

Vertebral mass in a dog

Contributors

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Specimen

Impression smears from a lytic mass of the T1 spinous process

Signalment

A 9-year-old, spayed female Catahoula Leopard Hog

History

Progressive pelvic limb paresis progressing to nonambulatory state

Clinical findings

Neuroanatomical localization was consistent with a left-sided lesion at T3-L3. Radiographs showed an aggressive, monostotic, lesion with complete lysis of the T1 spinous process and laminae (Figure 1A). On MRI, an heterogeneous mass centered on and completely obliterating the T1 spinous process and pedicles also involved the dorsal laminae with invasion of the vertebral canal. The mass was heterogenous on both T1 and T2 weighted images with a dorsally located well demarcated, round, fluid cavitated region and moderate contrast enhancement, most notable peripherally. The mass caused circumferential attenuation of the subarachnoid fluid/epidural fat signal and moderate spinal cord compression (Figure 1 B-E). A primary bone neoplasm was suspected. Initial cytology was poorly cellular and a preliminary diagnosis with low confidence was rendered with recommendations for further sampling.

Palliative debulking of the mass from the lateral aspects of T2 and C7 revealed a mass surrounded by fibrous tissue with abundant haemorrhage (Figure 2). The dorsal aspect of the spinal cord at the level of T1 was visualized, the dura appeared normal, and the nuchal ligament remained intact. The

surgical site was closed and the mass was submitted for histopathologic evaluation and preparation of impression smears for cytology.

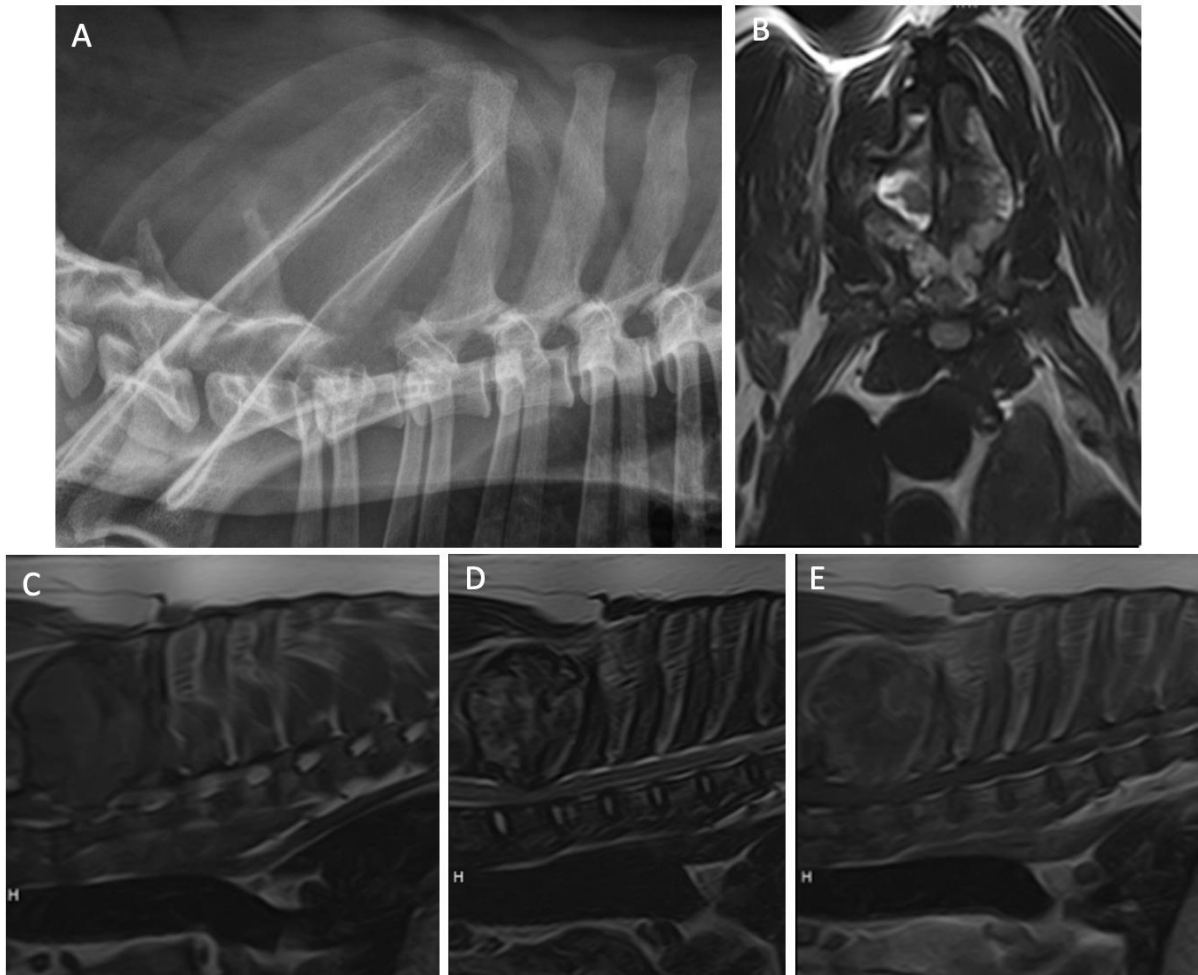


Figure 1. Thoracic Radiograph and Magnetic Resonance Imaging (MRI). (A) Right lateral radiographic projection: a collimated right lateral radiographic projection of the cranial thoracic vertebral column shows an aggressive, monostotic, lesion with complete lysis of the T1 spinous process and laminae. (B) MRI T2w image transverse (C) MRI T2w sagittal image of the cranial thoracic vertebral column show a heterogenous mass centered on and completely obliterating the T1 spinous process and pedicles with involvement of the dorsal laminae and invading the vertebral canal. (D) MRI T1w sagittal and (E) T1w sagittal post intravenous gadolinium contrast administration identified a moderate, predominately peripheral, contrast enhancement of the mass.

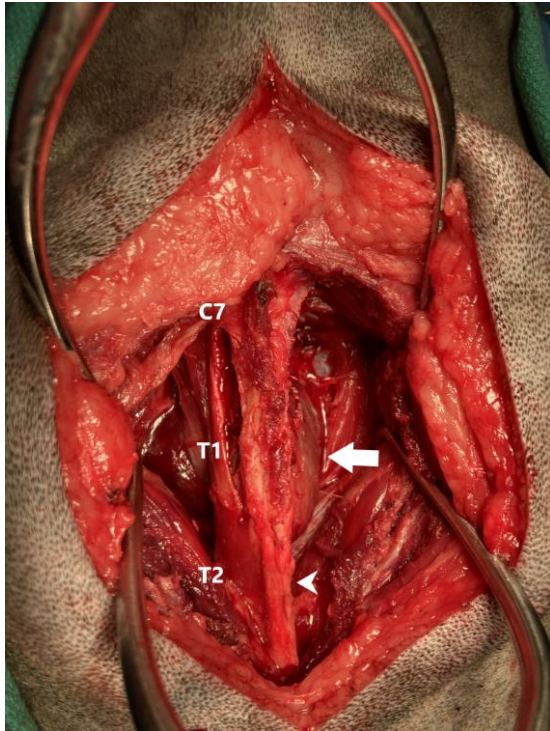


Figure 2. Dorsal view of dorsal laminectomy at the level of T1 with exposure of C7 and T2 with associated musculature dissected and retracted with Gelpis. The encapsulated mass at the level of T1 is indicated by the arrow. The nuchal ligament (still attached) is indicated by the arrowhead.

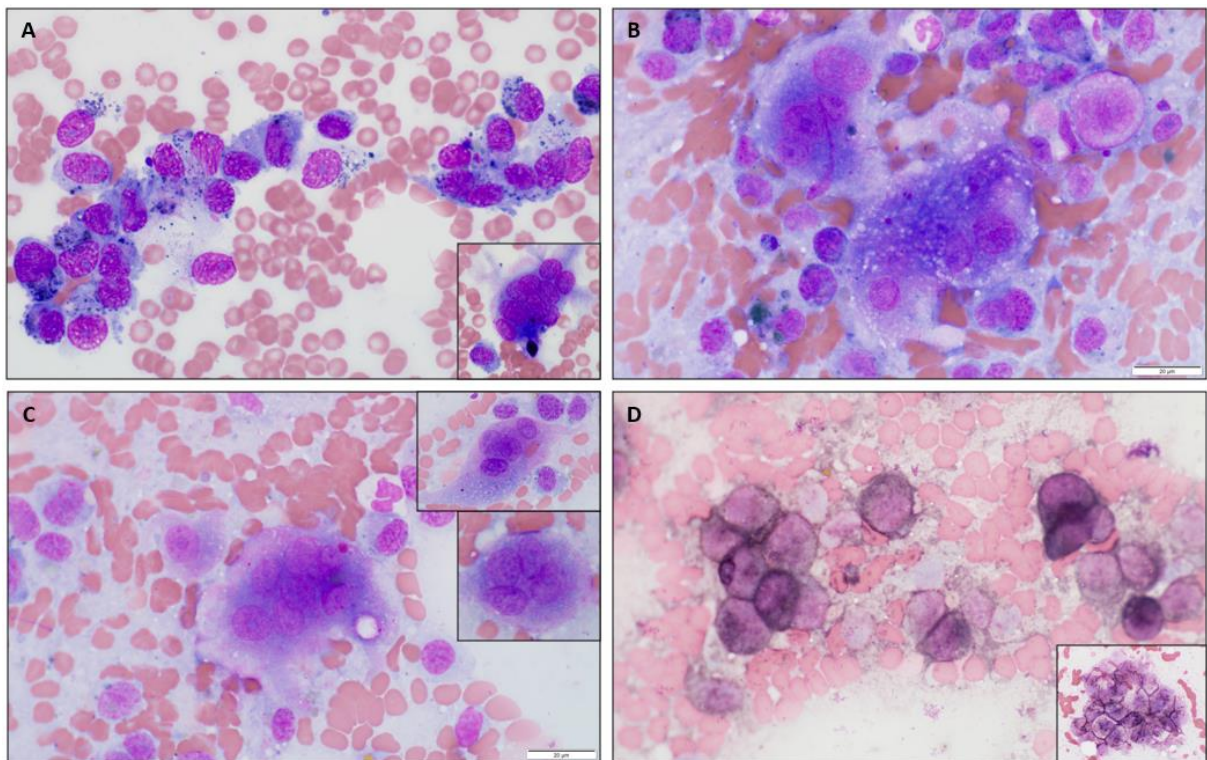


Figure 3. Cytology of fine needle aspirate samples and impression smears

Questions

What is your cytologic interpretation?

List your differential diagnoses.

What additional staining would establish a more specific interpretation?