

# Acute haemorrhagic septicaemia

*A septicaemic disease caused by Pasteurella multocida and affecting a variety of domestic and wild animals. It occurs mainly during warm and humid seasons and in regions where cattle or buffaloes are reared under primitive conditions.*

## Geographical distribution

Haemorrhagic septicaemia caused by *Pasteurella multocida* serotype 6B occurs enzootically in Southern and South-East Asia, Middle East, Southern Europe and South America. In North, Central and East Africa serotype 6E is responsible for the disease.

## Cause

*Pasteurella multocida* serotypes 6B and 6E. Unlike other *Pasteurellae*, serotypes 6B and 6E can cause a distinct disease without the support of other organisms.

Outside the host population *P. multocida* does not survive for long. The organism is sensitive to all common disinfectants. In endemic areas the organism is commonly carried asymptotically in the respiratory tract of host species, and disease is precipitated by stresses associated with heavy work and the onset of the rainy season.

## Host species

Cattle, yaks, camels, water buffalo, zebra, bison, dromedary, deer, wild boar, reindeer and elephant, and to a lesser extent, pigs and horses are susceptible. The morbidity and mortality are higher in buffaloes than in cattle, and most losses are in animals less than two years of age.

## Transmission

Diseased animals and clinically normal carriers shed large numbers of the virulent bacteria in saliva, faeces, urine and milk, and are the main source of infection. The susceptible animal becomes infected by ingestion or inhalation. The organism does not survive on pasture for more than 24 hours. There is little evidence of insect vectors.

In free areas, outbreaks are usually due to the introduction of subclinically diseased or carrier animals.

Recovered animals are immune to further infection for six to 12 months.

## Clinical signs

There is a sudden onset of fever (41-42°C), with profuse salivation, submucosal petechiation, severe depression and death following in about 24 hours. The infection may localise in subcutaneous tissue causing hot, painful swellings about throat, dewlap, brisket or perineum; and severe dyspnoea if respiration is obstructed. In the later stages of an outbreak some affected animals develop signs of pulmonary or alimentary involvement.

The incubation period usually lasts only 1 to 3 days.

## Diagnosis

A clinical diagnosis can be made on the basis of characteristic signs, gross pathological lesions, herd history, morbidity and mortality patterns, species susceptibility and age of infected animals. Gross pathological lesions are usually limited to generalised petechial haemorrhages, particularly of the serosae, and oedema of lungs and lymph nodes. Laboratory confirmation of a clinical diagnosis is essential and depends on the isolation of *Pasteurella multocida* from the blood and bone marrow of a dead animal.

## Risk of introduction

The risk of introducing haemorrhagic septicaemia to New Zealand is considered to be low under current policies relating to the importation of live animals.

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could be introduced to this country only by the importation of infected carrier animals. The organism is able to localise in the nasopharyngeal mucous membranes or retropharyngeal lymph nodes of otherwise healthy animals, which may then shed the agent in secretions.

### **Effect of introduction**

The likely course and spread of haemorrhagic septicaemia among New Zealand livestock if it were introduced to New Zealand is unknown. It is improbable that the disease would establish here.

It could be expected to have adverse effects of the export of livestock, but no significant effect on dairy exports. Meat inspection certificates for meat exports to a number of countries certify that New Zealand is free of haemorrhagic septicaemia.

### **Prevention**

A prohibition on importation of susceptible live animals from enzootic areas is clearly the most effective means of protecting this country from haemorrhagic septicaemia.

### **Control**

If the disease were to occur in New Zealand the Chief Veterinary Officer would not declare a state of emergency but may, depending on circumstances, institute intense surveillance of susceptible animals (including feral and wild populations) and possibly vaccination around strategic points.

### **Further reading – refer page 27**

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## Further reading

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