

LEPTOSPIROSIS

"yellow fever"

The Organism

- *Leptospira* (Greek *leptos*, "fine, thin" and Latin *spira*, "coil")
- genus of spirochaete
- spiral-shaped bacteria
- have a Gram-negative-like cell envelope consisting of a cytoplasmic and outer membrane

Serovar	Accidental hosts
hardjo:	sheep, man
pomona:	sheep, cattle
grippityphosa:	sheep, cattle
icterohemorrhagiae:	cattle, pig

Epidemiology

- Worldwide distribution, most commonly in warm, wet climates.
- Occurs in cattle, sheep and goats, pigs, and horses.
- leptospirosis dependent on response of each species to particular serovars.
- Transmission by urine of infected animals; some wildlife species may transmit to cattle.
- Ground surface moisture most important factor for persistence of organism.

Clinical Signs

- Acute, subacute, and chronic forms.
- Fever, acute hemolytic anemia, changes in milk
- stillbirths, abortion in all species (especially pigs), weak neonates, infertility, milk drop syndrome
- periodic ophthalmia (recurrent uveitis in horse)

acute leptospirosis

- septicemia, with high fever, anorexia, petechiation of mucosae, depression, and acute hemolytic anemia with hemoglobinuria, jaundice and pallor of the mucosae.
- The case-fatality rate is high and if recovery occurs, convalescence is prolonged.

Subacute leptospirosis

- differs from the acute form only in degree.

Chronic leptospirosis

- mild and may be restricted to abortion.

Post Mortem Lesions

- anemia, jaundice, hemoglobinuria and subserosal hemorrhages.
- There may be ulcers and hemorrhages in the abomasal mucosa.
- Pulmonary edema and emphysema are also common in this species.
- Histologically, there is focal or diffuse interstitial nephritis, centrilobular hepatic necrosis
- Aborted fetuses usually autolyzed to the point where no lesions or bacteria can be demonstrated.

Clinical Diagnosis

- Case history
- Clinical sign
- P.M sign

Differential Diagnosis

Abortion

- Trichomonosis
- Neosporosis
- Vibriosis
- Brucellosis
- Listeriosis
- OEA

Red urin

- Babesiosis
- Anaplasmosis
- rape and kale poisoning
- postparturient hemoglobinuria
- bacillary hemoglobinuria

Laboratory Diagnosis

- The Microscopic Agglutination Test (MAT)
- indirect ELISA
- Culture of urine
- Fluorescent staining of antibody in urine.
- Antibody in cervico-vaginal mucus

TREATMENT

- dihydrostreptomycin or one of the tetracyclines, as soon as possible after signs appear is recommended.
- dihydrostreptomycin (12 mg/kg BW 1M twice daily for 3 d) is effective in the treatment of the systemic infection.
- For the elimination of leptospirosis in cattle and pigs, a single dose of dihydrostreptomycin (25 mg/kg BW 1M) is recommended.

Prevention and Control

- In an outbreaks in cattle the simultaneous treatment of all animals with dihydrostreptomycin at 25 mg/kg BW 1M
- vaccination has been successful in preventing new cases and abortion when pregnant cattle are involved.