THORACIC HANSEN TYPE I HERNIATED DISCS: RADIOLOGY VS COMPUTED TOMOGRAPHY FINDINGS

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OBJECTIVE

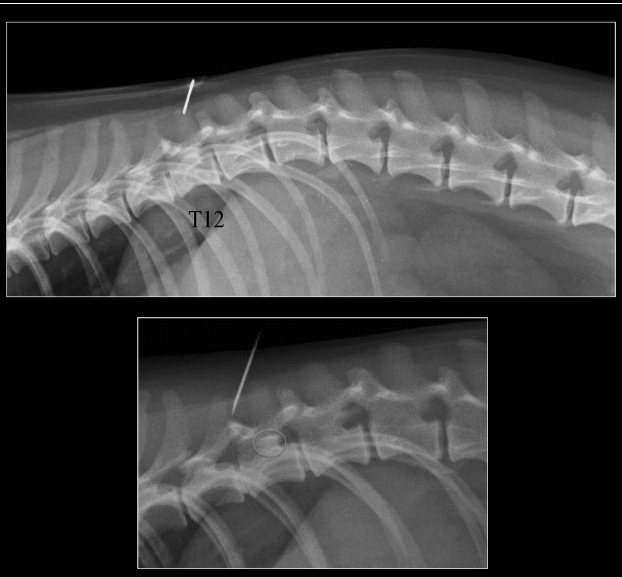
To describe two mineralized Hansen Type I hernias in a dog using digital radiography surveys and CT studies.

CLINICAL CASE

A three year old teckel entire female dog, was presented 12 hours after the acute onset of pelvic limbs paresia that evolved to paraplegia four hours later. The superficial sensorial and spinal reflexes were normal. Initially the pannicular reflex was normal but after two hours it changed to absent at the spinal cord L1 segment.

A survey digital radiographic study of the spine was performed. On lateral views two mineralized intervertebral discs were seen at T11-T12 and T12-T13 levels, respectively. The intervertebral T12-T13 space was collapsed but no hernia signs could be detected at T11-T12 levels.

A computed tomography (CT) scan of the vertebral column was then performed. This study included thoracolumbar segments (T3-L3) and images were reconstructed using bone and soft tissue algorithms. On CT images mineralized extruded disc material (450H) was observed at T12-T13 level. This material was placed craneal up to the middle of T13 vertebra invading out of the 80% of the vertebral canal. At T11-T12 intervertebral space a light mineralized and extruded disc material was observed at the left ventrolateral side but without medullar compromise.



Figs. 1&2. Left-Right lateral radiographs showing an opacity inside the vertebral canal.

Fig. 3. Serial transverse bone algorithms, plain CT images from case at the level of T11-T12. A small mineralization of the disc can be seen without spinal cord compromise

DISCUSSION

On plain radiographs extruded material can keep hidden. In these cases a myelography is usually needed. The use of CT provides an excellent depiction of Hansen type I hernias making not necessary more invasive contrast technics such as myelography or myeloCT. On the other hand volume rendering technics provide a sensation of three-dimensionality offering a good view of the real situation inside the spinal cord and thus making surgery planning much easier.

Fig. 5. Dorsal bone and soft tissue algorithms, plain CT images from case at the level of T12-T13. A large mineralization of the disc can be seen with spinal cord compromise

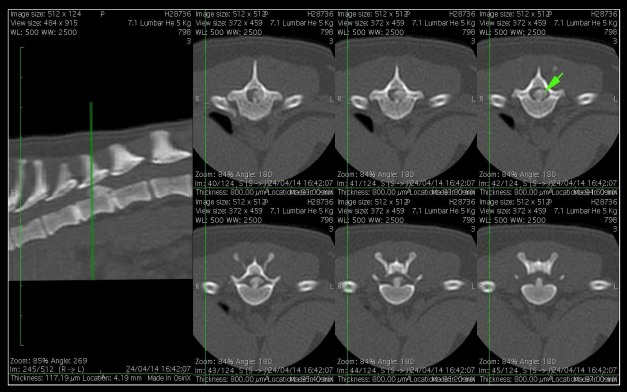


Fig. 4. Serial transverse bone algorithms, plain CT images from case at the level of T12-T13 showing the extruded disc material inside the canal eliciting severe spinal cord compression.

CONCLUSION

The Hansen Type I disc disease in dogs can be difficult to diagnose using survey radiographies. In the case we present only after viewing CT images, the extruded disc material could be suspected in the survey radiographs. CT studies represent a more reliable method to detect Hansen type I hernias in dogs.

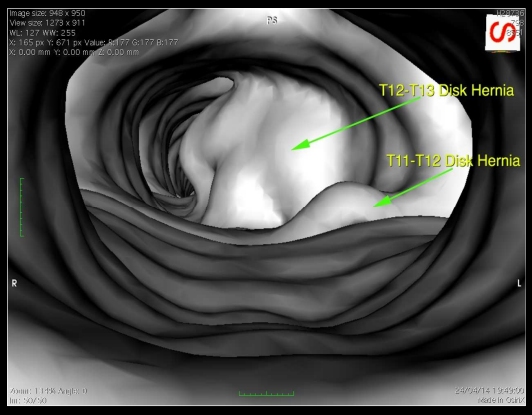


Fig..6. Volume rendering of the vertebral canal (craneal view). The small (T11-T12) hernia on the left ventrolateral surface of the canal can be seen and behind that the huge T12-T13 hernia invading 80 % of the vertebral canal is evident

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WOULD YOU LIKE TO WATCH FOUR VIDEOS OF THIS CASE?