

PREEMPTIVE ANALGESIC EFFECT OF EPIDURAL KETAMINE OR KETAMINE S(+) IN POSTINCISIONAL PAIN IN HORSE

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Ketamine, a non-competitive NMDA receptor antagonist, plays a role in inflammatory pain and has been reported to prevent central sensitization and decrease secondary hyperalgesia after skin incision. Ketamine S(+) was developed recently and has been useful in post-operative pain treatment in children. The aim of this study was therefore to evaluate the preemptive effect of epidural ketamine or ketamine S(+) administration in postincisional pain, in horses. Sixteen mixed breed females, 6(2 years old, weighting 255(45 kg, divided into G1 (ketamine S(+), n=8) and G2 (ketamine, n=8), were used. An epidural catheter was inserted between the first and the second intercoccygeal space and 15 cm cranially advanced, 24 hours before the trials. The thigh region was shaved bilaterally, and local anaesthesia (6 ml lidocaine 2%, subcutaneously) at the right side (incision side) was performed. The left side was used as control side. Twenty five minutes after lidocaine injection was administered ketamine S(+) in G1 or ketamine in G2 through the epidural catheter (1,0 mg/kg diluted with saline to a total volume of 3,4 +(BW in kg x 0,013 ml). The application time was standardized in 5 minutes. Five minutes after the ketamine injection, a 10 cm skin incision was made, in the local anesthetic infiltrated line, and sutured with a simple interrupted nylon suture. Mechanical hyperalgesia was measured using von Frey filaments, at 1, 3 and 5 cm around the incision in 15 minutes intervals for 2 hours, then 4, 6 and 8 hours after suturing. Heart and respiratory rates, and temperature were also recorded. Data collected from von Frey filaments were converted in force (grams) and evaluated by non-parametric analysis (Kruskall-Wallis $p(0,05)$). There were no significant changes on heart and respiratory rates and temperature (Tukey Test $p(0,05)$). Between groups there were significant difference until T45 only. Into the groups difference was observed from T45 to T480 in the G1 animals and T60 to T480 in the G2 animals, when compared with T0. It was concluded that ketamine S(+) and ketamine have similar analgesic effect in the postincisional pain in horses.

Key Words: Ketamine, Ketamine S(+), Preemptive, Pain, Horses.