

Emergency Cases

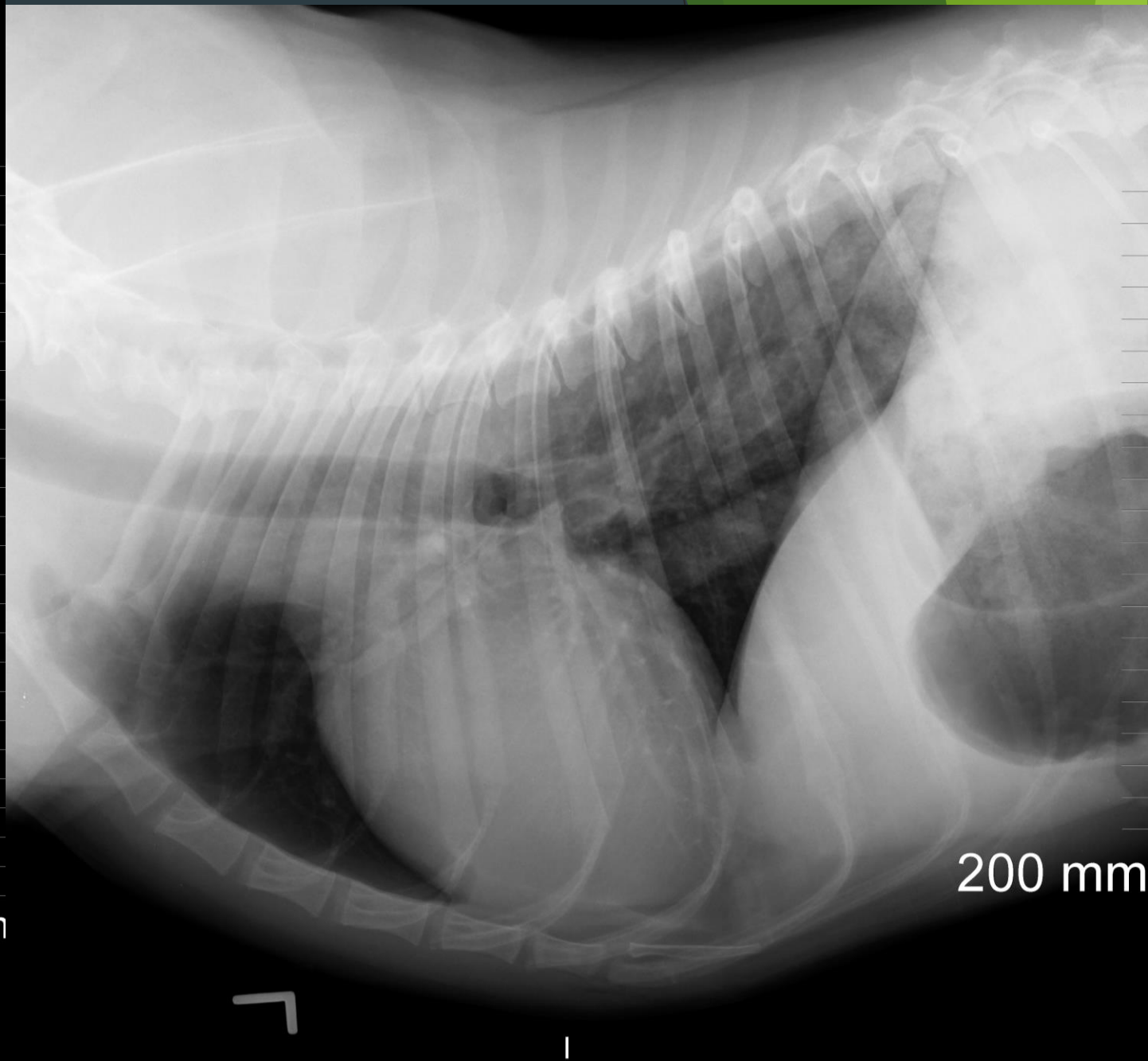
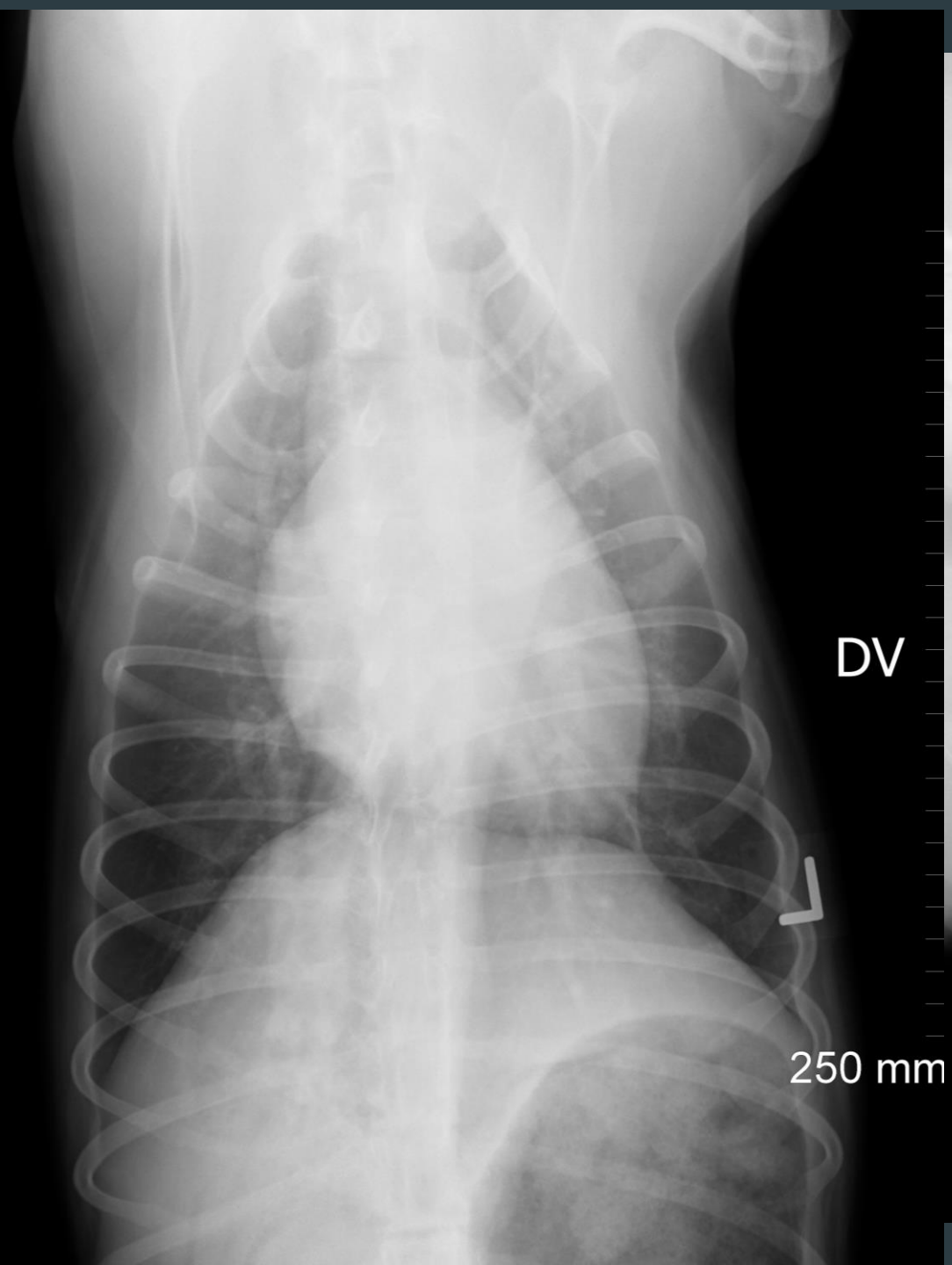


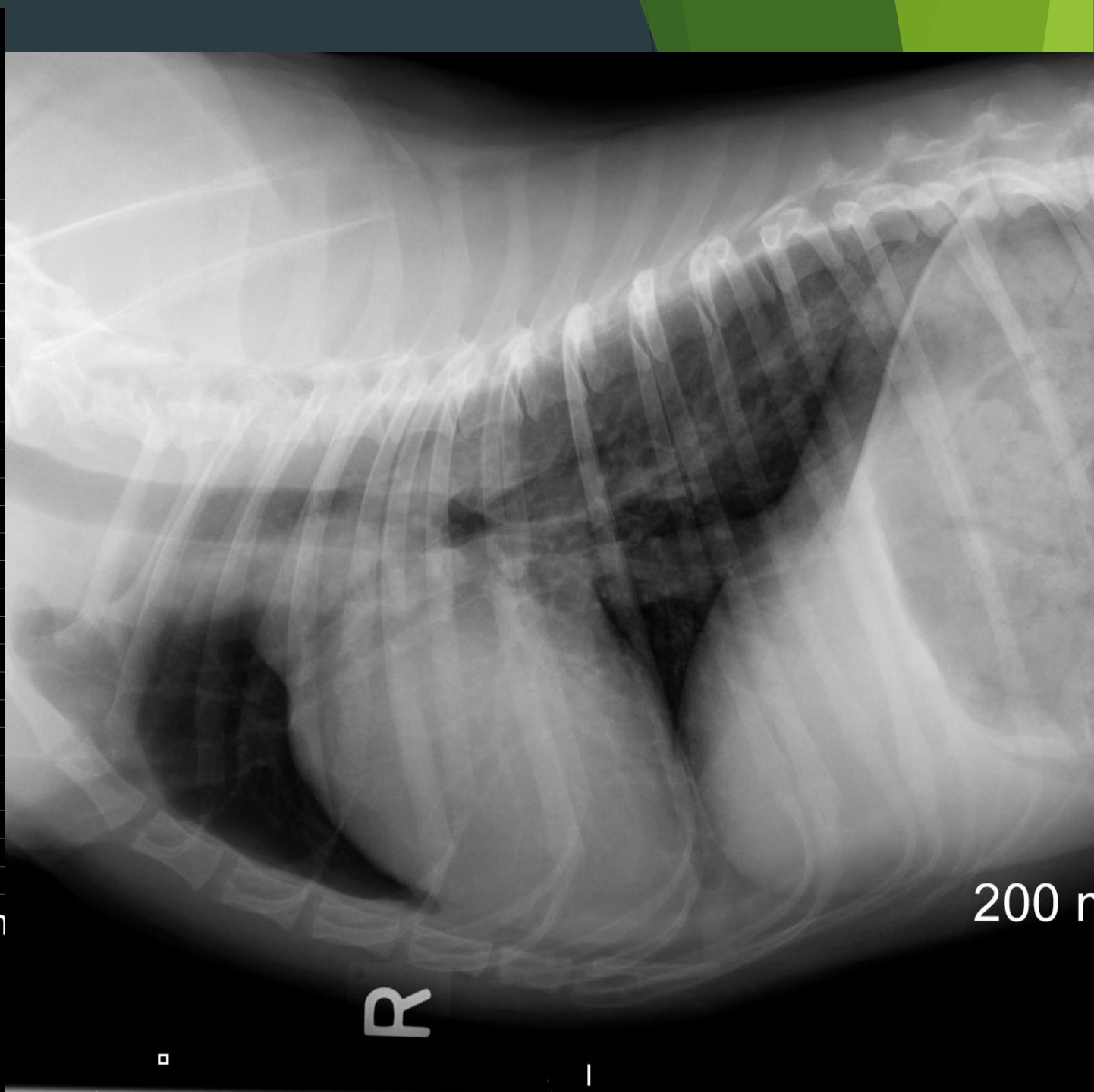
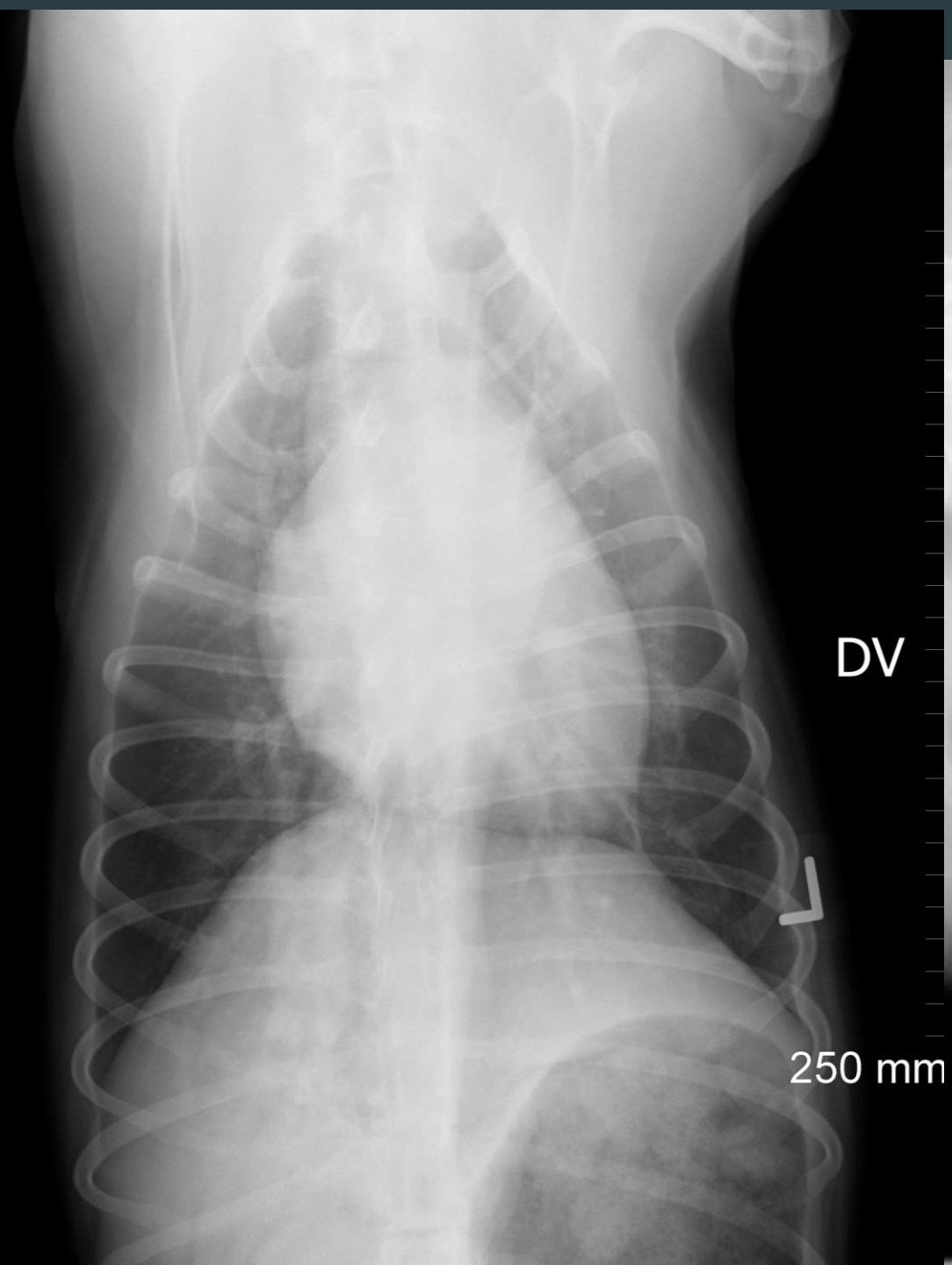
Ultrasound

Case 1:

- ▶ 5-year-old Springer Spaniel cross
- ▶ Referred for a chronic, productive cough
- ▶ Has been dewormed and treated with an antibiotic without response







What would you do next?

- ▶ A. Radiograph the neck as the thorax is normal
- ▶ B. Bronchoscopy or CT to investigate the focal airway disease
- ▶ C. Proceed with systemic work-up for neoplasia
- ▶ D. Treat for aspiration pneumonia

Radiographic Findings and Differential Diagnosis

- ▶ RADS:
 - ▶ Focal soft tissue opacity in the region of the right caudal bronchus
- ▶ DDX:
 - ▶ Focal pneumonia secondary to bacterial, fungal or parasitic disease
 - ▶ Bronchial foreign body
 - ▶ Broncho-centric neoplasia
- ▶ PLAN:
 - ▶ CT was thought necessary to further define the pattern and narrow the differentials



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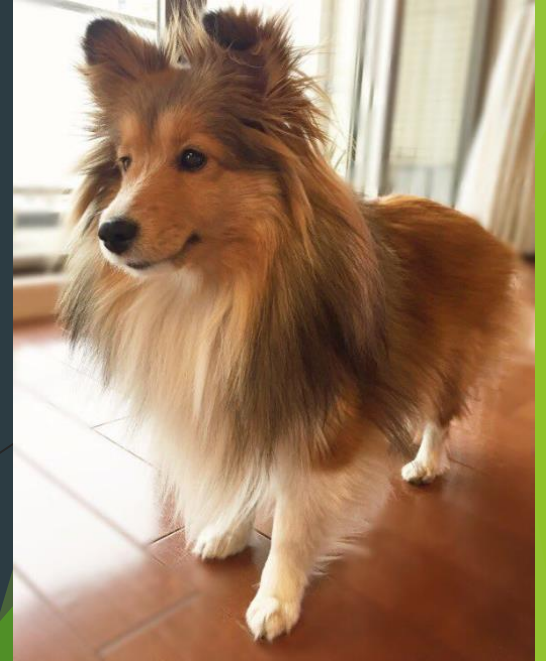
The Evil Grass Awn..

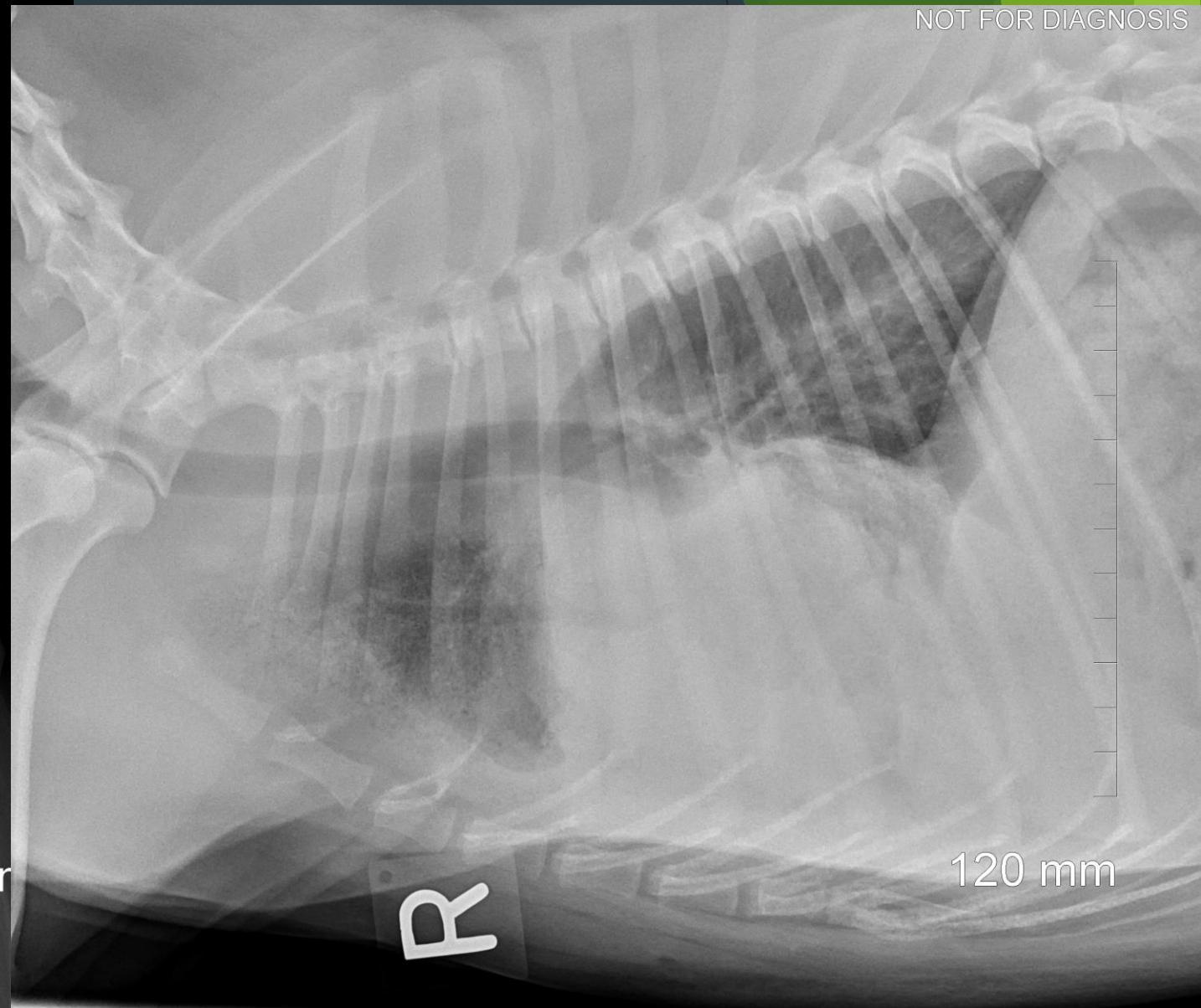
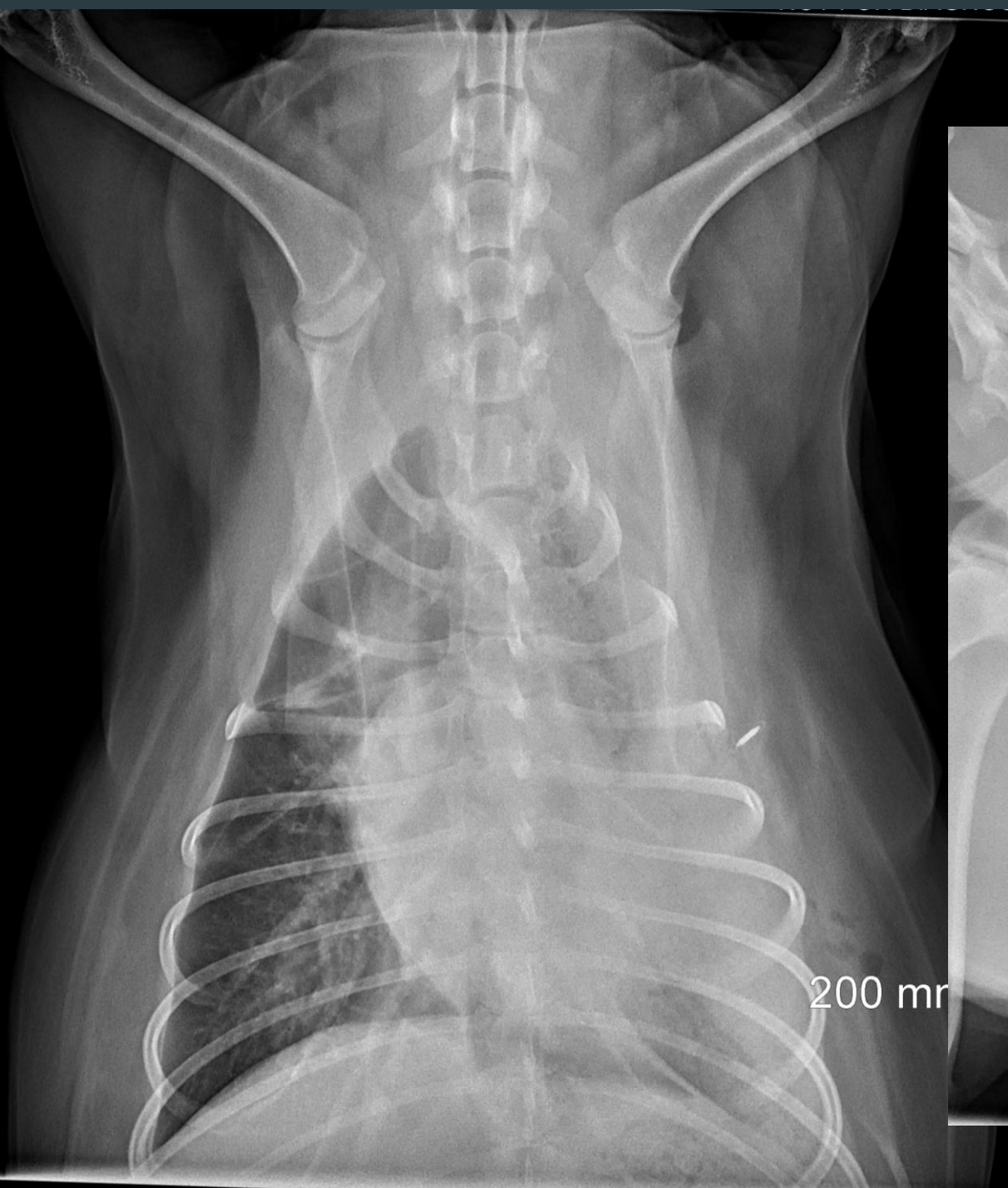
Radiolucent foreign bodies can be difficult to diagnose!



Case 2:

- ▶ **Eight-year-old male castrated Sheltie**
- ▶ Two-day history of difficulty breathing, lethargy and inappetence







What is your primary differential diagnosis?

- ▶ A. Neoplasia (carcinoma or histiocytic sarcoma)
- ▶ B. Aspiration pneumonia
- ▶ C. Lung lobe torsion
- ▶ D. Fungal granuloma

Radiographic Findings and Differential Diagnosis

- ▶ RADS:
 - ▶ Bilateral, mild pleural effusion (L>R)
 - ▶ Vesicular pattern in cranial subsegment and alveolar pattern in caudal subsegment of left cranial lung lobe
 - ▶ Inability to follow left cranial bronchus into lung lobe and abnormal positioning of bronchus (caudal subsegment?)
- ▶ DDX:
 - ▶ Lung lobe torsion (vesicular pattern is pathopneumonic)
- ▶ PLAN:
 - ▶ Thoracotomy

Lung Lobe Torsion

- ▶ Breed specific: Large, deep-chested (Afghan Hounds) most common. Small breeds less common with Pugs predisposed (often spontaneous in this breed, unlike most other small breeds)
- ▶ Most common lobe involved:
 - ▶ Small breeds - left cranial
 - ▶ Large breeds - right middle
- ▶ Progression lobar congestion secondary to venous and lymphatic compression
 - ▶ Leads to pulmonary edema, hemorrhage and necrosis
- ▶ Dogs: Usually spontaneous (only 3/22 had underlying thoracic disease)
- ▶ Cats: Usually associated with underlying disease

Case 3:

- ▶ Six-month-old female spayed DSH
- ▶ Open mouth breathing and distressed after being attacked by a dog



)-1-8506-1



#2
Ac: 146450-1-8506-1
Thorax LAT (2)
Series: 2



80 mm
LGM: 185
W:1572 L:2299
Filter:None Fact:0

WCVM
University of Saskatchewan Saskatoon, Sk S7N 5B4

0-1-8506-1



#3

Ac: 146450-1-8506-1

Thorax LAT

Series: 3



WCVM

University of Saskatchewan □ □ Saskatoon, Sk S7N 5B4

80 mm

LGM: 188

W:1571 L:2259

Filter:None Fact:0

120

What feature(s) seen in these radiographs supports a diagnosis of tension pneumothorax?

- ▶ A. Tenting and flattening of the diaphragm
- ▶ B. Marked collapse of the lung lobes
- ▶ C. Mediastinal shift
- ▶ D. All of the above

Radiographic Findings and Differential Diagnosis

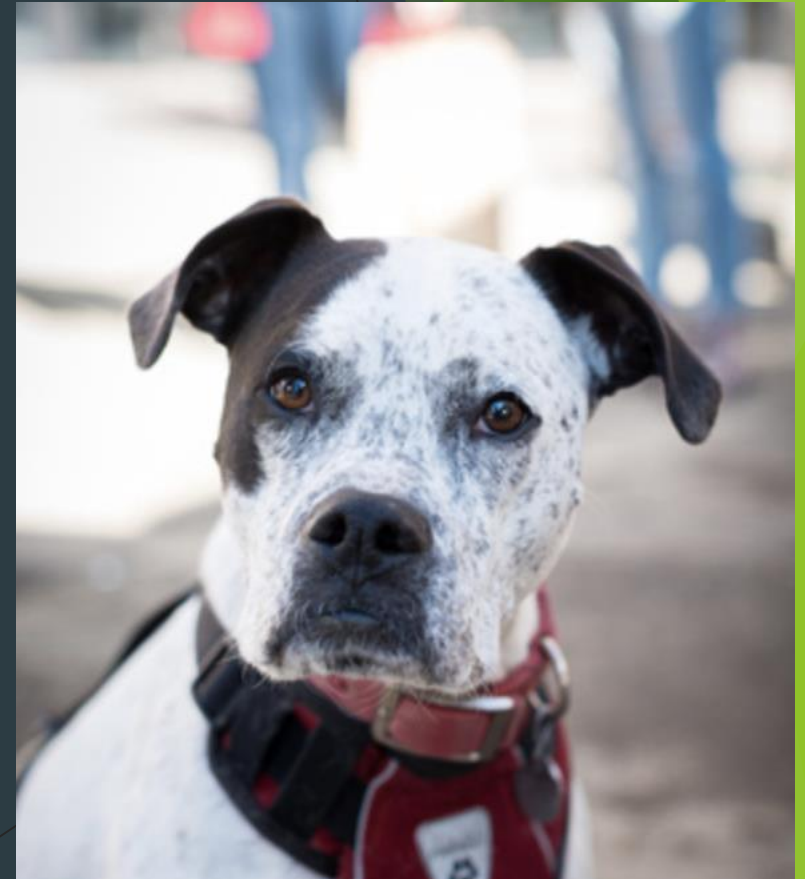
- ▶ RADS:
 - ▶ Marked, bilateral pneumothorax (R>>L)
 - ▶ Marked retraction and increase in pulmonary opacity of the lung lobes
 - ▶ Leftward mediastinal shift
 - ▶ Flattening and tenting of the diaphragm
 - ▶ SQ emphysema
- ▶ DX:
 - ▶ Tension Pneumothorax
- ▶ PLAN:
 - ▶ Immediate thoracocentesis

Tension Pneumothorax

- ▶ Important to recognize because a missed diagnosis is potential fatal
- ▶ Tension pneumothorax occurs when pleural space pressure exceeds atmospheric pressure during both phases of respiration
- ▶ Results from one-way valve mechanism
- ▶ Causes lung to collapse to greater degree than maximal in open pneumothorax
- ▶ Lung assumes appearance of an amorphous opacity compressed against midline
- ▶ With unilateral tension: get contralateral mediastinal shift
 - ▶ In pneumothorax heart usually shifted TOWARDS the side of thorax containing most air
 - ▶ In tension pneumothorax heart is shifted AWAY
- ▶ Can result in caudal displacement of diaphragm - look for TENTING

Case 4:

- ▶ 11-year-old male neutered Boxer cross
- ▶ One-week history of decreased appetite
- ▶ Acute onset of vomiting and diarrhea this morning







Why is immediate surgery recommended in this patient?

► Please send in short answer

Radiographic Findings and Differential Diagnosis

- ▶ RADS:
 - ▶ Focal reduction of serosal detail in the mid-abdomen
 - ▶ Segmental small intestinal dilation
 - ▶ Approximately round, mixed opaque structure in the left cranioventral abdomen
 - ▶ Free peritoneal gas
- ▶ DDX:
 - ▶ Foreign body intestinal obstruction with rupture and septic peritonitis
 - ▶ Ulcerated intestinal mass
- ▶ PLAN:
 - ▶ Immediate laparotomy (thoracic radiographs were taken first without abnormalities)

Final Diagnosis

- ▶ Histology: Aggressive, highly invasive jejunal intestinal mass consistent with T-cell lymphoma
- ▶ Several ulceration had led to rupture and resulting septic peritonitis

Case 5:

- ▶ 15-year-old spayed female Collie
- ▶ Acute history of zigzagging and unaware of surroundings on walk followed by reluctance to move and laboured breathing





Where is the disease in this patient?

- ▶ A. Retroperitoneal space
- ▶ B. Gastrointestinal tract
- ▶ C. Liver
- ▶ D. Peritoneal space

Radiographic Findings and Differential Diagnosis

- ▶ RADS:
 - ▶ Volume expansion of the retroperitoneal space
 - ▶ Whispy soft tissue/fluid opacity in the retroperitoneal space
 - ▶ Impression of a mass effect in the cranial and right aspect of the retroperitoneal space
- ▶ DDX:
 - ▶ Mass effect: neoplasia (adrenal, kidney), hydronephrosis, pyelonephritis
 - ▶ Fluid: hemorrhage, uroretroperitoneum, transudate, exudate
- ▶ PLAN:
 - ▶ Ultrasound and/or CT

Final Diagnosis

- ▶ Hemangiosarcoma involving the right kidney with hemorrhage into the retroperitoneal space