

ABSTRACT	TITLE	AUTHOR(S)	INSTITUTION	
#29	Evaluation of subcutaneous GV20 Dexmedetomidine as an alternative to intramuscular ketamine-xylazine for rabbit anesthetic pre-medication	Donald Pionessa (1) Carmon Skinner (2)	University at Buffalo-CSVRC	Abstract

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Evaluation of subcutaneous GV20 Dexmedetomidine as an alternative to intramuscular ketamine-xylazine for rabbit anesthetic pre-medication

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Introduction

Ketamine and xylazine (Ket-Xyl) is commonly administered intramuscularly (IM) as a sedative or pre-anesthetic regimen. However, it has been shown to cause local muscle necrosis. Dexmedetomidine IM has been associated with bradycardia and hypotension. An alternative approach, administering dexmedetomidine to the acupuncture point GV20 in the canine has been recently proposed. The GV20 site has the benefit of a faster onset time as well as ease of use compared to IM administration.

Methods

Thirty-four rabbits underwent isoflurane anesthesia for a femoral angiogram procedure. Seventeen of the rabbits received dexmedetomidine (0.05mg/kg) injected subcutaneously at GV20 site. Seventeen rabbits received ketamine (35mg/kg) mixed with xylazine (5mg/kg) intramuscularly to the lumbar epaxial muscle. A 25ga, 5/8 inch needle was used for both injections. The GV20 site is a Baihui acupressure point that is located on the dorsal aspect of the highest point of the head, typically at the intersection of the sagittal midline and a line connecting the ear apexes. The GV20 rabbits were then administered propofol 1-3mg/kg IV using the ear vein. The rabbits were intubated with the aid of an endoscope and maintained on inhalational anesthesia with spontaneous ventilation. All rabbits received the same local analgesic (bupivacaine liposome injectable suspension, 13.3mg) for post-operative pain. Anesthesia time, isoflurane concentration, hemodynamic parameters, and recovery time were recorded.

Results

Rabbits in both groups were under anesthesia for 1.4 hrs. In the Ket-Xyl group, the average isoflurane percentage was 1 +/- 0.4% vs 2 +/- 0.5 in the GV20 group. Average heart rate (199 vs 222), non-invasive blood pressure (88/38 vs 82/33), respiratory rate (41 vs 40), end-tidal carbon dioxide (59 vs 59) were similar. Recovery time was significantly prolonged in the Ket-Xyl group, 80 vs 22 minutes. Post-operatively, the Ket-Xyl rabbits were more likely to be anorexic (4 vs 0 rabbits requiring nutritional support).

Conclusions

Compared to IM ketamine and xylazine, GV20 dexmedetomidine has similar cardiovascular effects for rabbits under general anesthesia. Isoflurane concentration was higher in the GV20 group. Rabbits were quicker to recover when GV20 dexmedetomidine was used and had lower occurrences of post-operative anorexia.

