

WHAT IS YOUR DIAGNOSIS

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Signalment

An 11-year-old female spayed mixed breed dog

History

There was a small mass (approximately 4 cm length) above the cranial lumbar area. This dog had presented with both hind limb paralysis during the past 3 weeks without traumatic history. She could not control both urination and defecation. It was painful when touching on her back.

Clinical Examination

She lost all her spinal reflexes in both hind limbs. Thrombocytopenia and increasing of the serum alkaline phosphates were detected from blood examination. Negative result from bacterial culture examination was shown in sample from lumbar mass aspiration.

Radiographic Examination

Plain ventrodorsal and right lateral radiographs of the lumbar vertebral column were taken to evaluate the vertebral alignment and other spinal bone abnormalities.

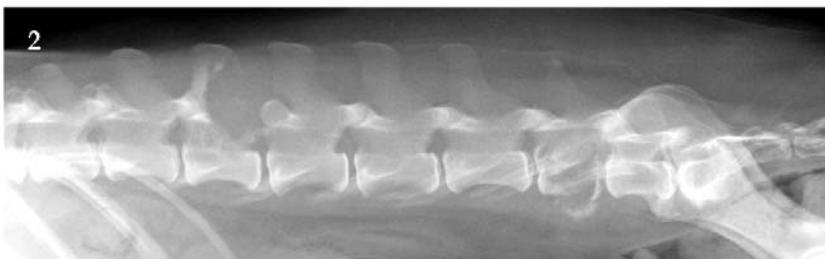


Figure 1 Ventrodorsal lumbar vertebral radiograph

Figure 2 Right lateral lumbar vertebral radiograph

Give your diagnosis and turn to the next page.

Radiographic findings

Ventrodorsal and right lateral vertebral radiographs (Fig. 1, 2) revealed an increase of radiolucency of the 6th lumbar vertebrae. The lumbar vertebrae were in normal alignment. On lateral radiograph (Fig. 2), an obvious pathological fracture of the 6th lumbar vertebrae was detected as a decrease of the vertebral body length, partial loss of vertebral laminar and severe bone destruction. Similarity in the 2nd lumbar vertebrae also presented severe bone destruction of the spinous process and caudal articular facet (Fig. 3). Moreover, the osteophyte formation can be seen between the ventral portion of the 7th lumbar vertebrae and sacral spine.

Radiographic diagnosis

Spinal tumor

Discussion

Spinal tumor can occur in various locations of the spine including spinal body, spinal canal, dural sac and spinal cord. The tumor can primarily be originated from the spine or be metastatic in the same frequency. Spinal tumor usually causes spinal bone destruction, ruptured intervertebral disks, spinal canal and spinal cord compression which typically produce progressive pain and disability. The thoracic and lumbar spines are the most frequent sites for spinal tumors. Primary and secondary spinal tumors often extend into adjacent vertebrae which are different from long bone tumors that do not normally cross joint spaces. Additionally, there is no relation between the degree of spinal bone destruction from radiograph and the degree of neurologic deficit in animal.

Myelography may be used to indicate a location of the definite lesion of the spine but the cell type cannot be identified. In cases of unclear spinal tumors, computed tomographic examination can be performed to investigate small areas of bone destruction or bone deposition.

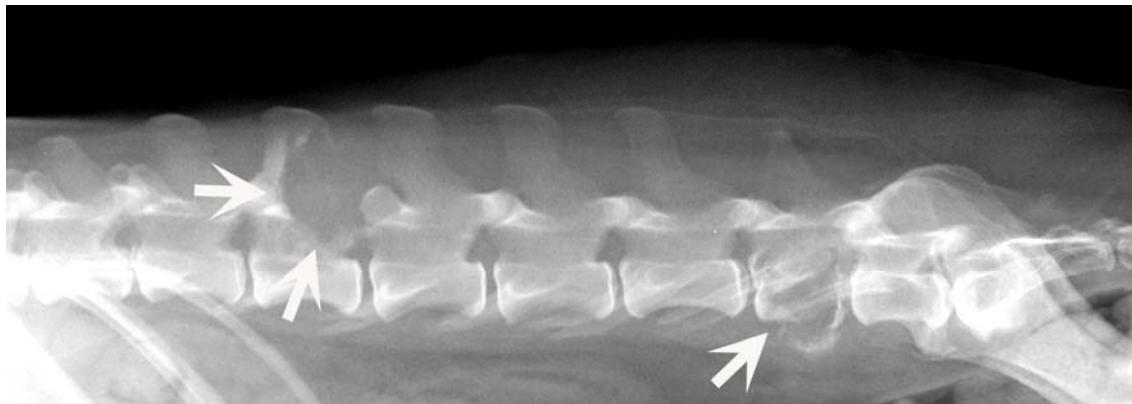


Figure 3 Severe bone destruction in spinal column (white arrows)

References

Farrow, C.S. 2003. Spinal tumors (vertebral tumors) and tumor-like lesions. In: Veterinary Diagnosis Imaging the Dog and Cat. St. Louis, Missouri: Mosby. 310-318.