

Case 5

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Signalment and History

- 17 y male neutered Labrador retriever
- Diagnosed with laryngeal paralysis 6-8 months ago by rDVM
- Presented respiratory distress, cough, inspiratory stridor, and lethargy over the last month
- History of vomiting & regurgitation

Physical Exam Findings

- T: 102.1° F PR: 110 beats/min RR: 60 breaths/min
- Respiratory distress; harsh lung sounds in all fields with referred upper airway noise
- Regurgitation and hypersalivation

Thoracic radiographs are available.

- 1) Describe your radiological findings
- 2) List your diagnosis/differential diagnoses







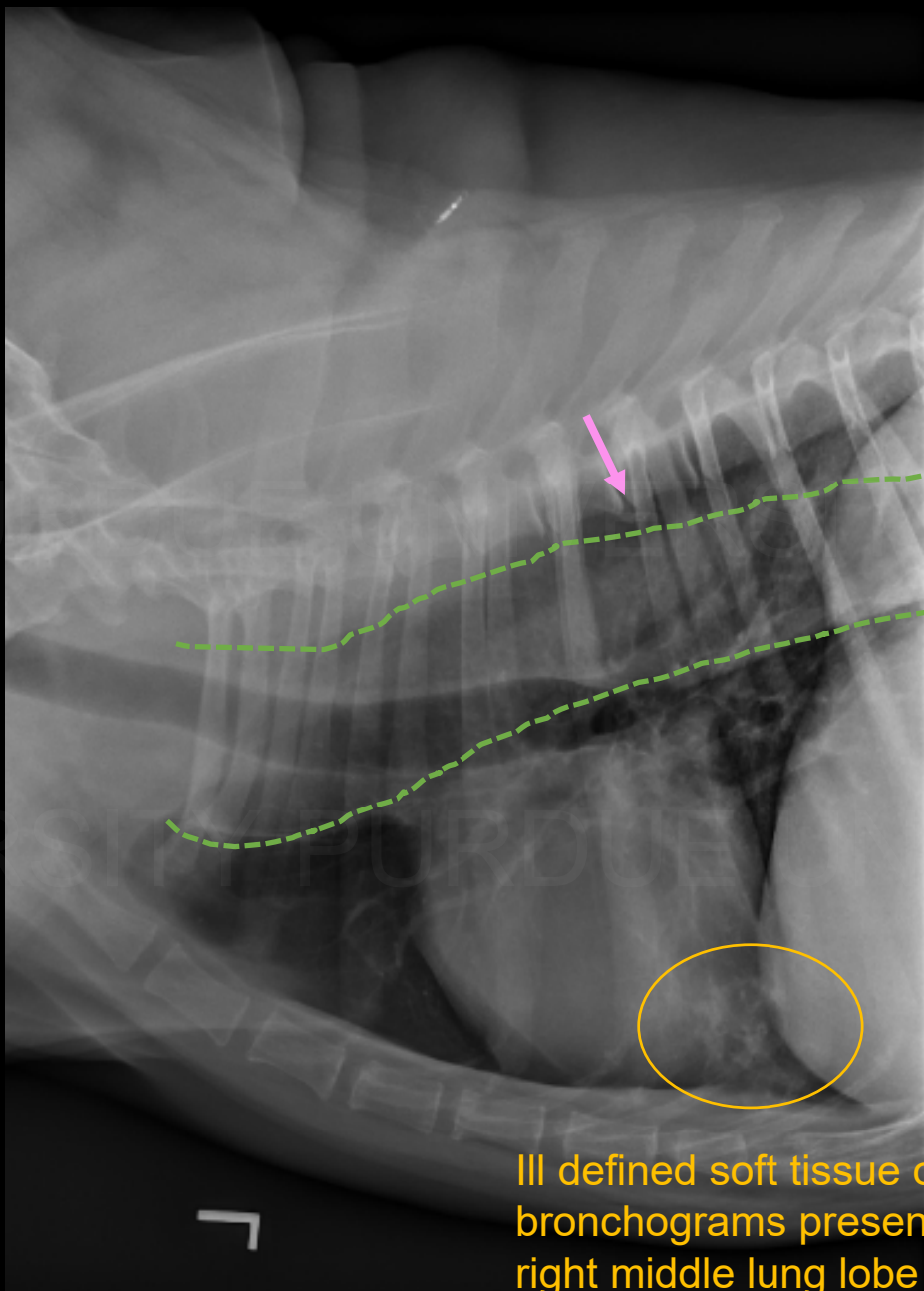
VD

Additional view

Abdominal compression view

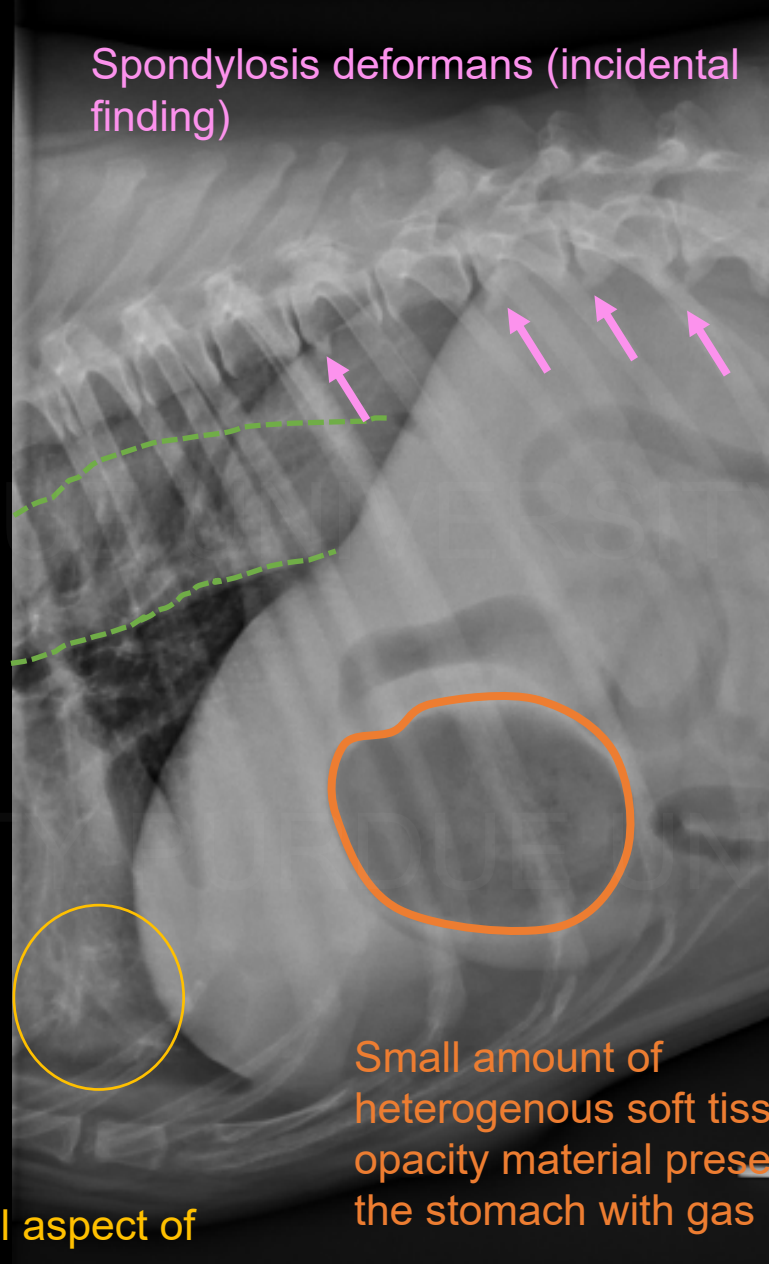


Radiological Findings



Diffusely moderately distended esophagus with faint soft tissue opacity and gas

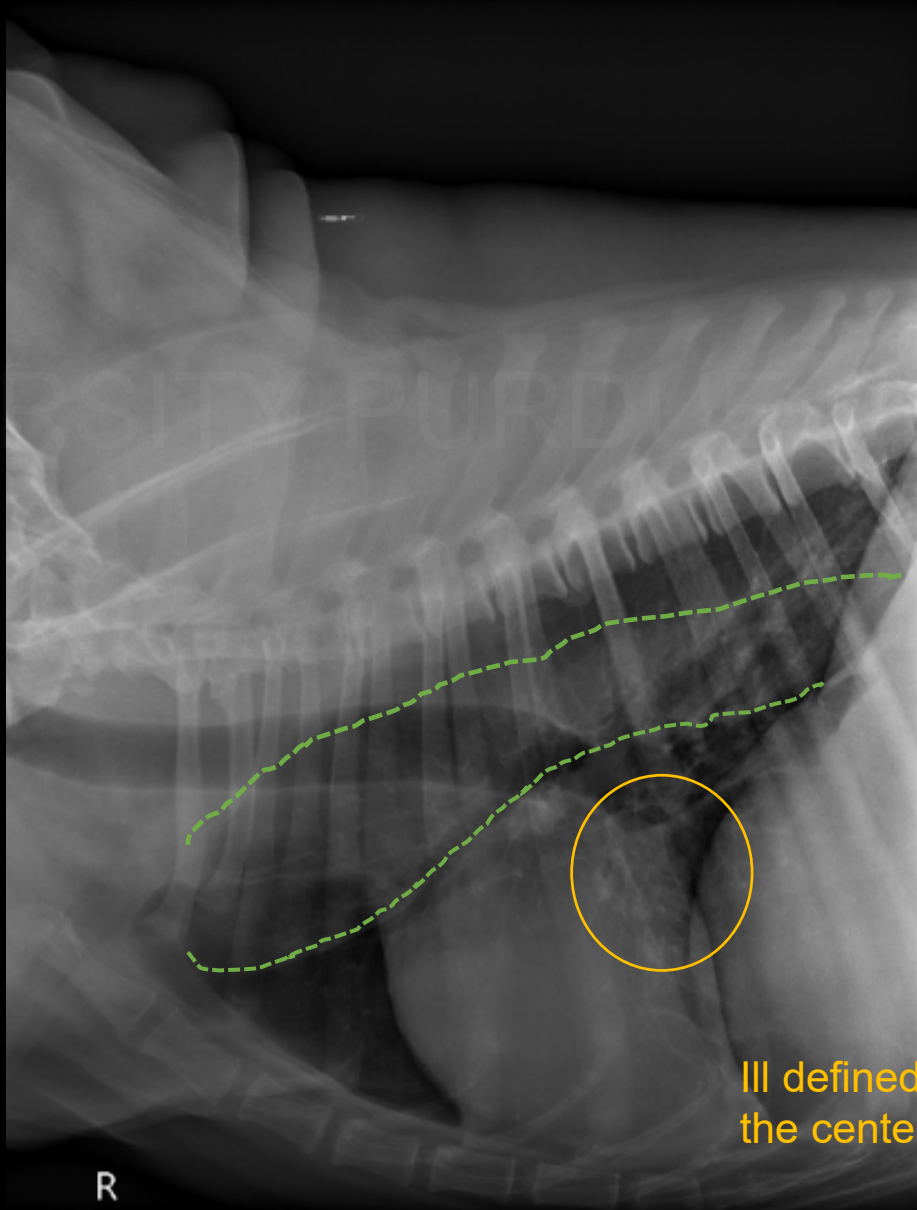
Ill defined soft tissue opacification with air bronchograms present in the mid to ventral aspect of right middle lung lobe



Spondylosis deformans (incidental finding)

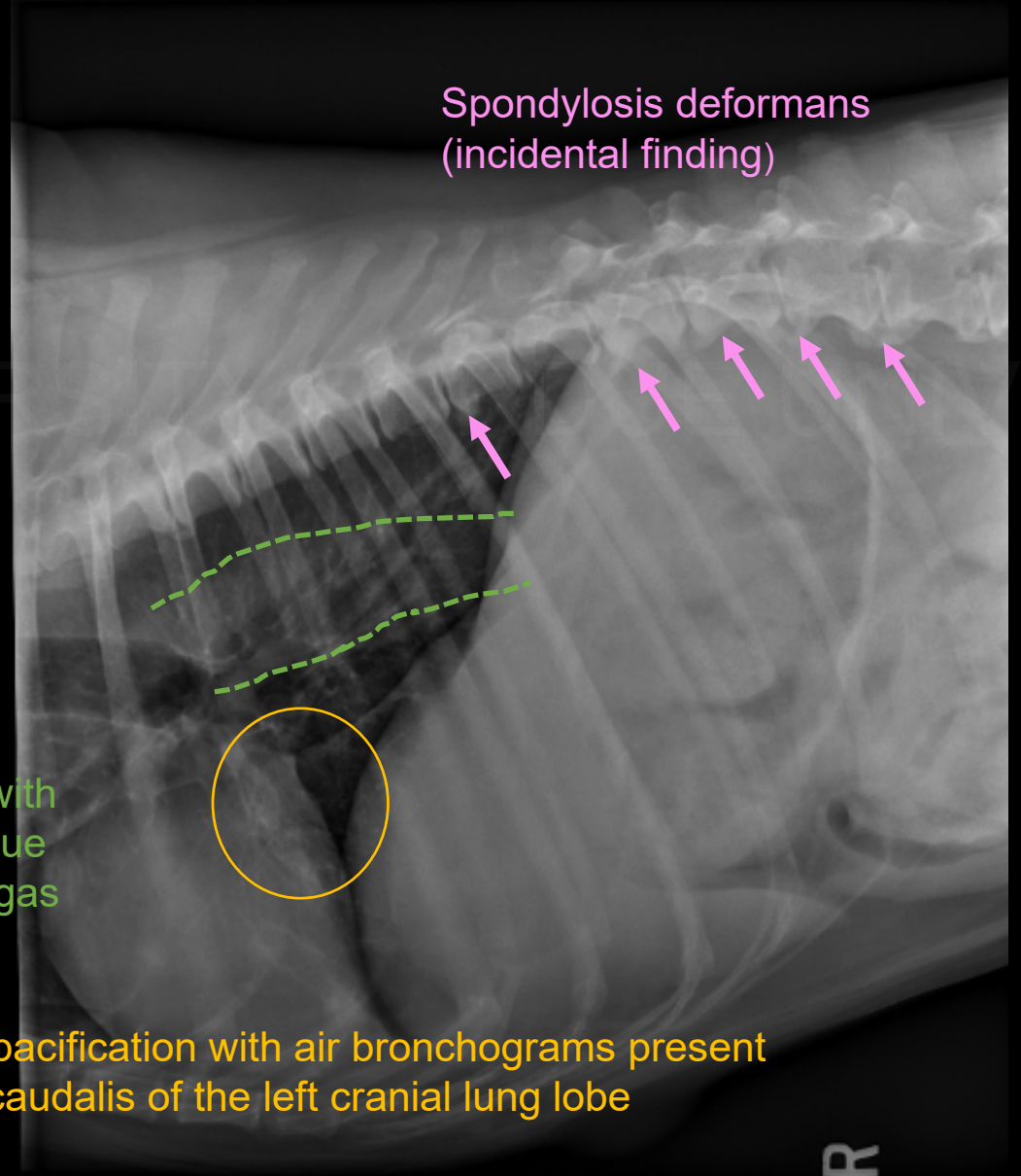
Small amount of heterogenous soft tissue opacity material present in the stomach with gas

*Cardiac silhouette and pulmonary vasculature are unremarkable



Diffusely moderately distended esophagus with faint soft tissue opacity and gas

Ill defined soft tissue opacification with air bronchograms present the center of the pars caudalis of the left cranial lung lobe



Spondylosis deformans (incidental finding)

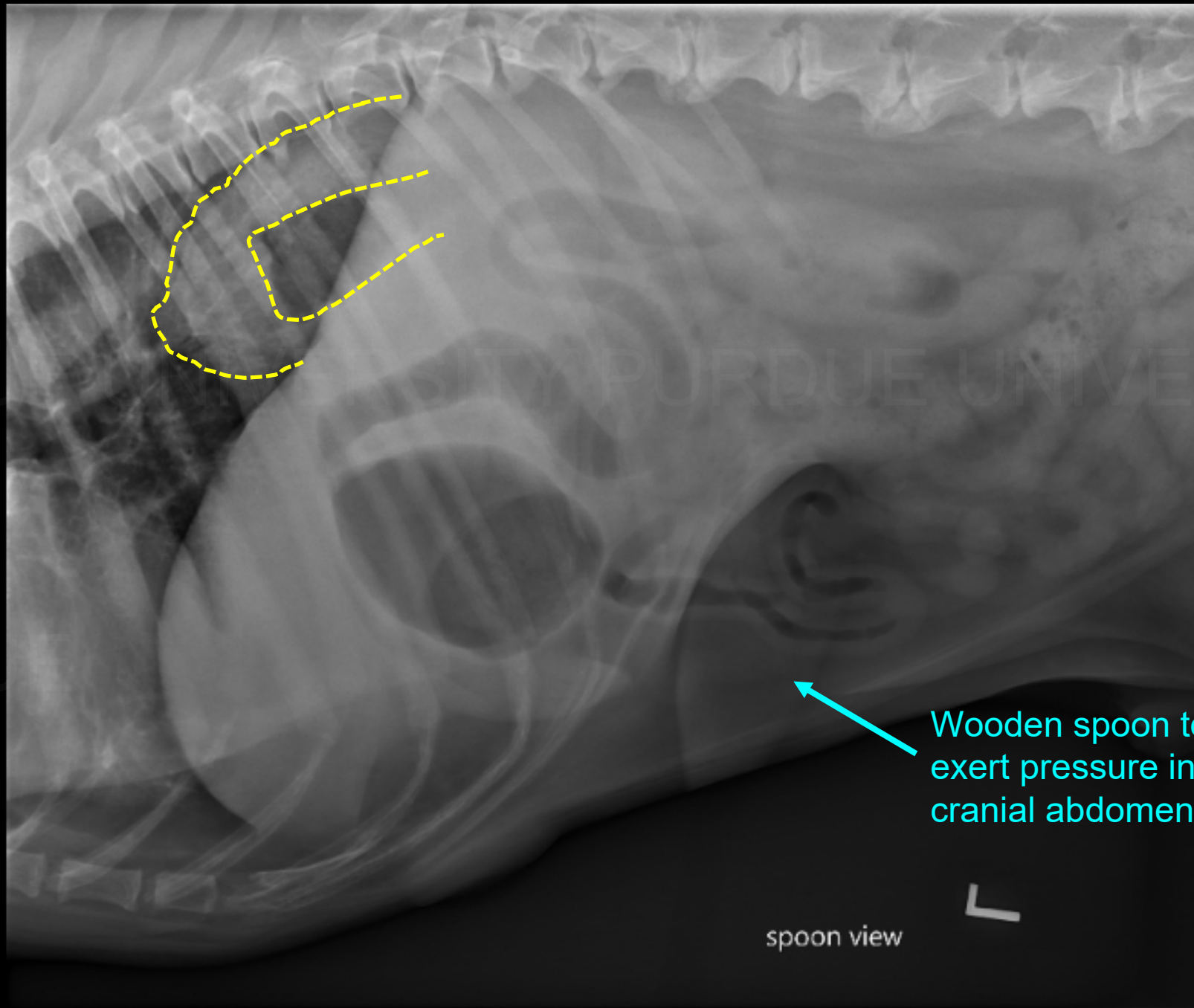
*Cardiac silhouette and pulmonary vasculature are unremarkable

Cardiac silhouette and
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VD

A cranially rounded soft tissue structure with luminal gas (most likely the cardia-fundic portion of the stomach) is seen bulging cranially into the caudodorsal thoracic cavity at the level of the esophageal hiatus. The caudal margin of this soft tissue structure cannot be defined.



Wooden spoon to exert pressure in the cranial abdomen

spoon view

Final diagnosis

- Sliding hiatal hernia (displacement of part of the stomach into the caudodorsal mediastinum)
- Dilated esophagus (diffuse), differentials include:
 - megaesophagus
 - 2° to esophagitis
- Aspiration pneumonia (right middle lung lobe and pars caudalis of the left cranial lung lobe), likely the underlying cause of the reported respiratory distress

Remarks

Hiatal Hernia

- Protrusion of abdominal contents into the thoracic cavity through the esophageal hiatus
- Shar Peis and brachycephalic dogs are overrepresented
- 4 types:
 - **Type I: Sliding**
 - **Cranial displacement through the esophageal hiatus of the abdominal segment of the esophagus, lower esophageal sphincter and stomach (fundus)**
 - Type II: Paraesophageal
 - Fixed position of the abdominal segment of the esophagus and lower esophageal sphincter with cranial displacement of the fundus
 - Type III: Sliding + Paraesophageal
 - Mixed characteristics of type I and type II
 - Type IV: Large paraesophageal
 - Large defect that may allow displacement of other organs—spleen, pancreas, small intestine, etc.

Remarks

Hiatal Hernia

- **Clinical Signs**

- mild anorexia, hypersalivation, regurgitation, vomiting, hematemesis, and dyspnea

- **Diagnosis**

- **radiography** or fluoroscopy; intermittent nature can make diagnosis challenging; **abdominal compression with a wooden spoon can be very helpful!**
- computed tomography

- **Treatment**

- Medical treatment of esophagitis
- Surgical correction

References

- Callan, M. B. *et al.* Congenital esophageal hiatal hernia in the Chinese Shar-Pei Dog. *Journal of Veterinary Internal Medicine*. 1993;7:210–215.
- Guiot, L. P., Lansdowne, J. L., Rouppert, P. & Stanley, B. J. Hiatal hernia in the dog: A clinical report of four chinese Shar Peis. *Journal of the American Animal Hospital Association*. 2008;44:335–341.
- Reeve EJ, Sutton D, Friend EJ, Warren-Smith CMR. Documenting the prevalence of hiatal hernia and oesophageal abnormalities in brachycephalic dogs using fluoroscopy. *J Small Anim Pract*. 2017;58(12):703-708.
- Lodzinska, J., Culshaw, G., Hall, J. L., Schwarz, T. & Liuti, T. CT diagnosis of intermittent type IV paraoesophageal hernia in a dog. *Vet Rec Case Rep* 2018;6:e000692. doi: 10.1136/vetreccr-2018-000692