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## **High volume epidural anaesthesia alone is effective for abdominal surgical procedures in Piedmontese calves.**

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Epidural anaesthesia has been described in cattle for various surgical procedures.[1] Combination of intravenous (IV) xylazine and caudal high volume epidural anaesthesia with xylazine and lidocaine has provided satisfactory analgesia for abdominal surgery.[2] This combination has good and prolonged analgesic effect but in young animals IV xylazine may increase cardio-respiratory collateral effects.[3] The aim of the present study was to investigate whether epidural administration of a xylazine-lidocaine combination alone, without IV xylazine, would provide satisfactory analgesia for abdominal surgical procedures in calves. Forty-two calves were referred to the OVU, University of Turin, for various surgical disorders (omphalitis, ventral hernia, intestinal strangulation or atresia) requiring abdominal surgery. The skin over S5-Cc1 and Cc1-Cc2 intervertebral spaces was clipped and aseptically prepared. An 18-gauge, 3.75 cm needle was inserted perpendicular or slightly inclined in a cranio-caudal direction to the skin surface and advanced between two adjacent vertebrae (S5-Cc1 or Cc1-Cc2) with the “hanging drop” technique.[1] A syringe was then attached to the needle and the anaesthetic solution of 0.05 mg/kg xylazine and 0.3 mL/Kg of 2% lidocaine was slowly injected. Animals lost the muscle tone on the hind limb and reached a sternal position in approximately 2 minutes from injection. Calves were placed in hind limb frog position for 10 minutes to facilitate bilateral distribution of anaesthetic before being moved on the surgical table, placed in dorsal recumbency, and the abdomen surgically prepared. An inverted V bloc of 2% lidocaine to provide additional analgesia to the skin and fascia cranial to the umbilicus was performed. Duration of anaesthesia and duration of surgery were

recorded as well as heart rate, respiratory rate and body temperature upon arrival, and every 5 minutes. Time to reach sternal position and time to discharge were recorded. Forty-one (98%) calves didn't showed any complications and only 1 calf (2%) presented neurological symptoms and was euthanized immediately after surgery. Mean anesthesia time was 120 (100-140) and mean time of surgery was 65 min (50-80). Forty-one calves have been discharged from the hospital within 2 hours after surgery. Administration of tiletamine-zolazepam was planned as rescue anesthesia in case of failure of the epidural protocol, but it was not needed in any animal. The results of this report indicated that high volume epidural anaesthesia with a xylazine/lidocaine combination is a valid anaesthetic option and proved to be safe and effective for abdominal surgery in calves.

#### Reference:

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- [3] Condino MP, Suzuki K, Taguchi K. Antinociceptive, sedative and cardiopulmonary effects of subarachnoid and epidural xylazine-lidocaine in xylazine-sedated calves. *Vet Anaesth Analg.* 2010; 37: 70-78