# IT'S YOUR CASE

Species: Feline Breed: Domestic Shorthair (DSH) Sex: Male Neutered Age: 3 months

**Clinical History:**

He is presenting for a 5-day history of difficulty breathing. A week ago, he presented for difficulty breathing, vomiting and eating elastic bands. At that time, abdominal radiographs did not reveal obstruction. He was put on a prescription of Amoxicillin-Clavulonic Acid for increased respiratory effort. He presented early today for inappetence of 3-days duration. On exam, there was marked respiratory effort.

**Anatomic regions:** Thorax

**Details of study and technical comments**:

Left lateral, right lateral and ventrodorsal view of the thorax are provided for evaluation. The study is of good diagnostic quality.

**Diagnostic interpretation**:

Severe alveolar opacities are identified in the right middle and caudal subsegment of the left cranial lung lobes lung field bilaterally, creating distinct air bronchograms (red arrowheads) and a lobar sign caudodorsally (yellow arrows). Similar changes are in the right cranial and cranial subsegment of the left cranial lung lobe (green arrows). Incomplete alveolar pattern (moderate to severe mixed lung pattern) is extending into the cranioventral aspect of the right and left caudal lung lobes (orange arrows); this is more severe in the left caudal lung lobe. There is sparing of the caudodorsal third of the lung fields in the lateral views.

There is an inward deviation of the caudal left-sided thoracic wall (blue arrow). No rib fractures are identified. The overlying soft tissues of the thoracic wall are normal.

The cardiac silhouette and pulmonary vessels are effaced by the lung opacities. No dorsal displacement of the terminal trachea is seen.

No pleural space or definitive mediastinal abnormalities are noted. The diaphragm appears mildly asymmetric with mild cranial posture on the left side.

The included skeletal structures and cranial abdomen are age appropriate.



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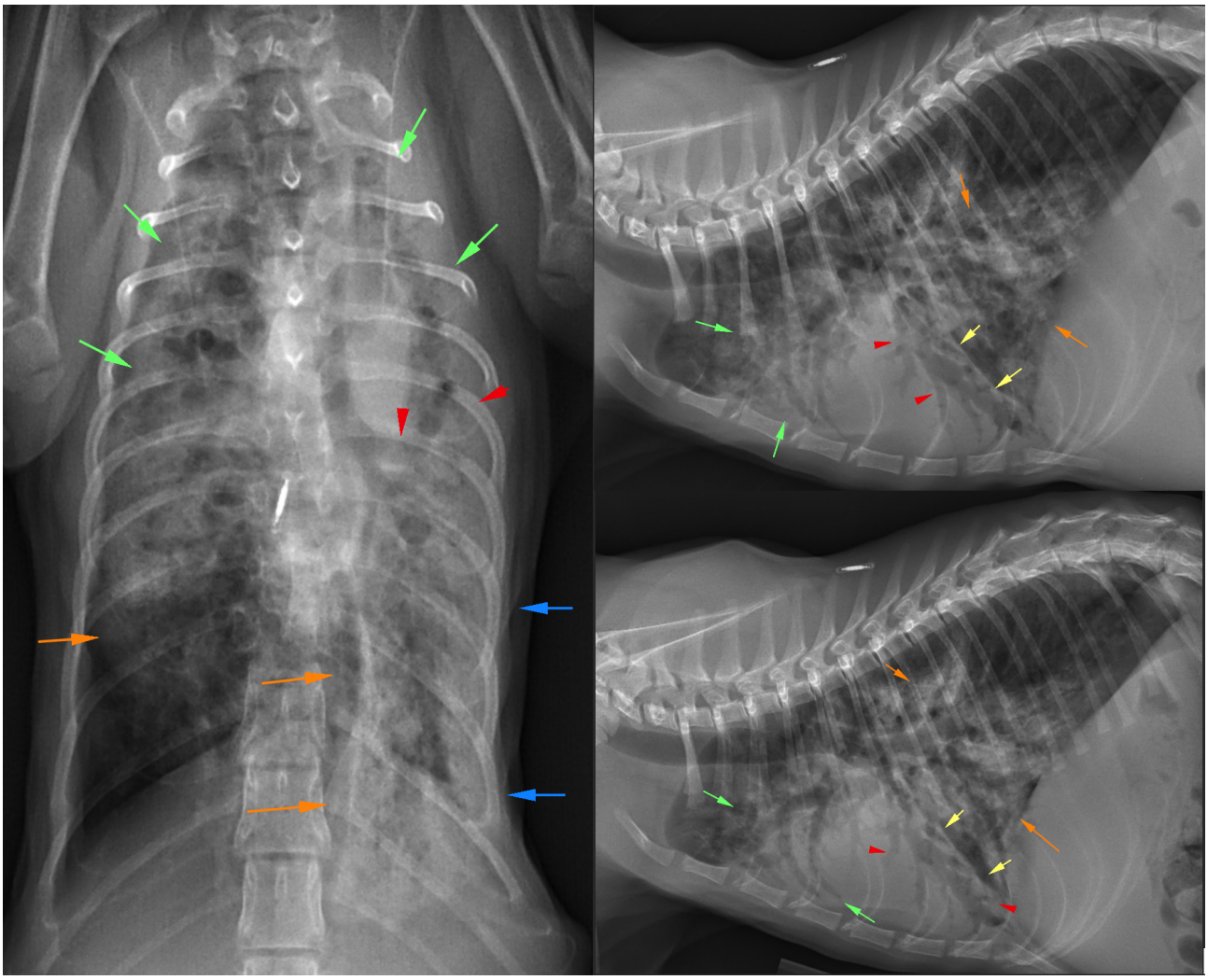

**Conclusions**:

- Extensive, severe alveolar pattern with predominantly cranioventral distribution and involving nearly entire left lung. Differential diagnosis:
    - Aspiration pneumonia
    - Bacterial pneumonia/bronchopneumonia
    - Acute respiratory distress syndrome
    - Severe haemorrhage/pulmonary contusion related to trauma
    - Pulmonary haemorrhage related to coagulopathy
    - Severe pulmonary oedema (cardiogenic or non-cardiogenic) is considered less likely

**Additional comments**:

Based on the cranioventral distribution and historical vomiting, bronchopneumonia is prioritised. Aspiration pneumonia is a subset of bronchopneumonia. Inward deviation of the left-sided caudal thoracic wall is most likely related to decreased volume of the left lung, since no imaging evidence of trauma is identified in the provided set of radiographs. However, congenital malformation cannot be completely ruled out.



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**Comments about the alveolar pattern:**

Alveolar pattern is termed as such due the disease impacting the alveoli. The alveoli are saturated with material which can include fluid, cells, pus or blood. Due to this saturation, there is marked opacification of the lung resulting in effacement of the vessels. In contrast to an unstructured interstitial pattern, in which the margins are partially visible, the vessel margins are completely obscured in an alveolar pattern. The typical source of contrast is air within the large airways creating an "air bronchogram". When the extent of the alveolar pattern is severe and subsumes the entire lobe, lobar margination or a lobar sign may be observed. This contrasts with pleural fissure lines which define the boundary of the lung lobe by (usually) fluid within the pleural cavity. Alveolar patterns in many circumstances are part of a range of severity of parenchymal disease that often can begin as unstructured interstitial pattern; in this category, it represents the severe end of the spectrum.



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