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ETIOLOGY, CLINICAL SIGNS, AND TREATMENT OF DYSPEPSIA IN CALVES

(Based on a review of the literature)

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Abstract. This article examines the causes, clinical signs, pathogenesis, diagnosis, treatment, and prevention of dyspepsia in calves.

Keywords: Dyspepsia, etiology, pathogenesis, diagnostics, clinical, laboratory, dehydration, intoxication, staphylococcus, streptococcus.

Relevance of the topic: In the 21st century, the growth of the global population and the consequent rise in the demand for food necessitate the expansion of livestock farming—particularly breeding operations—and the further refinement of the sector. However, various non-infectious diseases, metabolic disorders, avitaminosis, macro- and micro-element imbalances, and bezoar-related conditions frequently affect young animals. These issues lead to stunted growth and development, delayed sexual and physiological maturation, and reduced productivity. Among these, dyspepsia in young calves is a particularly pressing concern; it is frequently observed on farms, often follows a severe course, and can result in stunted growth or even the death of the animals.

Dyspepsia. (Dyspepsia). Dyspepsia is an acute disease in newborn animals, characterized by disturbances in metabolism and digestive processes, general intoxication, and dehydration of the body's tissues. Calves are the animals most frequently affected by this condition.

Etiology. Based on their origin, dyspepsias are classified as enzyme-deficient, autoimmune, immunodeficient, or alimentary; based on their clinical course, they are categorized as simple or toxic.

Dyspepsia is a polyetiological condition, with the primary causative factors including:

- improper feeding of pregnant animals;
- exposure of pregnant animals to toxic substances;
- violation of zoohygienic standards for the housing and feeding of young animals;
- feeding young animals milk from dams suffering from mastitis.

Clinical signs. The clinical signs of the disease depend on the nature of its progression; it is typically characterized by functional changes in the gastrointestinal, nervous, and cardiovascular systems.

At the onset of the disease, the feces are liquid and yellowish-white; later, they become bluish-white and contain air bubbles. The initial sour odor eventually turns into a foul, putrid smell. Intestinal motility increases sharply; when the abdominal wall is palpated, the calf moans due to intense pain, and defecation becomes frequent and painful. Affected calves exhibit lethargy, weakness, and a loss of appetite. During the first days of the illness, body temperature may rise by 0.5–1 degree; subsequently, due to impaired thermoregulation and diarrhea, the body temperature drops to as low as 36–35°C.

As a result of disturbances in water-electrolyte balance, the mucous membranes become dry, the coat appears ruffled and loses its luster, and the eyeballs become deeply sunken into their sockets. The heart rate accelerates to as many as 140 beats per minute—often to the point where it becomes impossible to detect—while the respiratory rate reaches 36–40 breaths per minute.



Figure 1. *Appearance and clinical signs of an affected calf*

However, the disease may take a severe course, and death can occur—primarily due to high fever, intoxication, dehydration, and metabolic acidosis.

Diagnosis. An initial diagnosis of the disease is made based on the patient's medical history, clinical signs, and pathological changes. A definitive diagnosis, however, is established through laboratory investigations (such as a complete blood count, as well as bacteriological and serological tests).

Differential diagnosis. Dyspepsia must primarily be distinguished from conditions such as colibacillosis, viral diarrhea (including rotavirus and coronavirus diarrhea), anaerobic enterotoxemia, salmonellosis, and chlamydiosis.

Methods of treatment and prevention. Treating dyspepsia in calves using an etiopathogenetic approach yields positive results; specifically, preventing dehydration and accelerating the body's recovery process are crucial. Calves suffering from dyspepsia are fasted for 6–12 hours, after which they are administered an oral rehydration solution (ORS)—200 ml, three times daily. Additionally, the treatment protocol includes the administration of a rehydration solution (200–300 ml), Ringer's lactate or Reasarbilactate (200 ml), caffeine (3–5 g), Vitamin C (5–10

g), B-group vitamins (5–12 g, such as Butasal or Catosal), and Hemobalans (3–5 g, administered intravenously). Tylosin is also administered intramuscularly at a dosage of 10 mg/kg, once daily for 3 days. Furthermore, in cases of severe intoxication, the oral administration of a 5% glucose solution proves highly effective.

Recommendations for practice.

1. To detect dyspepsia in calves and implement preventive measures at an early stage, we recommend conducting regular health screenings (dispensary examinations) of dry, pregnant cows according to the following protocol:

a) a general visual inspection of all cows once a week;

b) a clinical examination of 10–15% of the cows (a reference group) once a month, assessing their appetite, general appearance (habitus), skin condition, movements of the rumen wall, and the state of their locomotor system; additionally, analyzing blood samples from these animals to determine the levels of hemoglobin, erythrocytes, total protein, glucose, carotene, alkaline reserve, total calcium, and inorganic phosphorus.

1. Analyze the feeding regimen once every quarter.

2. For the treatment of dyspepsia in calves, administer 200–300 g of an ORSA solution orally, three times a day.

3. To treat the condition, administer the preparation Tylosin via intramuscular injection for 3–5 days.

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