



Parasitic diseases to Zoo and Wild animal

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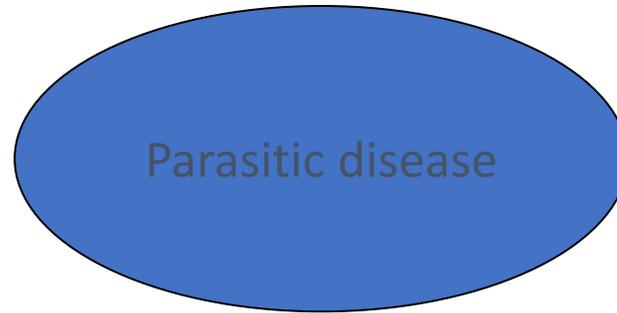
Department of Veterinary Medicine

Unit-4



Parasitic wildlife disease

Protozoan diseases



Nematodal diseases

Cestodal Diseases

Trematodal Diseases

Protozoan Diseases

Trypanosomosis

Babesiosis

Coccidiosis

Theileriosis

Toxoplasmosis

Amoebiasis

Toxoplasmosis

Nematodal Diseases

Heart Worm
Diseases

Filariasis

Ascariasis

Strongyle

Ancylostmiasis

Trichineliasis

Dracunculiasis

Trematodal Diseases

Schistosomosis

Fasciolosis

Cestodal Diseases

Taeniasis

Echinococcosis

Trypanosomosis

- Surra is the protozoan parasite disease of domestic and wild animals caused by *Trypanosoma evansi*.
- It is one of the most important diseases of animals in tropical and subtropical regions.

Host

The clinical cases have been reported in most of the wild species including deer, elephants, capybara, jaguars (Choudury and Misra 1972) and tigers (Manohar 2003).

Among wild animals, the surra is often fatal in captive animals

Host Range

Equide
&
Camelide

More than 30
wild animals

Wild Pigs

Mithun

Elephants

Jungle Cats

Foxes

Tigers

Deer

Chital

Transmission in Wild

- First by the bite of a blood sucking insect from a local reservoir host (pigs, cattle, sheep, goat).
- Second, the bite of a blood sucking insect from an exotic animal species in the zoo.
- Third, iatrogenic transmission through the infected blood contaminated needles and surgical instruments (Parija and Bhattacharya 2001).
- Fourth, carnivores might have been infected by ingestion of freshly cut meat from infected dead animals (Sinha *et al.* 1971; Raina *et al.* 1985).

Pathogenesis

Decreased blood glucose

Toxemia due to lysed parasites

Hepatopathy

Respiratory distress due to elevated lactate level

Anaemia

Clinical signs

- Oedema of dependent part
- Anemia
- Neurological signs
- Frenzy or rabies like symptoms
- Sudden death
- Corneal opacity

Diagnosis

Blood smear examination

Wet film examination

Mice inoculation test

Hypoglycemia

Mercuric chloride test

Formol gel test

Stilbamide test

PCR

Treatment

Treatment of wild animals is not a practical approach.

One should only discuss about its control.

However, treatment of wild animals in captivity can be discussed.

Treatment References

- Most widely used trypanocide compound and infected tigers are successfully treated with diminazene aceturate (Upadhye and Dhoot 2000; Ramachandraiah *et al.* 1995).
- Besides, diminazene aceturate, other chemical compounds like melarsomine hydrochloride (Cymelarsan) (Parija and Bhattacharya 2001) and quinapyramine salts (Triquin) in tigers (Gupta *et al.* 2009; Dasgupta *et al.* 1979).
- Wolves (Shukla 2001)
- Black bucks (Gupta *et al.* 2009) and jungle cat (Sahoo *et al.* 2009) have been successfully used against trypanosomosis infected wild animals.
- Recently, Isometamidium hydrochloride is used for treatment of *T. evansi* in India.
- The choice of drug for treatment depends on the species of *Trypanosoma*.

Prevention and Control

- Control of *Tabanus* and *Stomoxys* fly.
- Integrated Pest Management (IPM) methods for vector control are now being practiced in many Zoos in India (Parasharet *al.* 2006).
- Chemo-prophylactic procedures, alternative measures should be designed to cope with trypanosomiasis in big cats

Thank You

