Vagus indigestion

It's a clinical case affected large ruminants (mostly cattle and buffaloes) and occur due to vagal nerve injury.

Etiology …

1- Complications of traumatic reticuloperitonitis…

It was thought that vagus indigestion was caused by vagal nerve dysfunction due to vagal nerve injury associated with complications of traumatic reticuloperitonitis. Therefore It was hypothesized that the inflammatory and scar tissue lesions were affected vagal nerve fibers supplying the forestomach and abomasum.

2-Reticular adhesions

Mechanical impairment of reticular motility and esophageal groove dysfunction as a result from reticular adhesions.

3-Perireticular abscesses near the reticulo-omasal orifice of cattle can cause the disease

4-Several causes unrelated to traumatic reticuloperitonitis have been recorded.

Actinobacillosis of the rumen and reticulum.

5-Peritonitis associated with Sarcosporidia and Cysticercus tenuicollis may be a cause. Fibropapillomas of the cardia can mechanically occlude the distal esophagus and cause interference with forestomach motility.

6-Right side displacement of abomasum might cause thrombosis and affected the vagal nerve .

Epidemiology….

The syndrome occurs most commonly in dairy cows that have a history of traumatic reticuloperitonitis, which may have occurred several weeks or a few months previously. The disease is not restricted to dairy cows - it also occurs in beef cattle and in mature bulls.

Pathogenesis…

There are two pathogenic forms occur

1- It have been shown that dorsal vagal nerve injury resulted in achalasia of the reticulo-omasal orifice (anterior functional stenosis) which inhibited the passage of ingesta from the reticulorumen into the omasum and abomasum,resulting in an enlarged rumen with abnormal rumen contents.

The characteristic clinical findings are distension of the rumen with pasty and/or frothy contents because of increased time and maceration in the reticulorumen, and alterations in reticulorumen motility, with some consequences such as dehydration, an increase in undigested particles in the feces, scant feces, acid-base imbalance and secondary starvation.

2- Moreover Similarly, injury of the pyloric branch of the ventral vagus nerve resulted in achalasia of the pylorus (posterior functional stenosis)

and inhibited the flow of ingesta from the abomasum resulting in abomasal impaction.
3- Metabolic hypochloremic, hypokalemic alkalosis
Clinical findings…
There characteristic syndromes were present
1- **Ruminal distension with hypermotility**
Which characterized by …
A-Moderate to severe bloat is common
B-loss of body weight
C-The abdomen is prominently distended and the rumen movements represented by the abdominal waves with 4-6 contractions / mint
D- Fluid splashing sounds may be audible on ballottement.
E- The feces are scant and pasty and contain undigested particles
F- The temperature is usually normal and bradycardia (44-60 beats/min) may be present. A systolic murmur that waxes and wanes with respiration, being loudest at the peak of inspiration, may be present because of the ruminal distension and tympany causing compression of the heart and distortion of the valves.
G- Ruminal distension is obvious on rectal examination however **L-shaped,**is shown
H-Note:An important aspect of the clinical history of ' vagus indigestion' cases is that standard treatments for ruminal tympany and impaction usually have no effect on the course of the disease.
2- **Ruminal distension with atony…**characterized by
a- This type occurs most commonly in late pregnancy and may persist after calving. The cow is clinically normal in all respects except that she is anorexic, passes only scant amounts of soft pasty feces, has a distended abdomen and will not respond to treatment with purgatives, lubricants .
b- Ruminal movements are seriously reduced or absent and there may be persistent mild bloat.
c- The temperature and heart rate are usually normal.
d- On rectal examination the primary abnormality is gross distension of the rumen, which may almost block the pelvic
e- The animal loses weight rapidly, becoming weak and recumbent. At this stage the heart rate increases markedly. The animal dies slowly of inanition .
3- **Pyloric obstruction and abomasal impaction…**characterized by
a- It manifested by anorexia and a reduced volume of pasty feces
b- There may be no abdominal distension and no systemic reaction
c- On rectal examination the impacted abomasum may be palpable as a doughy viscus that pits on pressure in the right lower area .
e- Rumen movements are usually completely absent.
Clinical pathology….

1-Hemogram In most cases there are no abnormalities on hematological examination although a moderate neutrophilia, a shift to the left and a relative monocytosis may suggest the presence of chronic traumatic reticuloperitonitis. Hemoconcentration is common, associated with the clinical dehydration. Total plasma protein concentrations may be increased, similar to
traumatic reticuloperitonitis.
2-Peritoneal fluid
This may be indicative of a chronic reticuloperitonitis.
3-Serum biochemistry In abomasal impaction there is metabolic hypochloremic, hypokalemic alkalosis

Treatment…

1-Rumen lavage… by using large bore stomach tube for empting the rumen
2- Fluid and electrolyte therapy and laxatives
3-Rumenotomy