



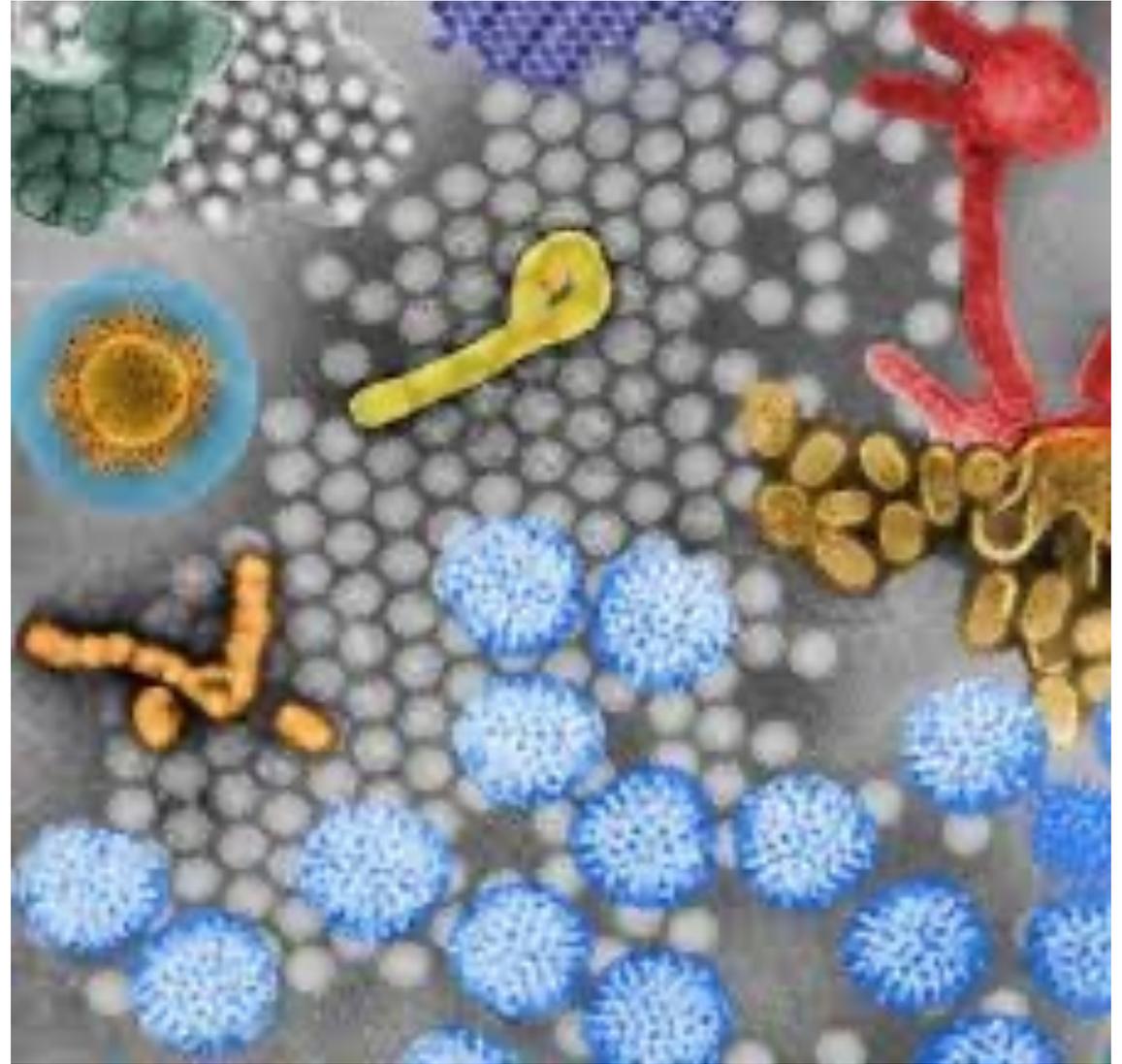
LOUPING ILL DISEASE

- Louping ill is a tick-borne, zoonotic, viral disease that is mostly important in sheep and red grouse.
- Humans can develop flu-like symptoms or neurological signs after exposure, but the illness is rarely fatal.



Etiology

- Louping ill virus a member of the genus *Flavivirus* (Flaviviridae), which belongs to the tick-borne encephalitis (TBE) group of viruses.
- RNA, Enveloped



Transmission

- Louping ill is transmitted mainly by ticks.
- Sheep are the most important hosts for louping ill virus.
- The principal vector is the three-host tick *Ixodes ricinus*.
- Can also be transmitted by milk



Following the fever and viremia virus multiplies in the lymph glands and spleen. Virus pass through to CNS.

Five days after the onset of the clinical symptoms occurs.

Histopathologically, infection causes;

- encephalomyelitis,
- meningitis,
- neuronal degeneration in the purkinje cells and
- hyperemia



Clinical Signs

- The incubation period is 6-18 days in sheep.
- Two-phase fever is observed.
- Initial febrile viremic stage, which may be accompanied by depression and anorexia, followed in some cases by neurological signs.
- Spasms are typical.
- In endemic areas, many animals develop mild or subclinical infections.
- From subclinical to varying degrees of neurologic dysfunction to sudden death can be seen.

Surviving animals may have residual CNS deficits.

- Peracute deaths can also be seen.



- In animals with encephalitis, the clinical signs may include
 - muscle tremors and/or rigidity,
 - incoordination,
 - ataxia,
 - hypersensitivity,
 - salivation and nervous nibbling,
 - progressing in some cases to head pressing,
 - posterior paralysis,
 - recumbency,
 - convulsions and/or coma.

Affected sheep may develop an unusual hopping gait, called a “louping gait,” during which they move both hindlegs, then both forelegs, forward in unison.





Diagnose

Virus isolation,

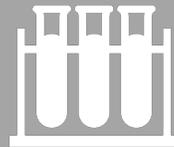
the detection of viral
nucleic acids or antigens

Serology.

Diagnose



Viral antigens or nucleic acids can be detected by immunohistochemical staining,



RT-PCR assay.



Cross-reactions can occur with other flaviviruses in serological tests.

Differential Diagnosis

Louping ill should be suspected in sheep with fever and neurological signs, particularly when the flock has recently been introduced to tick–infested pastures.

Scrapie, pregnancy toxemia, maedi–visna, rabies, tickborne encephalitis virus (TBEV), coenurosis, listeriosis, hypocalcemia, hypocuprosis and various toxicities are among the considerations in sheep.

Immunology

In endemic areas, the mortality rate is usually 5–10%, and most cases occur in animals that are less than two years old.

Lambs born in these areas are usually protected by maternal antibodies for the first few months of life, and older animals have developed immunity.

Vaccination

Preventing from ticks.

Maternal antibodies protects lambs for the first few months of life.

Vaccines have also been used in cattle and goats.

Acaricides can reduce tick populations

Louping Ill in Humans

Humans can be infected via tick bites or by contact with the virus in tissues or laboratory cultures.

Louping ill virus may be transmitted through skin wounds (working with sheep, wool), and aerosol exposure has been reported in laboratories.

Biphasic Fever in humans causes Influenza-like symptoms and abortions.

The prognosis is good.