IT'S YOUR CASE

Species: Canine Breed: Dobermann Sex: Female Neutered Age: 6.5 years

Clinical History:

She has elevated liver enzymes and polyuria/polydipsia in addition to 25 lb weight loss in 3-4 months. In the past two weeks, she has been vomiting and is now complete anorexic.

She is very ill and borderline hypotensive.

During ultrasound, there is reverberation artefact (gas shadowing) near the liver. Radiographs are pursued to assess for pneumoperitoneum.

Anatomic regions: Abdomen

Details of study and technical comments:

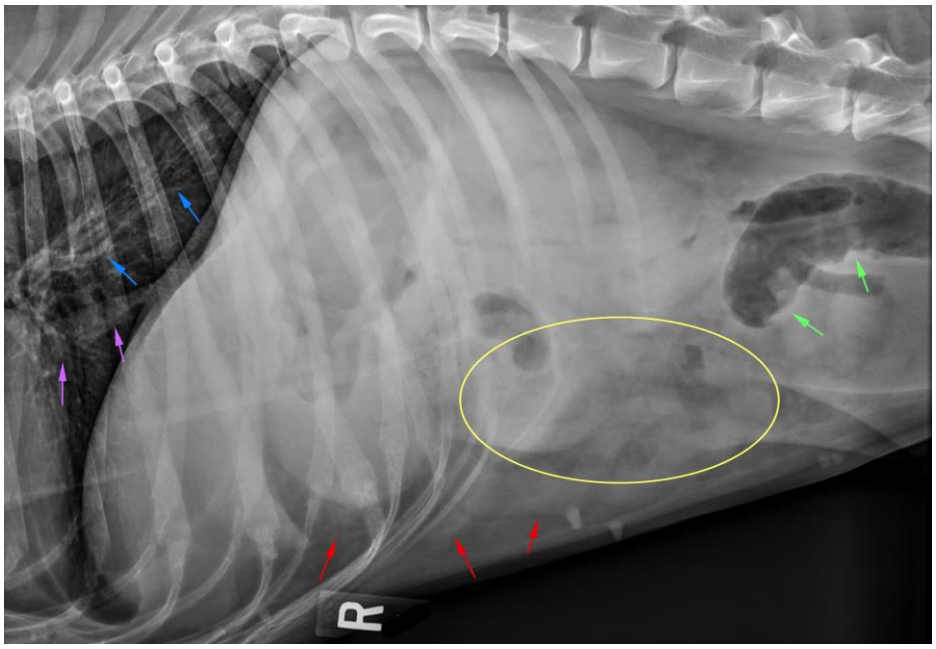
Abdomen: right lateral (x2), left lateral (x2), VD (x2). VD and right lateral with horizontal beam.

Diagnostic interpretation:

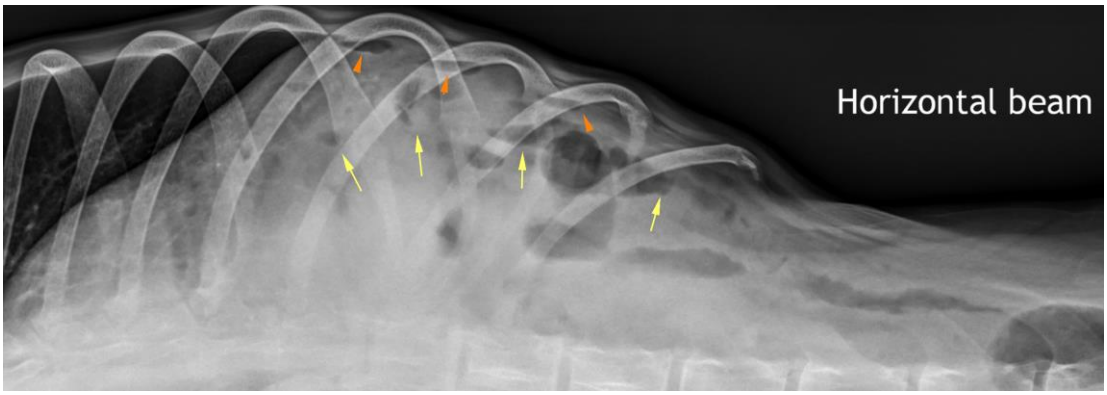
ABDOMEN:

There is generalised loss of serosal detail in the abdominal cavity (red arrows) with mild, non-homogeneous increased opacity of the mesentery (yellow circle). A small volume of gas is present in the gastrointestinal tract. In the initial lateral views, there is no clear evidence of free gas in the most non-dependent part of the abdomen. The degree of gastric and intestinal distention is normal. There is mild corrugation of the descending colon (green arrows). The kidneys have normal size and shape. There is no evidence of mass effect on the abdominal organs.

The pulmonary vasculature (blue arrows) and caudal vena cava (purple arrows) are narrow in diameter.



In the first horizontal beam projection (a ventrodorsal view in left lateral recumbency), small gas foci are noted along the subcostal margin of the cranial abdomen (orange arrowheads). There are several regional segments of small intestine (yellow arrows).



In the subsequent horizontal beam (a laterolateral view in dorsal recumbency), made 5 minutes later, a small gas cap is identified at the ventral margin of the diaphragm (bright pink arrows). Several smaller gas bubbles are nearby and caudal to the stomach (light pink arrows). These do not appear definitively intraluminal.

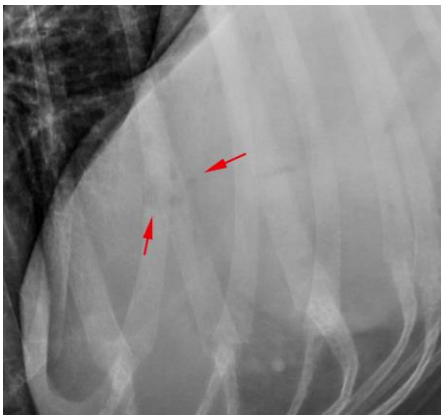
Conclusions:

- Loss of serosal contrast in the peritoneal space may be due to effusion or steatitis.
- Pneumoperitoneum. This indicates a ruptured viscus. Likely of gastrointestinal origin.
- Hypovascular pattern and small caudal vena cava. Primary consideration is given to hypovolaemia.

Additional comments:

The loss of serosal detail in the abdomen is attributed to a small amount of free abdominal fluid and steatitis. There are suggestions of peritoneal gas on the initial horizontal beam and with additional time, the gas aggregates in a nondependent location confirming rupture of a vicus. Principal systems of consideration are the gastrointestinal tract and urogenital however the former is overrepresented. This is consistent with the reverberation artefact that hindered sonographic evaluation. Septic abdomen is anticipated but can be further documented with evaluation of the abdominal fluid for intracellular bacteria. This should be completed expediently since pneumoperitoneum is considered a surgical emergency if not post procedural (i.e. surgery or centesis).

With close inspection of the initial series, there are equivocal opacities superimposed by the ribs on the left lateral view (red arrows, image below). These are subtle and would not justify surgical intervention alone.



Outcome:

The patient was stabilised, went to surgery and a duodenal perforation with septic abdomen was identified.