

What's Your Diagnosis?

Megan Montgomery

Charana's Cria '09, 2 month old female intact alpaca

History:

- Clinically normal until 36-48 hours prior to presentation
- Had been anorexic, depressed, and recumbent for 36-48 hours prior to presentation

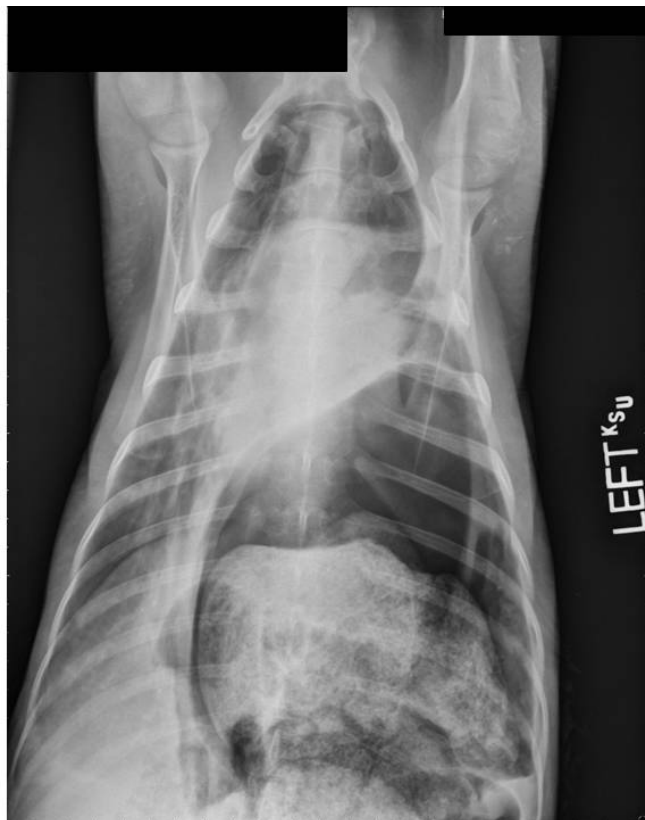
Physical Examination Findings:

- Temperature: 96.8° F, Heart Rate 100 bpm, Respiration Rate 25 breaths per minute; Quiet, Alert, and Responsive
- Handling of any kind induced open mouth breathing

Diagnostics:

- CBC and Serum Chemistry revealed an acute inflammatory leukogram but were otherwise unremarkable.

Radiographs:



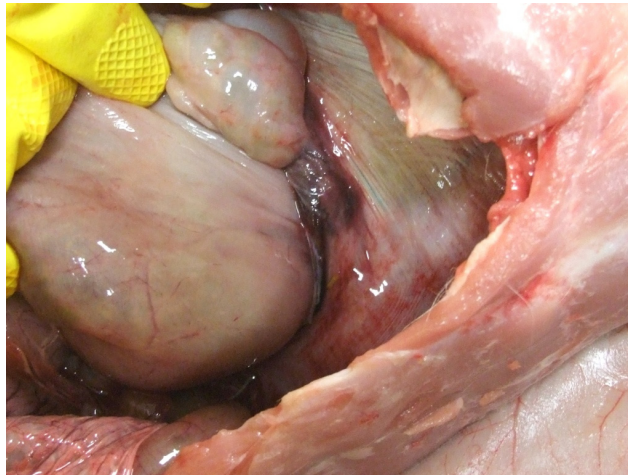
- Lateral and VD radiographs of the thorax were taken. There is a gas distended structure located in the left central and caudal thorax containing mottled, mixed gas and fluid opacity material within its lumen. This structure is most likely stomach (C1, C2, and/or C3), and is causing border effacement of the heart, diaphragm, and left central and left caudal lung fields. It also displaces the heart to the right in some VD views, and extends across midline on some VD views, causing border effacement of the spine.
- The left crus of the diaphragm is not visible, which may be due to superimposition of the gas filled structure and/or a defect in the diaphragm.
- The left lung lobes are displaced cranially and demonstrate an alveolar pattern. The right lung lobes are also decreased in volume and demonstrate an unstructured interstitial to alveolar pattern. These lung patterns may be consistent with atelectasis, but aspiration pneumonia is another possible differential.
- An orogastric tube was placed to decompress the distended stomach(s) and to place contrast within the structure to confirm the suspicion that it was a stomach compartment. Contrast visible on repeat radiographs of the thorax confirmed the suspected diagnosis of a diaphragmatic hernia.

Treatment:

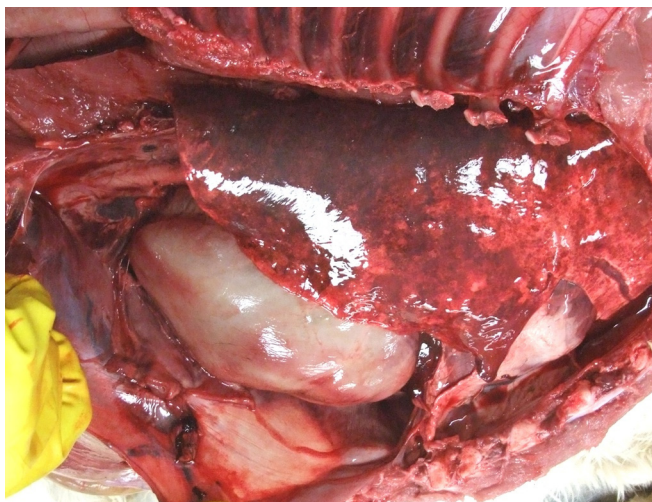
- Kept on nasal oxygen supplementation, Banamine for pain control, and antibiotics overnight.
- Due to the likely congenital nature of the diaphragmatic hernia, the fact that this patient was a poor surgical candidate (minimal restraint induced open-mouth breathing) and a poor prognosis without surgical correction, the owner elected euthanasia.

Necropsy Results:

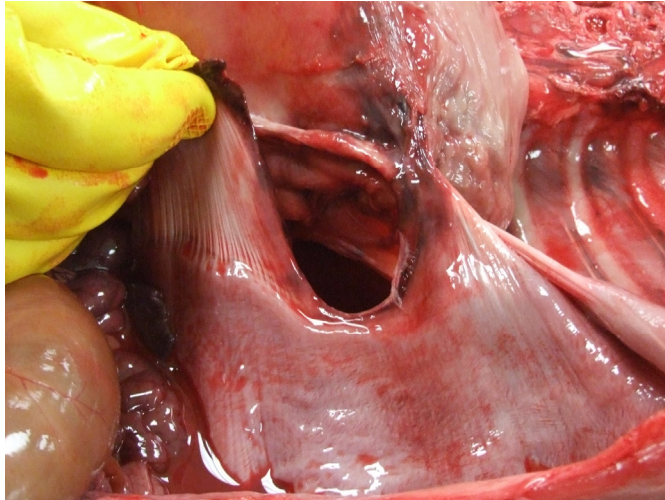
- A 9.5 by 7 cm tear in the diaphragm with dark red edges was discovered at necropsy. The rent in the diaphragm was located in the tendinous portion of the diaphragm and had smooth margins. All three stomach compartments and part of the spleen were herniated through the diaphragm and were covered by a layer of peritoneum. The presence of the sac continuous with abdominal peritoneum, combined with the smooth margins of the defect in the diaphragm, supported the suspicion that the diaphragmatic hernia was congenital rather than acquired (with an acquired hernia, the peritoneum would have torn, and the margins of the tear would be roughened).
- The lungs were cranially displaced and had a mottled appearance with dark red and pink areas. The heart was grossly normal but was cranially displaced.



Forestomachs herniated through the diaphragm into the chest cavity.



View from the thoracic cavity demonstrating presence of the forestomachs and their compression of the organs in the thoracic cavity.



Demonstration of the smoothly marginated, reddened defect in the diaphragm.

At present there are no case reports of congenital diaphragmatic hernia in Alpacas.