

Glanders

Glanders is a serious zoonotic bacterial disease (*B. mallei*) that primarily affects horses, mules and donkeys. Some animals die acutely within a few weeks. Others become chronically infected, and can spread the disease for years before succumbing. Although human disease is uncommon, it is life threatening and painful. The fatality rate can be as high as 95%. Occasionally, glanders also occurs in other mammalian species, particularly members of the cat family.

Glanders was a worldwide problem in horses and mules for several centuries, but this disease was eradicated from most countries by the mid-1900s. Outbreaks are now uncommon and reported from limited geographic areas.

Infection can be by inoculation, inhalation and ingestion. The bacteria *B. mallei* is readily spread through gear such as halters, bridles, saddles harnesses, grooming tools, and food and water troughs. Although this organism is inactivated by heat and sunlight, its survival is prolonged in wet or humid environments. It remains viable in room temperature water for up to a month. Some sources suggest that it might be able to survive for more than a year in the environment, under some circumstances. Others state that it may survive for up to a few months in favourable environments, but it is likely to be inactivated within two weeks in unfavourable conditions.

Strict precautions should be taken when handling infected animals and contaminated fomites. Protective clothing including heavy gloves and face shields should be worn when working with infected animals. Protection from aerosols may also be appropriate. No vaccine is available. In animals, glanders may appear immediately or become latent. The incubation period varies from a few days to many months; two to six weeks is typical. Experimental infections can result in clinical signs after three days.

In the horse family, glanders is traditionally categorized into nasal, pulmonary and cutaneous forms. In the nasal form, deep ulcers and nodules occur inside the nasal passages, resulting in a thick, purulent, yellowish discharge which is very thick and sticky. This discharge can become

bloody and nasal perforation is possible. The lymph nodes become swollen and hard and may burst and drain. Healed ulcers become star-shaped scars. In the pulmonary form, nodules and abscesses develop in the lungs.

Animals that test positive for glanders are euthanized, and any suspect contact animals would have to be quarantined for several months, as would the premises after cleaning and disinfection. All contaminated bedding and food would be burned or buried, and equipment and other fomites would be disinfected. Carcasses would be burned or buried.

In endemic areas, susceptible animals should be kept away from communal feeding and watering areas, since glanders is more common where animals congregate. Routine testing and euthanasia of positive animals can eradicate the disease. Vaccines are not available.

Acute infections are usually fatal within a few days to two weeks. Animals with the chronic form can sometimes survive for years.



Horse with Glanders