 minutes ($p = 0.17$), respectively. The elimination half-life and the clearance (CL/F) were 8.9 ± 8.6 hours and 10.5 ± 10.3 hours, and 0.168 ± 0.069 L hour kg^{-1} and 0.132 ± 0.129 L hour kg^{-1} for BE and BD, respectively. Pharmacokinetic parameters were not different between treatments ($p > 0.05$).
Conclusion: Intraperitoneal bupivacaine with epinephrine or dexmedetomidine produced concentrations below toxic levels.

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