

Diseases associated with protozoa
BABESIOSIS
REDWATER FEVER
CATTLE TICK FEVER

The Organism

- Babesia spp
- intra erythrocytic protozoan parasites

Cattle:

- Babesia bovis
- B, bigemina
- B. divergens
- B. major

Sheep and goats:

- B. motasi
- B, ovis

Horses:

- B. equi
- B. caballi

Epidemiology

- Disease of tropical and subtropical countries
- Occurs in cattle, sheep and goats, horses
- Transmission by blood-sucking ticks
- Endemic stability occurs in herds with sufficient inoculation rate to immunize a high percentage of animals

Clinical Signs

Cattle

- course of 3 to 7 days and a fever usually present for several days
- Hemoglobinuria, Anemia and jaundice
- Muscle wasting, tremors and recumbency followed by coma.
- pregnant cattle may abort
- bulls may become sterile for 6 to 8 weeks.

Cerebral babesiosis is manifested by

- incoordination
- posterior paralysis
- Mania
- convulsions and coma.

Sheep

- Anemia
- Fever
- Icterus
- hemoglobinuria are common

Post Mortem Lesions

- jaundice, thin watery blood, pale tissues,
- enlargement of the spleen which has a soft, pulpy consistency
- enlargement and dark brown discoloration of the liver
- The gallbladder is distended with thick, granular bile
- kidneys are enlarged and dark, and the bladder contains red-brown urine.
- characteristic lesion is severe intravascular clotting

Clinical Diagnosis

- Case history
- Clinical sign
- P.M sign

Differential Diagnosis

Cattle

- Theileriasis
- Postparturient hemoglobinuria
- Bacterial hemoglobinuria
- poisoning
- Leptospirosis

Horses

- Equine. infectious anemia
- Paralytic myoglobinuria
- Foals with alloimmune hemolytic anemia
- Cardiac form of African Horse Sickness

Laboratory Diagnosis

- smears taken from peripheral blood, from kidney and heart muscle and, in the case of suspected *B. bovis* infection, from the brain, is mandatory for clinching the diagnosis
- The smears from blood and most tissues must be made within 8 hours of death, in the case of brain within 28 hours, and stained with Giemsa for the detection of *B. bovis*

Treatment

Cattle

- amidocarb, are effective babesicides for cattle at the dose rate of 1 mg/kg BW. At 2 mg/kg BW it completely eliminates the parasites from the host

Sheep

- Diminazene aceturate is effective as a treatment in sheep (3.5 mg/kg BW on two successive days, or 12 mg/kg BW as a single dose).

Supportive treatment

- blood transfusions and anti-shock preparations.
- In chronic cases and convalescent patients, hematinics should be provided.

Prevention and Control

- Tick control
- vaccination with live vaccine
- chemoprophylaxis with imidocarb.