Thelieriosis

In Cattle:

Thelieria annulata , cattle in the mediteranean and subtropical regions and cause meditrranean cost fever or Tropical theileriosis .

- ***Th. orientalis***
- ***TH. segenti***
- ***TH. buffalo***
- ***TH. velifera***

Sheep and Goat

-THelieria hirci , other name Th. lestoquardi

-Th. annunlata.,--- Tick --- Haemaphysalis punctata

-TH. ovis ,-----Tick -- -- mRhhipicephalus evertsi , Haemaphysalis punctata .

Clinical Finding :

- **Anemia** ,jundic and enlargenment of lymph node are characteristic and both piroplasma and schizonats can be demonstrated in smear of blood and tissue respectively .
- **Pathogenesis**
- Is dependent on the production of schizonts in lymphocytes and piroplasma in erythrocytes .
- ***TH. parva ,TH. annulata*** and ***TH. hirci*** produce numerous schizonat and piroplsma and are rary pathogen
- ***TH. mutans ,TH. orientalis and TH. ovis*** rarely produce schizonat but may cause varying degrees of anemia when piroplasm are many in red blood cell and with

TH. velifera and TH. separate ,no schizont described the parasit**em**ia is usually scanty and the infection is mild or subclinical **.**

Diagnosis

1- Indirect fluorescent antibody test .
2- Rhipicephalus spp. Hylalomma anatolicum , can transmitted the parasite .

-**Benign ovine theileriosis :** caused by ***Th. ovis and Th. separate***

-Malignant ovine Thelierosis : caused by ***Th. hirci*** .

East Cost fever

-is acute ,tick –borne disease of cattle.

Etiology : ***Theileria parva***

Epidemiology

-disease mainly in cattle but al so buffalo ,occur in 11 countries eastern, central and southern Africa .

- Morbidity and case fatality rate very high 90-100%.

-the vector of ECF. Is ***Rhipicephalus appendiculatus .***

- presence of tick vector and level of tick burden per animal is important risk ,

- **five tick/head (two to three per ear) ,will sustain enzootic .**

-**one to four tick /head invite ,will sustain epizooticity**

-less than one can allow sporadic outbreak .

- young animal are less susceptible than adult,

- and indigenous breed are less clinically affected than exotic breed .

Pathogenesis

3- Sporozoite of ***Th.parva*** , injected in to bovine host by vector tick in its saliva when feeding (tick must feed 2-4 days before the sporozoite) in their salivary gland will mature and become infected cattle .
4- Sporozoites ,enter lymphocyte and develop in to schizonats in lymph node draining the area usually the parotid node .
5- Infected lymphocyte are transformed to lymphblasts which continue to divided with schizonts ,so each daughter cell is also infected later some schizonts different in to **merozoites, released from the lymphoblasts and they invade erythrocytes** .
6- In red blood cell the parasite transform to **become piroplasms** which infective to the tick when it feeds **.**

Clinical Finding

1- Incubation period 1-3 weeks .
2- Enlargement of the lymph node in the area draining the site of tick attachment
3- Fever ,depression ,anorexia ,nasal and ocular discharge , dyspnea ,generalized lymph nod enlargement and splenomegaly.
4- In sever cases there is diarrhea some time with dysentery .
5- Emaciation ,weakness and recumbence lead to death from asphyxia after 7-10 days .
6- Terminally ,there may be frothy nasal discharge .
7- Braine involvement occur and characterized by circling ,hence (turning sickness) or cerebral theileriosis ,there are localized nervous signs and convulsion ,tremor ,profuse salivation and head pressing .

Clinical Pathology

-biopsy smear of enlarge lymph nods stained with gimsa .
-piroplasma are also visible in erythrocyte from day 16 after tick attachment .
-serological tes**t .**

Necropsy finding

-Pulmonary edema ,hyperemia and emphysema along with hydrothorax and hydropericardium
-The carcass is emaciated and hemorrhage are evident in a variety of tissue
-Enlargement of liver ,lymph node and spleen and ulceration of abomasums and intestines
-Microscopic lesion characterized by proliferating lymphoblastoid cell and necrosis lymphoid organs,lung ,liver kidney gastrointestinal tract

Differential Dignosis

1-Trypanosomiasis
2-Malignant catarrhal fever

Treatment

RX

1-halofuginone lactate (two dose 1.2 mg /kg orally)

2-Parvaquine (1mg /kg doses 48 hr. apart I/M).

3-Buparvaquine (2.5mg /kg two dose 48hr. apar I/M **).**

Control

1- Good livestock and pasture management
2- Avoiding nutritional stress and controlling the tick population .

3-Vaccination is usually successful provided local strain of theileria .