

Leptospirosis and Its Zoonotic Importance

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Introduction

Leptospirosis is a bacterial, contagious and zoonotic (It can infect both human and animals) disease. It is caused by genus *Leptospira* and distribution of leptospirosis is worldwide but higher incidences are present at tropic and subtropic areas. Leptospirosis is an important occupational disease which is primarily affect the farmers, animal holders, sewer maintains workers. It can be transmitted by direct contact with infected urine, water & soil contaminated with urine from reservoirs animals like dogs, rodents and livestock. Factors which help to spread this disease is stagnant water place, lack or low level of hygiene and sanitation. Without proper treatment it can lead to kidney damage, meningitis, liver failure and respiratory distress. The main losses to farmer and animal holder due to this infection is abortion, still birth, reproductive and health problems in large and small ruminants.

Leptospirosis also known as Stuttgart disease, Weils disease, Rice field worker's disease, Swine handler's disease, Sugarcane worker's disease and infectious jaundice.

Transmission: -

- leptospirosis infection spread through direct contact with urine of infected animals.
- leptospirosis Infection can transmit one place to another place, one animal to another animal, animal to human being by urine infected soil, and water.
- leptospirosis infection can get through contaminated food and drinking water.
- In animals' body leptospirosis can enter through abraded skin, mucous membrane and conjunctiva.
- Caines gets this infection through feeding of infected animal carcasses.

Symptoms of leptospirosis in animals: -

- Young animals are more susceptible for this infection.
- High rise of body temperature is common clinical sign in all affected animals.
- It can pass through placenta (mother to foetus).

- In cattle abortion and still birth (5-9 month) also happened in infected pregnant female animals and damage of internal organ and decrease milk production.
- In lactating dairy cattle cold mastitis occurs in acute form of infection.
- If the baby survives, can become carrier to infection and excrete the infection through urine for long time.
- In equine abortions are very common (in third trimester) associated with *Leptospira Pomona* infection, keratitis, photophobia etc.
- In sheep and goat acute case show anaemia, haemoglobinuria, high rises of body temperature with jaundice.
- In pig abortion storm, conjunctivitis, jaundice, in coordination, paralysis.

Symptoms of leptospirosis in humans: -

In humans, incubation period is usually one to two week and signs are varied from asymptomatic to server. Symptoms seen in two phases.

First phase: -

- Symptoms may be mild and flu like.
- It has wide range of signs like high fever, headache, muscle aches, vomiting, diarrhoea, red eye, abdominal pain, jaundice (yellow colour of skin & eyes).
- In first phase of infection, infected person may recover but can get infection again.

Second phase: -

- It is more sever and infected person may not be recovered.
- Person may have kidney and liver failure and inflammation of brain (meningitis).

Prevention and control: -

- Vaccination against this disease is the best way to prevent this disease.
- Avoid open area pool and fresh water resources to touch that may be contaminated with animal urine.
- In *Leptospira* infected area, without gloves should not touch the animal bedding and houses walls and feeding utensils of animals.
- Should not swim and wading in floodwater.
- Always use boiled water and appropriate chemical treated water

- All sanitary measurements are properly followed in the animal farm to avoid infection.
- Infected animals keep away from healthy animals.
- Aborted material should be discarded properly.
- Always avoid overcrowding at animal farm.
- Animal farm should be properly disinfected with suitable disinfected material (sodium hypochlorate, calcium chloride, sodium hydroxide etc.)

