



Livestock Notifiable Disease

Factsheets

Rift Valley Fever

If you suspect signs of any notifiable disease, you must immediately notify a Defra Divisional Veterinary Manager.

Animals affected

Rift Valley Fever is an infectious zoonotic disease affecting sheep, goats, and cattle.

History and spread of the disease

First discovered in Kenya in 1931, it is characterised by a short incubation period, fever, hepatitis, high morbidity in lambs less than one week of age, and high abortion rates. The disease is caused by the Rift Valley Fever (RVF) virus, a member of the genus Phlebovirus in the family Bunyaviridae and the disease is transmitted by mosquitoes. Limited to Africa in earlier years, it causes enormous waste of livestock, especially in wet conditions. In 2001 Rift Valley Fever also occurred in Saudi Arabia and the Yemen. It is a list A OIE disease.

The human form of the disease, although rarely fatal, causes temporary incapacitation and physical misery. An outbreak in South Africa in 1951 was estimated to have infected 20,000 people and killed 100,000 sheep and cattle. In Egypt in 1977 there were 18,000 human cases of this disease with 698 deaths.

There have also been outbreaks of the disease in the Nile Delta, Egypt in 1978 and 1993, the lower Senegal River basin of Mauritania in 1987, and a large epidemic in Kenya and Tanzania in 1997 and 1998. The outbreak of Rift Valley Fever in south-western Saudi Arabia and Yemen in 2000- 2001 was the first outside Africa.

Clinical Signs

In young lambs the incubation period varies from 20 to 72 hours. Some lambs die suddenly without showing signs of this disease. Usually, however, affected lambs develop fever, refuse food, physically weaken, recline and die after a course of 24 hours. Mortality often reaches 95%.

In adult sheep the most common clinical finding is abortion. Most affected sheep show fever of 41 to 42 °C, abortion and vomiting. During fever, severe leukopenia, especially of neutrophils, forms.

Frequently, cattle and humans catch the disease from sheep. At necropsy of infected lambs, the principal lesions are limited to the liver, which is swollen, friable and mottled. The parenchyma contains multiple grey-yellow foci, each surrounded by a red zone of congestion. In advanced stages, the entire liver is grey-yellow on both capsular and cut surfaces. A new foci of haemorrhage may be discernible through the capsule. Other findings can include splenomegaly and lymphadenopathy. In adult ewes, hepatic changes are similar but less severe. Mottling predominates. The uterus may show evidence of recent abortion.

Post-mortem

Histopathologic changes in lambs and adult sheep are similar. During early stages the hepatic tissue changes are local in distribution. Aggregates of neutrophils accumulate in sinusoids. Later, groups of necrotic liver cells form near the leukocyte accumulations. Later still, foci of necrosis coalesce, until nearly all hepatic cells within a lobule and even the organ are necrotic. Cells at the periphery of lobules retain viability longer than cells in other lobular zones. A wide range of degenerative and necrotic changes is seen in hepatocytes. The most conspicuous include prominent nuclear changes (clumping and margination of chromatin, pyknosis, karyorrhexis), cytoplasmic degradation and sequestration and the formation of acidophilic cytoplasmic bodies (inclusion-like). The enlarged nuclei may show margination of chromatin and the formation of acidophilic inclusion bodies. Similar extensive liver damage occurs in humans that die from the disease.

Legislation

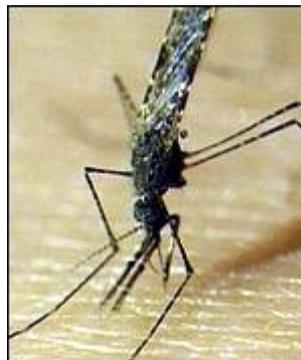
Great Britain: Specified Diseases (Notification and Slaughter) Order 1992 and the Specified Diseases (Notification) Order 1996.

European Union Council Directive 92/119.

Pictures of the disease



The characteristic postmortem lesion is extensive hepatic necrosis, seen in this section of an experimental infection.



The disease is transmitted by mosquitoes

Information current of June 16, 2005