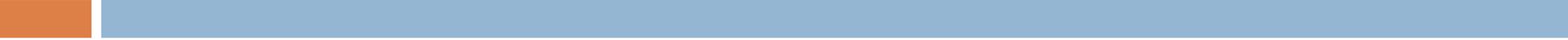


VAGAL INDIGESTION

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Signalment 6/25/2010

- 5420 Holstein Dairy Cow,
- 2nd lactation,
- 217 days in milking



- Primary Problem/Tentative Diagnosis

- Bloated

- Was extremely bloated- took off running when moving over to the hospital and didn't look as bloated when arrived. Appetite is great.

- Differential Diagnoses for abdominal distension
 - LDA
 - Vagal Indigestion
 - Froathy bloat
 - Abdominal neoplasia- lymphosarcoma, mesothelioma
 - Uterine enlargement
 - Ascites- RH failure
 - Venal caval thrombosis
 - Ruptured bladder
 - Diffuse peritonitis
 - Small intestinal intussusception

Physical Exam

- We performed a physical exam and a left ping was heard. She seemed extremely bloated.
- Pear shaped
- Her rumen is very distended and her rectum is filled with gas.
- Some of the small lymph nodes were enlarged.
- All other physical exam values were within normal limits.

Vagal indigestion

- Functional disturbance of the ruminants forestomachs.
- Not one specific disease, this is a syndrome which causes rumen distention.
- There are 4 types of vagal indigestion
- Typical history/clinical signs
 - Bouts of indigestion, anorexia, decreased milk production, abdominal distension, weight loss, intermittent vomiting, regurgitation, types of feces can help determine where the lesion is, hear a ping like you would in an LDA, increased rumenations, may hear decreased which worsens the prognosis.
 - Most important clinical sign- distended abdomen with fluid, gas or both.
 - As disease progresses the cow will start as a apple shape on left and a pear shape on the right. This is from excess gas in the rumen and the right side is due to the heaviness of the ingesta.
 - Affects cows late in gestation

Pathophysiology

- Lesion site will determine the clinical signs
- Vagal neuritis or injury- due to traumatic reticuloperitonitis, space occupying lesions (tumors abscesses), or foreign body.

The different Types

- Type I- Free gas bloat
 - ▣ Partial esophageal obstruction due to fb, or extraesophageal obstruction due to lymphosarcoma, thyroid tumors, TB, or lung abscess.
 - ▣ Failure of eructation- inflammatory lesion adjacent to vagus nerve. (localized peritonitis, abscessation in left ventral wall of the reticulum)

- Type II- Failure of omasal Transport
 - ▣ The ingesta cannot flow from reticulum to omasum to abomasum. Omasum pumps ingesta from reticulorumen into the abomasum- failure of omasal transport.
 - ▣ Due to abscesses, lymphosarcoma, papilloma, squamous cell carcinoma, large infarct, adhesions, live abscess exerting pressure of vagus..

cont

- Type III- Abomasal impaction or pyloric stenosis
 - ▣ Abomasal impaction- lack of water access,
 - ▣ Pyloric stenosis/obstructions- decreased abomasal emptying, this can be due to traumatic reticuloperitonitis causes abscesses or adhesions, or foreign bodies.
 - ▣ Vagal neuritis- failure of omasal transport or abomasal impaction.
- Type IV- Indigestion of advanced pregnancy or partial obstruction
 - ▣ Most difficult type- uterus enlarges, abomasum pushed forward which interferes with normal motility. If going on for a long time it will progress into one of the other types.

Diagnosis

- Figure out what's in the rumen by palpation.
- Increase in rumen fluid with abdominal impaction-hypochloremic, hypokalemic metabolic alkalosis.
- Rectal palpation of rumen and other organs
- Bradycardia

Diagnostic tests

- Serum or plasma chloride determination
- Rumen chloride concentration
- TPP- disproportionately elevated- chronic antigen stimulation and hypergammaglobulinemia.
- Decreased PCV
- Leukogram
 - lymphocytosis= lymphosarcoma
 - Leukocytosis= subacute response to chronic inflammation.
 - Leukopenia- peritonitis

Treatment

- Free gas bloat (type I)- establish rumen fistula
 - ▣ Purported antifermentatives- turpentine= No benefit.
- Omasal transport failure- Type II-
 - ▣ Ruminatorics and cathartics- GI evacuation
 - ▣ Ca gluconate SQ
 - ▣ Need surgical correction- wont respond to symptomatic treatment
 - ▣ Needle biopsy of mass
 - ▣ Drain abscess- worry about peritonitis
 - ▣ Pass a stomach tube- down nasal passage→esophageal groove→abomasum

Cont treatment:

- Abomasal impaction: Type III
 - Vigorous therapy- poor prognosis
 - Salvage- recommended
 - Oral cathartics, laxatives, metaclopramide
 - SQ calcium gluconate
 - IV fluids
 - Remenotomy– partial impaction- docisate sodium, magnesium sulfate, massage abomasum.
 - Last alternative- abomasotomy- not beneficial.

- Indigestion of advanced pregnancy- Type III
 - IV fluids
 - Decide what is more valuable- cow or calf.
 - If within 4-6 weeks of parturition- symptomatic treatment

Prognosis

- Case 5420- Vagal indigestion due to lymphosarcoma: The prognosis was very poor. Take home and send to slaughter plant.
- Rumenostomy- correct failure of eructation- 95% excellent. (type I)
- Failure of omasal transport (type II)- fair to good
- Abscesses/adhesions between omasum, diaphragm and reticulum- 80% prognosis
- Indigestion (Type IV)- advanced pregnancy- closer to parturition the better.

Our theory with the case

- We discussed what can cause this cow to look pear shaped from behind. She is a text book example of what vagal indigestion. She was bloated in the left paralumbar fossa and took off running when she was coming to the hospital. Some gas escaped out of her rumen. Her rumen is very distended and her rectum is filled with gas. Something is affecting the vagus nerve and the rumen is unable to go through its normal contractions and movement. The ingesta is unable to leave the rumen and the rumen is become filled. Due to vagal nerve damage the normal intestinal peristalsis is not occurring. Some of the small lymph nodes are enlarged. We think the cancer is causing the nerve damage. The prognosis is very poor. We advised the client to take her home and send her to the slaughter plant but her carcass may be condemned if it is lymphosarcoma. Lymphosarcome is the number one reason carcasses are condemned

References

- Howards & Smith. Current Veterinary Therapy
4 Food Animal Practice. Amarillo, Texas:
Saunders, 1999.