

Foot and mouth disease

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Definition

A highly contagious viral disease caused by a Picornaviridae that affects artiodactyls (hoofed animals with an even number of claws), which has a major economic impact.

Affected species

Artiodactyls

Man

Highly resistant, only rarely infected, in the event of massive exposure or predisposition. Generally asymptomatic. Exceptionally, signs of fever, headaches, sore throat and mouth ulcers.

Pathogens

Modes of transmission

Sources

Transmission

Penetration may be via the mucous membranes, particularly through the oropharynx.

Symptoms

Incubation: two to 14 days.

Cattle

Sheep and goats

Ditto but less marked lesions in the mouth, primarily foot lesions, agalactia, death of young stock.

Pigs

Ditto + lesions on snout, serious foot lesions (often the only symptom), high mortality among piglets.

Lesions

Diagnosis

Clinical diagnosis

Ulcers, salivation, stamping, lameness, mammilitis, high death rate, death of young animals. All these signs point to foot and mouth disease, which should be confirmed as soon as possible, given the degree of contagiousness.

Differential diagnosis

Foot and mouth disease should not be confused (depending on the species) with :

Cattle	Sheep-goats	Pigs
mucosal disease	ecthyma	vesicular disease
gangrenous coryza	foot rot	vesicular stomatitis
papular stomatitis	necrobacillosis	vesicular exanthema
vesicular stomatitis	sheep pox	necrobacillosis
rinderpest	blue tongue	biotin deficiency
blue tongue		foot rot

Laboratory diagnosis

Virological diagnosis :

Serological diagnosis on blood (dry tube) :

Treatment

Sanitary prophylaxis

This is difficult as the virus is both highly contagious and resistant, spreads in a range of ways and affects numerous species.

Defensive measures

Based on protecting disease-free zones by controlling and monitoring animal movements on the edge of the zones (eg prohibiting imports of animals and animal products from infected countries or imposing quarantine pending negative serological results, surveillance of events involving large numbers of animals, such as fairs, markets, etc).

Offensive measures

1. Isolation and culling of infected animals and susceptible animals that have been in contact with infected animals.
2. Destruction of carcasses, litter and products made from susceptible animals.
3. Disinfection of premises with caustic soda at 8%, twice with an interval of two weeks between treatments, sanitary break, disinfection of vehicles and all infected equipment (tools, clothing, etc).
4. Sterilization of swill.
5. Controls on human and animal movements.
6. Increased sanitary surveillance of herds.

Vaccines

Vaccine prepared with an inactivated virus. May contain an adjuvant chosen according to the

target serotype (many vaccines are multivalent).

Refer to the strategy and legislation in force in the country concerned.

More information

Edwards - 2.1.1. Foot-and-Mouth disease. In Manual of standards for diagnostics tests and vaccines, 4th Edition, Office International des Epizooties.

Yes