

1 **Post-operative pain in dogs undergoing hemilaminectomy: comparison of the analgesic**
2 **activity of buprenorphine and tramadol**

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Abstract

The objective of this study was to compare the analgesic activity of buprenorphine and tramadol for the management of postoperative pain following hemilaminectomy due to acute intervertebral disc extrusion in dogs.

This is a randomized, “blinded”, prospective clinical trial. The study was carried out on fifty dogs undergoing hemilaminectomy. After diagnosis, the dogs were divided randomly into two groups: group A (n = 25 dogs) received 3 mg/Kg⁻¹ of tramadol intramuscularly (IM) and group B (n = 25 dogs) received 0.02 mg/Kg⁻¹ of buprenorphine IM 10-15 minutes before the end of surgery and, then, every 8 and 6 hours respectively for 48 hours. Using the short form of the Glasgow composite pain scale (GCPS-SF) at 4 time point (before and 2, 12 and 24 hours after surgery), the dogs were clinically monitored and scored by the same operator who was blinded to the treatment. Data were analyzed using Mann-Whitney U tests. Significance was set at p<0.05.

Both drugs showed a good analgesic activity. There were significant differences between the two groups with regard to GCPS-SF scores: buprenorphine showed a faster and greater analgesic effect.

None of the two molecules showed any side effects, such as respiratory depression.

Buprenorphine and tramadol can be used safely and effectively to control postoperative pain in dogs undergoing hemilaminectomy for acute disc extrusion, thus contributing to animal welfare.

Buprenorphine might be better than tramadol during the first stage of hospitalization, but tramadol might represent a good alternative for the pursuance of the treatment, considering its lower incidence of side effects, both contributing to improve animal welfare.

Keywords: acute disc extrusion; buprenorphine; canine analgesia; opioids; post-surgery; tramadol.