

Commentary

Glanders: An emerging threat revisite

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DESCRIPTION

Glanders, once a feared and highly contagious disease of horses, has recently re-emerged as a potential public health threat. This zoonotic infection, caused by the bacterium *Burkholderia mallei*, can affect both animals and humans. Although rare in most parts of the world today, it remains a concern due to its potential for weaponization and its ongoing presence in some regions.

The historical context

Glanders has a storied history, dating back to ancient times. It was a significant concern during the 18th and 19th centuries when armies relied heavily on horses for transportation and warfare. The disease was known for its ability to cripple military campaigns by infecting horses and other equines, rendering them useless or causing their deaths.

The causative agent

Burkholderia mallei: *Burkholderia mallei* is the bacterium responsible for causing glanders. This highly contagious microbe primarily infects horses, mules, and donkeys. It can also affect other animals, including camels. In humans, glanders can be contracted through direct contact with infected animals or their secretions.

Transmission

Animal-to-human transmission: The primary mode of transmission to humans is through direct contact with infected animals, typically through contact with respiratory droplets or secretions from nasal discharge, saliva, or skin lesions.

Human-to-human transmission: While human-to-human transmission of glanders is rare, it can occur in certain circumstances, particularly when there is close and prolonged contact with infected individuals. This makes it a particular concern in healthcare settings.

Symptoms

Acute glanders: This form is characterized by the sudden onset of symptoms, which can include fever, chills, muscle aches, and difficulty breathing. It often progresses rapidly, leading to

pneumonia and septicemia, which can be fatal if not treated promptly.

Chronic glanders: In this form, symptoms may be less severe and can include skin lesions, abscesses, and the formation of nodules in various organs. Chronic glanders can persist for months or even years.

Diagnosis and treatment

Diagnosing glanders can be challenging, as its symptoms can resemble those of other respiratory illnesses. Laboratory tests, including culture and molecular techniques, are required to confirm the presence of *Burkholderia mallei*.

Treatment of glanders typically involves antibiotics, such as ceftazidime and meropenem, but the efficacy of these treatments can vary. Due to the potential for antibiotic resistance, treatment may require multiple antibiotics in combination. Prompt diagnosis and treatment are crucial for a favorable outcome.

Prevention

Preventing glanders involves measures to limit exposure to infected animals and contaminated environments.

Quarantine: Isolating and testing animals suspected of infection to prevent the spread of the disease.

Personal protective equipment: Healthcare workers and individuals in contact with potentially infected animals should wear appropriate protective gear, including masks and gloves.

Veterinary surveillance: Regular testing and monitoring of animals in endemic regions to identify and isolate infected individuals.

Glanders, once a formidable threat to horses and armies, has not disappeared entirely. In some parts of the world, it continues to affect both animals and humans, posing a significant challenge to public health and veterinary medicine. The potential for human-to-human transmission, along with concerns about bioterrorism and the development of antibiotic resistance, underscores the importance of vigilance, surveillance, and research to combat this ancient yet persistent disease.

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