

Short-term and long-term effects of a minimally invasive transilial vertebral blocking procedure on the lumbosacral morphometry in dogs measured by computed tomography.

Müller F¹, Schenk HC¹, Forterre F².

Author information

1 Tierklinik Lüneburg, Lüneburg, Germany.

2 Vetsuisse Faculty of Bern, Department of Clinical Veterinary Medicine, Small Animal Clinic, Bern, Switzerland.

Abstract

OBJECTIVE: To determine the effects of a minimally invasive transilial vertebral (MTV) blocking procedure on the computed tomographic (CT) appearance of the lumbosacral (L7/S1) junction of dogs with degenerative lumbosacral stenosis (DLSS).

STUDY DESIGN: Prospective study.

ANIMALS: 59 client-owned dogs with DLSS.

METHODS: Lumbosacral CT images were acquired with hyperextended pelvic limbs before and after MTV in all dogs. Clinical follow-up was obtained after 1 year, including a neurologic status classified in 4 grades, and if possible, CT. Morphometric measurements (Mean \pm SEM) including foraminal area, endplate distance at L7/S1 and LS angle were obtained on sets of reformatted parasagittal and sagittal CT images.

RESULTS: The mean foraminal area (ForL) increased from 32.5 ± 1.7 mm² to 59.7 ± 1.9 mm² on the left and from 31.1 ± 1.4 mm² to 59.1 ± 2.0 mm² on the right (ForR) side after MTV. The mean endplate distance (EDmd) between L7/S1 increased from 3.7 ± 0.1 mm to 6.0 ± 0.1 mm, and mean lumbosacral angle (LSa) from $148.0 \pm 1.1^\circ$ to $170.0 \pm 1.1^\circ$ after MTV. CT measurements were available 1 year postoperatively in 12 cases: ForL: 41.2 ± 3.1 mm²; ForR: 37.9 ± 3.1 mm²; EDmd: 4.3 ± 0.4 mm, and LSa $157.6 \pm 2.1^\circ$ (values are mean and standard error of mean = SEM). All 39 dogs with long-term follow-up improved by at least 1 neurologic grade, 9/39 improving by 3 grades, 15/39 by 2 grades, and 15/39 by 1 grade.

CONCLUSIONS: MTV results in clinical improvement and morphometric enlargement of the foraminal area in dogs with variable degrees of foraminal stenosis.

CLINICAL RELEVANCE: MTV may be a valuable minimally invasive option for treatment of dogs with DLSS.

© 2017 The American College of Veterinary Surgeons.

PMID: 28314063 DOI: [10.1111/vsu.12623](https://doi.org/10.1111/vsu.12623)

[Indexed for MEDLINE]