

Treatment of Canine Spinal Cord Injury

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In the Literature

Olby NJ, Muguet-Chanoit AC, Lim JH. A placebo-controlled, prospective, randomized clinical trial of polyethylene glycol and methylprednisolone sodium succinate in dogs with intervertebral disk herniation. *J Vet Intern Med.* 2016;30(1):206-214.

FROM THE PAGE ...

Use of glucocorticoids to treat humans with acute spinal cord injury (SCI) is often debated. Many studies show no substantial drug-related effect on long-term functional outcome. The present study investigated high-dose methylprednisolone sodium succinate (MPSS) as treatment for dogs with severe acute thoracolumbar SCI (with no pelvic limb movement or pain perception) caused by intervertebral disk herniation. Polyethylene glycol (PEG), a drug previously suspected to exert neuroprotective effects in dogs with SCI, was also evaluated. Dogs were treated with standard hemilaminectomy and split into 3 study groups, each receiving either MPSS, PEG, or saline placebo. Adverse events were recorded, and open field gait score and number of dogs walking were assessed at 12 weeks post-SCI. Life-threatening adverse events, open field gait scores, and number of dogs walking did not differ significantly among the 3 treatment groups.

Practitioners have spent the past 50 years searching for ways to improve intervertebral disk herniation postsurgery outcomes. Although some small blinded and unblinded single-center studies have been conducted in dogs with injury, and a few have yielded promising findings, this study is the first to assess therapies for SCI in dogs using a prospective, randomized, blinded, placebo-controlled, multi-center approach.

MPSS = methylprednisolone sodium succinate

PEG = polyethylene glycol

SCI = spinal cord injury



... TO YOUR PATIENTS

Key pearls to put into practice:

- 1** Neither PEG nor MPSS exerts robust neuroprotection in dogs with severe SCI caused by intervertebral disk herniation.
- 2** Although no life-threatening adverse events were associated with these treatments, investigators did not assess dogs for lower-grade events. Past studies have shown MPSS and other glucocorticoids to increase the risk for UTIs and GI issues in dogs.
- 3** Well-designed, randomized, blinded, placebo-controlled trials offer the highest-quality evidence for treatment efficacy.