Minimally invasive, integrated endoscopic hemilaminectomy for Hansen Type I intervertebral disc herniation in chondrodystrophic dogs

Purpose

To evaluate a minimally invasive surgical approach to the spinal cord to address intervertebral disc herniation.

Background

Traditionally, the standard approach to surgically accessing the spinal cord in dogs with intervertebral disc herniations involves a significant amount of soft tissue dissection and retraction. Many studies in people have shown that patients that have minimally invasive spinal surgery are more comfortable after surgery in comparison to patients undergoing open approaches. Studies also show that there are shorter hospital stays, fewer complications like blood loss and infection, and faster recovery times associated with minimally invasive spinal surgery. Our goal is to test whether a minimally invasive technique can result in less pain, quicker recovery, fewer complications, smaller skin incisions and less time in the hospital for dogs undergoing spinal surgery.

This study is funded by the Veterinary Memorial Fund.

Eligibility

- MRI-confirmed diagnosis of an acute, intervertebral disc herniation between T10 - L5 no more than 15mm cranial to caudal
- Chondrodystrophic breed, weighing < 15 kg. (33 lbs.)
- Less than 3 month history of clinical signs
- Pre-anesthetic bloodwork within normal limits

Exclusion Criteria

- Deep pain negative during initial neurologic assessment
- Prior history of thoracolumbar spinal surgery
- Evidence of concurrent systemic disease (pneumonia, neoplasia, spinal fractures, etc.)

Study Design

Eligible patients will undergo a minimally invasive integrated endoscopic hemilaminectomy. Patients will have a second MRI performed immediately postoperatively to evaluate for resolution of spinal cord compression. If a significant amount of spinal cord compression remains (>10%), then the patient will immediately return to surgery under the same anesthesia to undergo a traditional approach to remove remaining disc material and ensure that they will have the best possible outcome. Patients must return in 2 weeks for a full neurologic exam and staple removal at no cost.

Compensation

The estimated cost for a traditional hemilaminectomy at the Veterinary Teaching Hospital is typically $4,500-$5,500. Owners of enrolled dogs will have a $500 credit applied to their bill, bringing their out-of-pocket estimate to $4,000-5,000. Enrolled dogs will also receive a postoperative MRI, a conversion to a traditional, open approach (if necessary), and 2-week recheck at no cost.

Clients will be responsible for the cost for the surgery and recovery in the ICU, any after-hours emergency fees, and preoperative blood work. Owners are also responsible for the cost of an initial MRI to confirm diagnosis. MRI can be performed at our hospital or a referring facility. Any additional exam or therapy required for the treatment of the enrolled dog is not covered.

Contact

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