

Differential Diagnosis of Digestive Tract Disorders

DR. O. M. RADOSTITS

Department of Veterinary Clinical Studies

Western College of Veterinary Medicine

University of Saskatchewan

Saskatoon, Saskatchewan

The Causes of Manifestations of Diseases of Alimentary Tract of Cattle

1. **Inanition**
Chronic disease
(Anorexia or malabsorption)
2. **Dehydration**
Acute disease
Severe enteritis, intestinal accident and obstruction of forestomachs and abomasum resulting in loss of fluid from body or accumulation within gastrointestinal tract.
3. **Shock**
Peracute disease
Severe intestinal or gastric accident
Accute diffuse peritonitis
D-lactic acidosis
4. **Abdominal Pain**
Usually subacute
Distention of stomachs and intestines
Peritonitis
5. **Abnormalities of Prehension, Mastication and Swallowing**
Stomatitis
Painful teeth
Pharyngeal lesions
Esophageal disease
6. **Alterations in Feces**
 - a. **Diarrhea**
Enteritis
Indigestible nutrients
Congestive heart failure
 - b. **Constipation**
True constipation not common
 - c. **Scant Feces**

- c. **Speed of Onset**
- d. **Response to Treatment**
- 2. **Systemic State**
 - Temperature, pulse, respiration
 - Toxemia
 - Weakness - recumbency
 - State of hydration
 - Acid-base imbalance
- 3. **Visual Inspection of Abdomen**
 - Shape, Size and Symmetry of Abdomen
 - Normal
 - Distended - Asymmetrical
 - Symmetrical
 - Gauntness
- 4. **Close Examination of Left Side of Abdomen**
 - Palpation**
 - Rumen - Ingesta
 - Fluid
 - Gas
 - Auscultation**
 - Primary and secondary contractions of reticulo rumen
 - Percussion**
 - Rumen
 - Left-sided displacement of abomasum
 - Rumen Contents**
 - Rumen juice pH
 - Protozoan activity
- 5. **Close Examination of Right Abdomen**
 - Palpation**
 - Percussion and Auscultation**
 - Upper half
 - Lower half
 - Distended abomasum
 - Torsion coiled colon
 - Torsion of cecum
 - Gravid uterus
 - Ventral sac of rumen
 - Enlarged liver
- 6. **Presence of Abdominal Pain**
 - Grunt on percussion or deep palpation just posterior to xiphoid sternum or anywhere over abdomen.
- 7. **Rectal Exploration**
 - Four quadrants of abdomen
 - Amount and character of feces
 - Palpate in Normal State**
 - Rectal wall
 - Rumen

Kidneys
 Lymph nodes
 Uterus
 Peritoneum

Palpate in Abnormal State

Rectal wall
 Rumen - distended and distorted
 Abomasum - distention and right-sided displacement
 impaction
 Cecal torsion
 Torsion of coiled colon
 Small Intestines - distention
 Peritoneum - adhesions
 Kidney - enlargement
 Ureters - enlarged
 Uterus - Hydrops

8.	Exploratory Laparotomy	From left flank	From right flank
	Anterior	Rumen	Duodenum
	Direction	Spleen	Greater omentum
		Reticulum	Liver
		Diaphragm	Abomasum
			Omasum
	Posterior	Kidney - Ureter	
	Direction	Uterus	
		Intestines	
		Liver - Gall Bladder	
		Abomasum	

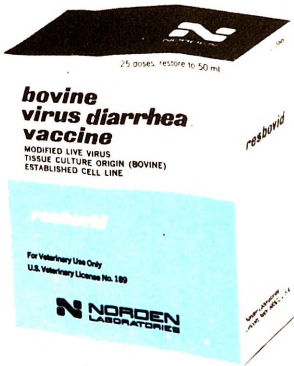
- 9. **Paracentesis**
 Peritoneal fluid
 Stomach and intestinal fluid
- 10. **Rectal Biopsy**
- 11. **Clinical Pathology**
 Hemogram
 Serum biochemistry
- 12. **Terminate Pregnancy**
 Normal parturition
 Caesarean section
 Induce parturition

Aid to the Clinical Diagnosis of Some Diseases of the Alimentary Tract of Ruminant Cattle
Etiological Classification of Some Diseases of the Alimentary Tract of Ruminant Cattle

	Nutritional	Physical/Metabolic	Infectious	Toxic	Congenital Defects and Tumors
Forestomachs	Simple indigestion	Vagus indigestion with hyperactivity or atony of rumen.	Mycotic rumenitis	Lead Poisoning	Papilloma of esophageal groove
	D-lactic Acidosis or Grain Overload.	Reticular adhesion indigestion		Chemical rumenitis due to D-lactic acidosis	
	Bloat.				
	Rumen Starvation	Rumen stasis due to hypocalcemia or ketosis			
		Diaphragmatic hernia			
Abomasum	Abomasal Impaction dietary in origin	Abomasal impaction associated with vagus indigestion	Abomasitis: Bovine Virus Diarrhea.	Arsenic Poisoning	Lymphoma of abomasum
		Left-sided displacement of abomasum	Malignant Catarrhal Fever.		
		Abomasal distention, right-sided displacement and abomasal torsion	Rinderpest.		
		Abomasal ulceration	Ostertagiasis		
	Abomasal hair balls				

Intestines	Intussusception and volvulus of small intestine Cecal Torsion. Torsion coiled colon Transection of small intestine at parturition.	Arsenic lead Copper Toxemia from peracute coliform mastitis Saline Waters Salmonellosis. Winter Dysentery. Johnes Disease. Coccidiosis. Helminthiasis. Bovine Virus. Diarrhea. Malignant Catarrhal Fever	Atresi coli Atresi Ani
Liver	Fatty liver.	Liver abscesses	
Peritoneum	Traumatic reticuloperitonitis. Acute diffuse peritonitis due to perforation of abomasal ulcer, intestine or ruptured uterus. Fat necrosis. Post-surgical peritonitis	Chemical peritonitis from injection of irritating drugs.	Lipomatosis
Pathogenesis	Accumulation of ingesta, fluid and gas Obstruction Accumulation of fluid, ingesta and gas.	Enteritis - loss of fluids and electrolytes.	Toxemia and enteritis with fluid accumulation Obstruction

A NEW DIMENSION IN BVD VACCINE



New 'Resbovid' brings together the preferred virus strain and Norden's exclusive homologous tissue culture which has been shown to be free from contaminant viruses.

1. Superior Virus Strain

For 'Resbovid', Norden selected the NADL strain of BVD virus which was isolated in 1962 at the National Animal Disease Laboratory. Our research scientists found this virus to be the most trouble-free of any they have ever worked with, delivering an ideal balance between potency and safety.

2. Produced on Norden's Established Cell Line

'Resbovid' is produced on Norden's exclusive bovine Established Cell Line. Testing of passage after passage of cells provides unprecedented assurance of freedom from contaminants, a safety feature unlikely to be duplicated with any other method. Genetic uniformity of our ECL cells insures uniformity of the vaccine as well.

Superior virus strain plus Norden's ECL technology. Two reasons why 'Resbovid' offers you the ultimate in uniformity, potency and safety every time you vaccinate cattle against BVD.

**N NORDEN
LABORATORIES**