

## What's Your Diagnosis?

Lindsay Banks, Class of 2011

'Murphy' 9 year old M/C Dachshund

### History:

- Presented to KSU Veterinary Medical Teaching Hospital with cervical neck pain
- Prior to presentation, Murphy had a three week history of cervical pain. He had been treated by rDVM with tramadol, prednisolone, and robaxin, and was also on cefpodoxime for ear infections.

### Physical Exam:

- T=101.3 °F
- HR = 102 bpm
- RR = 30 bpm
- Attitude = depressed

### Diagnostics:

- Bloodwork (CBC, Chemistry): unremarkable

Computed Tomography (CT)- images from this CT not included

### CT Findings:

- Homogenously contrast enhancing soft tissue density in the left ventral spinal canal at the level of the C6-C7 intervertebral disk space that extends to the level of the foramen laterally
- Ill-defined margin between the contrast enhancing lesion and the spinal cord
- Minimal to no compression or deviation of the spinal cord noted at this location (C6-C7)

### CT Impressions:

- Differentials for material within spinal cord include extradural mass causing minimal compression of the spinal cord and adjacent nerve root (non-mineralized extruded disk material or nerve root/sheath tumor)
- Cannot rule out intradural extramedullary or intramedullary mass (neoplasia, granuloma)

### Treatment:

- Ventral slot decompression surgery performed
  - Disk material was located within the vertebral canal and was successfully removed
  - Some of the lateralized disk material was left behind

Post-surgery Myelogram followed by another CT

Myelogram:





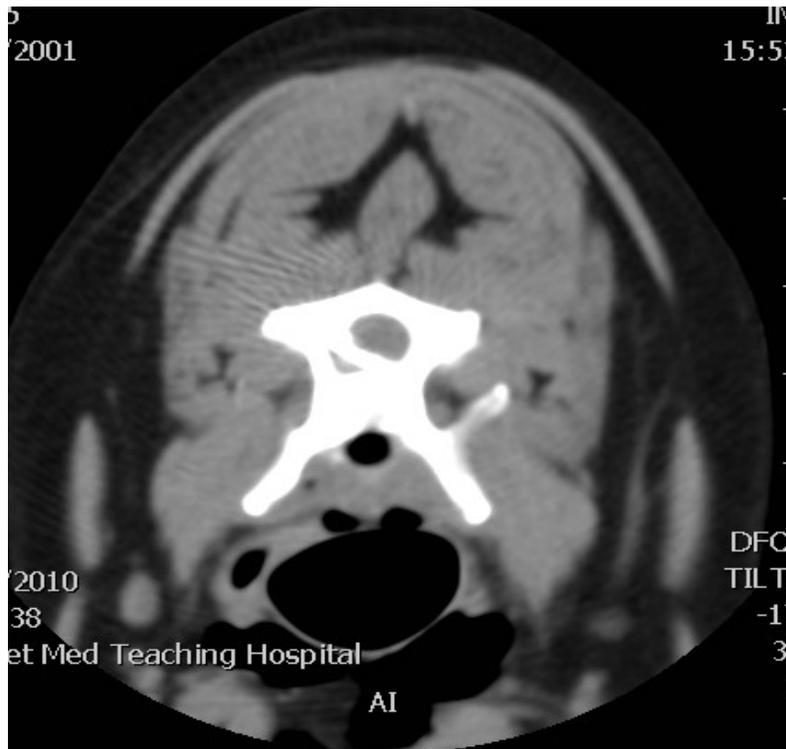
Post-surgery Myelogram Findings:

- On VD view, there is attenuation of the right contrast column without corresponding attenuation of the left contrast column at the C6-C7 intervertebral disk space
- Loss of the ventral contrast column with corresponding attenuation to loss of the dorsal contrast column over the C6-C7 intervertebral disk space

Post-surgery Myelogram Impressions:

- Recent decompression of the C6-C7 intervertebral disk space
- Differentials for poor visualization of the ventral contrast column from C6-7 through C2-3 include hemorrhage at surgical site, persistent caudal cervical compressive lesion, generalized ligamentous hypertrophy, and asymmetry of the dorsal and ventral subarachnoid spaces in this region

CT:



Post-surgery CT Findings:

- Ventral portion of the subarachnoid contrast column is attenuated throughout the cervical spine from the caudal margin of C2 to C7
- Deviation of the ventral left contrast column with rightward deviation of the spinal cord at mid-body C6 to cranial C7
- Ventral lucent defect in the body of C6 that contains soft tissue and gas, consistent with recent ventral slot surgery
- Multiple pockets of gas within the ventral soft tissues and tracking along the tracheal and cranial mediastinal fascial planes

Post-surgery CT Impressions:

- Appearance of spinal cord and contrast column consistent with extradural spinal cord compression and deviation, consistent with extruded non-mineralized disk material, hemorrhage or a mass

#### Outcome:

- Diagnosed with Type 1 Cervical Intervertebral Disk Disease – compressive lesion at C6-C7
- Released from KSU VMTH 3 days after ventral slot decompression surgery of C6-C7 performed (released 4 days after initial presentation to KSU VMTH)
- Sent home on tramadol, gabapentin, prednisolone, and cefpodoxime
- Owners instructed to keep Murphy on strict cage confinement for 4 weeks, and to use no neck leads

#### Discussion:

Type 1 IVDD (Intervertebral Disk Disease) or acute intervertebral disk disease is common in chondrodystrophic breeds such as Dachshunds, Beagles, Pekingese, Lhasa Apsos, Shih Tzus, Cocker Spaniels and Welsh Corgis. There is rupture of the dorsal annulus fibrosis and there is rapid extrusion of the nucleus pulposus into the spinal canal, and the velocity of extrusion as well as compression of the spinal cord is what cause damage. As a result of this damage, hemorrhage, edema, and necrosis of gray and white matter occur. Dogs 3 to 8 years of age are most commonly affected. Clinical signs are dependent on the location of disk rupture and include pain, motor dysfunction, and sensory dysfunction. Clinical signs usually develop rapidly, but may progress slowly.

Surgical procedures to correct cervical disk disease include ventral slot decompression, fenestration, dorsal laminectomy, dorsolateral hemilaminectomy, and cervical stabilization via a dorsal or ventral approach. The ventral slot procedure is used to gain entrance and visualization of the ventral cervical vertebral canal for decompression of dogs with cervical disk protrusion. Adequate visualization of the vertebral canal is achieved but there is limited access to the intervertebral foramen.

#### References:

- Fossum, Theresa Welch. Small Animal Surgery, 3<sup>rd</sup> edition. Pages 1404-1406.
- Harkin, Kenneth. Neurology Cases Lecture. CS709 Medicine I, Spring 2009.
- Harkin, Kenneth. Spinal Cord Disease Lecture. CS709 Medicine I, Spring 2009.