FRIEDRICH-LOEFFLER-INSTITUT
FLI
Bundesforschungsinstitut für Tiergesundheit
Federal Research Institute for Animal Health

Sheep and Goat Pox

Causative agent

The sheep pox virus (sheep pox virus; SPPV) and the goat pox virus (goat pox virus, GTPV) are genetically very closely related and are assigned to the genus *Capripoxvirus*. This genus belongs to the subfamily *Chordopoxvirinae* within the family *Poxviridae*. It differs genetically from the Lumpy skin disease virus (LSDV), which also belongs to the capripoxviruses.

Susceptible species

Most SPPV and GTPV strains are host-specific and cause severe clinical disease in either sheep or goats, while some strains are equally virulent in both species. Cattle can become infected but do not transmit the virus. Human infections have not been described.

Distribution area

Sheep and goat pox occur in parts of Africa and Asia, in the Middle East and India. In Europe, the pathogen has so far only been diagnosed in southern countries and Russia.

Transmission

Transmission usually occurs through aerosol after close contact with severely ill animals that have ulcerated papules on the mucous membranes. Once the papules have become necrotic and neutralizing antibodies are produced (about a week after the onset of the disease), transmission is reduced. Even animals with mild, localized infections rarely transmit the disease. Indirect transmission by insects (mechanical vectors) plays a minor role. Chronically infected carriers do not exist.

Clinical picture

The clinical picture is initially characterised by fever, salivation, nasal and ocular discharge. Within a few days, nodules, later papules and vesicles form, especially in the head area, in the genital region and on the udder. The lesions can take up to six weeks to heal. High mortality occurs especially in lambs, when the mucosal surfaces of the alimentary and respiratory tracts have been affected by massive lesions and secondary complications due to bacterial infections develop.

Diagnostics

The test material of choice for direct pathogen detection are pockmarked skin lesions/skin crusts and nasal swabs. The pathogen can also be found in the blood, albeit over a shorter period of time.
Direct pathogen detection is then carried out by real-time PCR and virus isolation in cell culture. For indirect pathogen detection by means of antibody determination, ELISA and virus neutralization tests are used (VNT).

For further information see (in German language only:
Official Collection of Methods of FLI

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Similar clinical pictures

Other viral, bacterial or parasitic pathogens can cause similar disease symptoms, e.g. sore mouth infection (ORF virus infection), bluetongue, foot-and-mouth disease, peste de petits ruminants, idiopathic mouth ulcers, photosensitivity.

Control

Sheep and goat pox are notifiable animal diseases. The control of both diseases is based on the prevention of introduction, early detection of the disease and the killing of infected and suspected animals.

Live attenuated vaccines exist but are not licensed in the EU. Prophylactic vaccination is prohibited in all EU countries. It is not possible to distinguish between vaccinated and field virus-infected animals.

For further information see:
German National Reference Laboratory for Sheep and Goat Pox

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