IT'S YOUR CASE

Species: Canine Breed: Lhasa Apso Sex: Male Neutered Age: 13 years

Clinical History:

He has a chronic cough and mildly increased bronchovesicular sounds in his caudal left thorax. He has been responsive to steroids and anti-tussives.

Anatomic regions: Thorax

Details of study and technical comments: A three view radiographic study of the thorax are presented for interpretation.

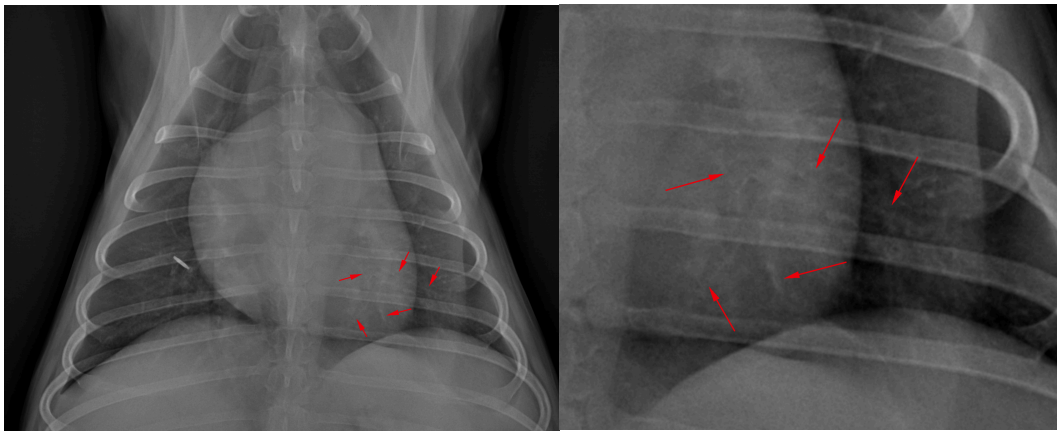
Diagnostic interpretation:

THORAX:

The margins of the principal bronchus and large calibre airways of the left cauda lung lobe are well defined but mildly more thickened in comparison to the right. The remaining airways are within normal limits.

The cardiac silhouette, vasculature, remaining parenchyma, mediastinum and pleural space are unremarkable.

The liver is incompletely imaged however appears enlarged and to be extending past the costal arch.



Conclusions:

- Bronchial changes of the left caudal lung lobe. Differential diagnoses include chronic bronchitis versus scarring from prior inflammation.
- Suspect hepatomegaly may represent vacuolar hepatopathy, nodular regeneration, fat infiltration, or metastatic neoplasia.

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Additional comments:

The localised changes of the left caudal airways are suggestive of a regional pathology such as focal bronchitis. While this can be more generalised, focal disease can occur with infection or foreign body. Subtle parenchymal and intraluminal changes change be further explored with high resolution (breath hold) computed tomography and bronchoscopy with lavage. This patient had been previously diagnosed with sterile bronchitis.

Comments about the bronchial pattern:

While the large airways should be able to be characterised by their relative boundaries of the arteries and veins (central and ventral), the walls should not be distinct excepting the very large calibre airways at the hilus. As shown below in a transverse image of the thorax presented in a lung algorithm (Figure 1), the pulmonary artery tracks closely with the bronchus while the vein is slightly separate. This offers a relative idea of the size and path of the airway. When the airway wall is thickened, the margins can be well-defined or poorly defined. This may provide some insight into the current state and chronicity of the disease process with some caveats.

A well-defined bronchial pattern as shown in today's case has sharp margins of the airway; in other words, one could take a fine-tipped pencil and outline the margins of the airway. This means the body has had time to remodel the wall in response to the pathology (i.e. it's chronic).

A poorly defined bronchial pattern is characterised similarly by thickened airway walls however the margins are less distinct; an example of this is provided in Figure 2. This is more consistent with an acute process as the body as had less time to remodel the airways.

The exception to this general pattern is when a patient with chronic disease (and chronically remodelled airways) has an acute crisis. The imaging findings of the airways may be misleading however there are usually other radiographic changes that may indicate acute respiratory distress.

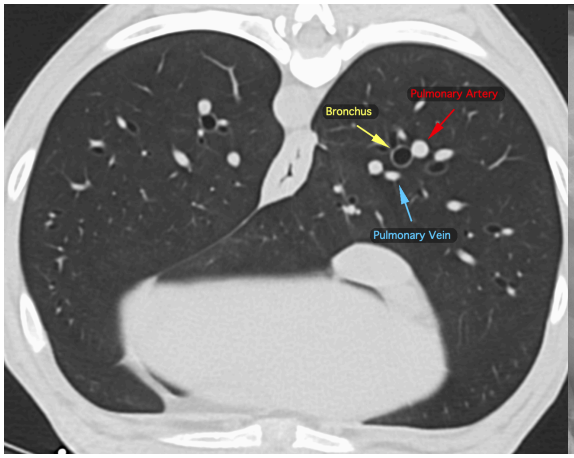

Figure 1.

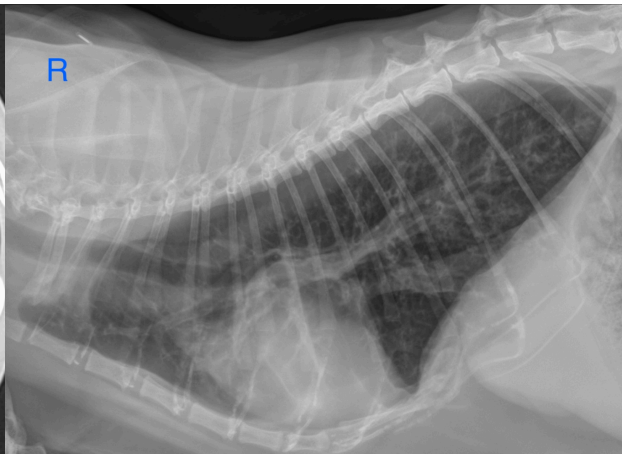

Figure 2.