

Lecture-07

Digestive disorders in non-ruminants

Vomiting

- It is a complex reflex act, which results in the rapid, forceful ejection of gastric contents through the mouth.
- A number of conditions can stimulate vomiting are presence of foreign objects, intussusception, neoplasia, pyloric stenosis, chronic gastritis, presence of parasites, acute nephritis, hepatic disease, presence of poisons.
- Dog and cat vomit easily. In horse it is rare. It is mainly control by centres in brain.

Biochemical changes during vomition

- During vomition loss of water and HCl. These losses result in dehydration and metabolic alkalosis with increased level of bicarbonate ion and decreased level of chloride ion concentration.
- Gastric vomition may also cause hypokalemia, which may be due to increased urinary excretion during alkalosis.
- Gastric contents also contains potassium and loss due to vomiting may also contribute to potassium deficiency.
- potassium deficiency and hypovolemic due to dehydration may cause renal tubular damage and kidney failure.

Diarrhoea

- It is rapid elimination of watery fecal material with increased frequency and volume or both .
- It is due to parasite, infection by bacteria or virus in the intestinal tract, feeding poor quality diet, sudden dietary change, food poison, heavy metal and presence of organophosphorus compound.

Biochemical changes

- Diarrhoea results in dehydration associated with H^+ and electrolyte disturbances.
- Dehydration cause haemoconcentration, which leads to hypovolemic shock, this is characterized by decreased excretion of hydrogen, over production of lactic acid, Hyperkalemia.
- Hypoglycemia

- Disturbance in absorption of all nutrients

Gastric dilatation volvulus (GDV)

- It is an acute GI tract disorder, which is due to the accumulation of gas and fluid in the stomach causing mechanical and functional disturbances to pyloric out flow.
- The stomach distends and rotates causing obstruction due to which there is necrosis and perforation of the stomach wall.
- There is hyperkalemia, hyperphosphotemia due to reduced renal flow. There is release of intracellular potassium from the damaged tissues.
- Due to the leakage of fluid from the blood vessels into tissues, there is haemoconcentration, which results in increased blood urea nitrogen and creatinine values.
- Due to degeneration of stomach cells and alteration of liver , the transaminases activities are increased.
- There is increase lactic acid production, which cause metabolic acidosis.

Lactose Intolerance

Definition

Lactose intolerance-the inability to break down the lactose in milk due to defeciency of enzyme lactase secreted by the intestinal cells.

- The ubiquitousness of this condition causes some to feel that it is not really a disease among adults.
- Lactose malabsorption and milk products intolerance symptoms are the most common alimentary tract disorders.
- Especially seen in young ones.

Cause

- Lactase is an intestinal enzyme that helps digest lactose, a sugar that is found in many foods, especially dairy products.
- Diarrhea, gas, and abdominal pain can occur when there is not enough lactase to digest milk products.
- Lactose intolerance was identified as the cause of bovine neonatal diarrhea
- Although lactase deficiency is the most common carbohydrate malabsorption syndrome, other enzymes needed to absorb various sugars (disaccharides).

- The he clinical symptoms of lactose intolerance belongs: nausea, vomiting, abdominal distension, cramps, flatulence, flatus, diarrhea and abdominal pain.

Laboratory Diagnosis

- A lactose tolerance test-the administration of a lactose drink followed by monitoring for gastrointestinal symptoms-confirms the diagnosis.
- During this test, the blood may also be tested for glucose (sugar), which rises in the lactose-tolerant.
- Other confirming tests include stool analysis for a high acid content, which signifies intolerance.