

Order: Rickettsiale

by Dr.Sanku

The order contains some pathogenic organisms resembling blood protozoa. Besides causing serious diseases by these organism need to be differentiated from haemoprotozoans especially those found in the blood cells of animals. Different genera of importance which we are going to study are *Ehrlichia*, *Anaplasma*.

Genus: *Anaplasma*

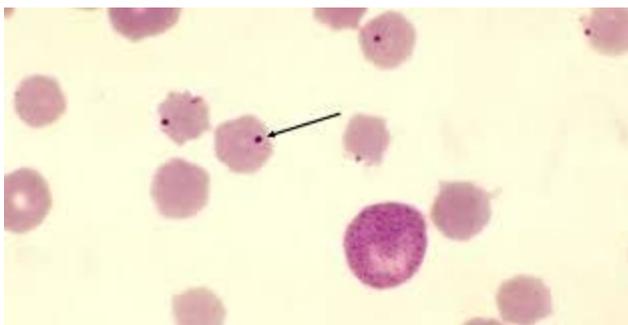
It is found in the RBC of cattle, sheep, goat and related species of animal. Blood films on staining show deep red –coloured organism inside the red (0.2-0.5 μ m in diameter) with no cytoplasm and with a light halo around them. One erythrocyte may occasionally has more than one organism. There are 3 species of the genus responsible for disease called anaplasmosis in animal. These are –

- a. *Anaplasma marginale*
- b. *A. centrale*
- c. *A. ovis*

Anaplasma marginale:

Mainly responsible for disease found widespread in ruminants. Besides, bison, African antelope, Zebra, American deer, Camel, mule, deer are other animal. Mode of transmission through Ixodid tick like *Boophilus*, *Dermacentor*, *Hyalomma*, *Ixodes*, *Rhipicephalus*, *Argus*, *Ornithodoros* act as vector. Mechanical transmission may occur through sucking flies like tabanid flies, deer fly, *Stomoxys* and mosquitoes. Disease may transmitted during surgical operation such as dehorning, castration, vaccination. It is found in cattle and buffalo of India.

Organism mostly located near the margine of the cell. Inside RBC-it looks like round, filamentous, oval or disc like.



Pathogenesis:

Clinical anaplasmosis is mostly seen in cattle of above 18 months age and less frequently in young animals. Symptoms includes

- fever may fluctuate with irregular periods
- anorexia
- pale/jaundice
- haemoglobinuria is absent
- sudden onset of high fever
- death often with 24 hrs in adult dairy cow.

In chronic cases, there is severe anaemia and animals become susceptible to other infection. Loss of milk production, there may be abortion in pregnant cows.

Diagnosis:

Clinical manifestation and by blood examination.

Treatment and Control:

Control can be possible by controlling of tick and proper treatment of infected animals.

Tetracycline is given @6-10mg/kg b.w. given single i/m injection. Imidocarb and berenil are also used. Supportive treatment include slow administration of blood transfusion.

A.centrale:Less pathogenic. Occur in centre of RBC

A.ovis:Non-pathogenic.