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# Cranial thoracic stenotic spondylomyelopathy in a young Rottweiler

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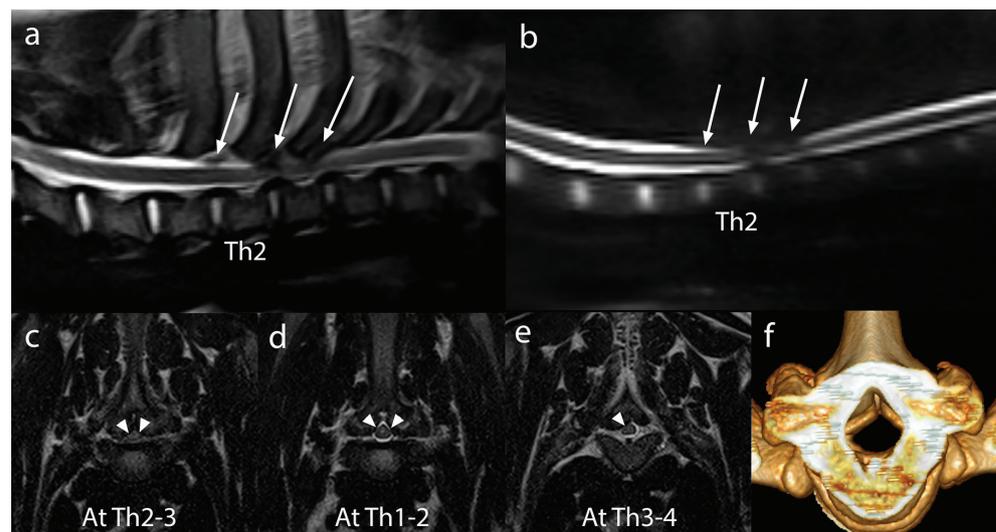
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## DESCRIPTION

A four-month-old male entire Rottweiler presented for progressive pelvic limb ataxia. Neurological examination revealed non-ambulatory paraparesis with ataxia in pelvic limbs, absent pelvic limb postural reactions, clonic patellar reflexes, normal withdrawal reflexes in all limbs and hyperaesthesia on neck manipulation. Weight shifting and splaying of the thoracic limbs (representing either mild paresis or compensatory gait change) were also noted. Neurolocalisation was third thoracic to third lumbar spinal cord segments (Th3-L3), most likely within the cranial aspect of this region. MRI showed enlargement of the dorsal laminae and articular processes of Th1-4, causing multifocal vertebral canal stenosis and attenuation of epidural fat and cerebrospinal fluid (CSF) signal on T2-weighted and myelographic sequences (Fig 1a,b). Changes were most severe at Th2-3 and associated with

moderate dorsoventral spinal cord compression (Fig 1c). Lesser degree spinal cord compression was noted at Th1-2 and Th3-4 (Fig 1d,e). CT confirmed the MRI findings (Fig 1f). The imaging diagnoses were cranial thoracic stenosis due to vertebral malformation and articular process/dorsal lamina hypertrophy previously reported in large and giant breed dogs (Stalin and others 2009, Johnson and others 2012). Surgical decompression (dorsal laminectomy) was declined. Postmortem evaluation yielded a final diagnosis of developmental thoracic stenotic spondylomyelopathy with secondary severe segmental chronic myelomalacia (Fig 2). Cranial thoracic stenosis most commonly affects young, heavy, male dogs with a conformation typical of Molosser breeds. This disorder is less common than osseous-associated cervical spondylomyelopathy but is similar with regard to patient signalment and morphological features (da Costa 2010).

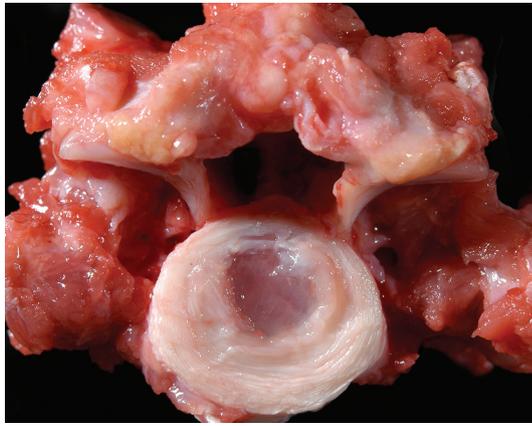


**FIG 1:** This four-month-old male Rottweiler presented with progressive ataxia. MRI and CT were performed. MR images of the cervicothoracic spine. Sagittal T2-weighted (a) and myelographic (b) images showing vertebral canal stenosis and attenuation of dorsal epidural fat and cerebrospinal fluid signal at Th2-3 and to a lesser degree Th1-2 and Th3-4 (arrows). Transverse T2-weighted image at Th2-3 (c) demonstrates enlargement of the articular processes as well as the dorsal lamina with marked narrowing of the vertebral canal (arrowheads), complete circumferential attenuation of epidural and subarachnoid space signal and moderate dorsoventral spinal cord compression. Lesser degree spinal cord compression due to articular process hypertrophy is also noted at Th1-2 and Th3-4 (d,e; arrowheads). (f) 3D rendering of CT images shows multifocal narrowing of the vertebral canal from dorsolaterally.



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**FIG 2:** This is the cranial end of the third thoracic vertebra. The left cranial facet is more ventrally angled than the right. There is marked synovial and fibrous proliferation dorsal to the spinal canal resulting in a narrowed canal.

**Competing interests** None declared.

**Provenance and peer review** Not commissioned; externally peer reviewed.

**Data sharing statement** Additional patient data can be made available to interested readers upon request.

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