

Diseases associated with protozoa

THEILERIOSES

East coast fever (ECF)

The Organism

- *Theileria annulata*

Epidemiology

- Endemic disease of cattle in east and central Africa
- The morbidity and case fatality rates are very high, approaching 90-100% in recently introduced exotic breeds and in previously unexposed
- transmitted from cattle to cattle by the brown ear tick

Clinical Signs

- incubation period is 1-3 weeks, depending on the virulence of the strain and the size of the infecting dose
- Local enlargement of lymph nodes
- fever, depression, anorexia, and a drop in milk in dairy animals
- In later stages, there may be nasal and ocular discharges, dyspnea, generalized lymph node enlargement, and splenomegaly
- In severe cases, diarrhea occurs, sometimes with dysentery
- Emaciation, weakness, and recumbency lead to death from asphyxia
- Terminally, there is often a frothy nasal discharge
- Occasional cases of brain involvement occur and are characterized by circling

Post Mortem Lesions

- pulmonary edema, hyperemia and emphysema, along with hydrothorax and hydropericardium
- Copious froth is present in the airways.
- The carcass is emaciated and hemorrhages are evident in a variety of tissues and organs
- There is enlargement of the liver, lymph nodes and spleen, and ulceration of abomasum and intestines

Clinical Diagnosis

- Case history
- Clinical sign
- P.M sign

Differential Diagnosis

- T. parva
- Trypanosomosis
- malignant catarrhal fever
- bovine virus diarrhea
- rinderpest

Laboratory Diagnosis

Histological examination

- proliferating lymphoblastoid cells and varying amounts of necrosis in lymphoid organs, lungs, liver, kidneys, the gastrointestinal tract and other tissues.
- Some lymphoblasts contain schizonts, which are better seen in impression smears stained with Giemsa stain.
- piroplasms in erythrocytes in RBC

Treatment

- Halofuginone lactate is an effective oral treatment for the acute syndrome at two doses, 1.2 mg/kg BW
- Parvaquone (10 mg/kg BW, two doses 48 h apart) or the related buparvaquone (2.5 mg/kg BW, two doses 48 h apart) given 1M is effective in most cases

Prevention and Control

The main method of control of ECF was to break the transmission cycle between cattle and ticks