Development Of Blind And Ultrasound-guided Pudendal Nerve Blockade In Dog

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Pudendal nerve blocks have been described in felines, equines, bovines, and camelids but remain underreported in dogs.[1] This study aimed to develop and compare blind and ultrasound-guided techniques for pudendal nerve blockade in canine cadavers.

Twenty-two canine cadavers were used. Anatomical dissection was first performed on two male and two female cadavers to confirm the location of the pudendal nerve. In the remaining eighteen cadavers, both blind and ultrasound-guided techniques were performed, with each technique randomly assigned to one side of the pudendal nerve within the same cadaver. Tracer injections (1 mL methylene blue) were administered, followed by anatomical dissection to assess the length of nerve staining. Intravascular or intraneural injections and any inadvertent violation of adjacent structures were also recorded. A chi-square analysis was conducted to evaluate the association between the injection technique and achieving a minimum staining length of 6 mm on the pudendal nerve.[2]

Post-injection dissection confirmed adequate staining in 15 of 18 cases (80%) using the blind technique and in 14 of 18 cases (73%) using the ultrasound-guided technique. There was no significant difference between the two techniques in achieving this threshold. Intravascular injection occurred in two cases using the blind technique and in one case using the ultrasound-guided technique.

Both novel pudendal nerve block techniques described represent viable options for local anaesthesia in surgical procedures involving the perineum and external genitalia. Further studies are needed to confirm their efficacy and safety in clinical settings.

Reference

1. Briley JD, Keenihan EK, Mathews KG, Chiavaccini L. Development of an ultrasound-guided transgluteal injection of the pudendal nerve in cats: a cadaveric study. *Vet Anaesth Analg* 2022;49:189-196.

2. Raymond SA, Steffensen SC, Gugino LD, Strichartz GR. The role of length of nerve exposed to local anesthetics in impulse blocking action. *Anesth Analg* 1989;68:563-570.