Plague

Traveler Summary

Key Points

- Plague is a serious bacterial infection acquired from the bite of a flea, direct contact with infected animal tissue, or inhalation of aerosolized respiratory droplets of infected persons. Most cases occur in Africa, especially Democratic Republic of the Congo (DRC) and Madagascar.
- Risk is extremely low for travelers (especially if staying in modern hotels in urban areas) and is usually restricted to rat-infested, rural endemic areas.
- Symptoms vary depending on the type of plague (bubonic, pneumonic, septicemic) and may include fever, headache, cough, weakness, swollen lymph nodes, and abdominal or chest pain.
- Consequences of infection include severe pneumonia, shock, and internal bleeding. Death occurs in up to 60% of untreated bubonic plague cases and in 100% of untreated pneumonic plague cases.
- Prevention includes avoiding risk areas and contact with rodents or dead animals in affected areas, wearing long sleeves and long pants, and observing standard insect precautions, respiratory hygiene (cough and sneeze etiquette), and hand hygiene (frequent, thorough handwashing).
- No effective vaccine is available.
- Postexposure preventive treatment includes the use of an antibiotic such as doxycycline or ciprofloxacin for persons with a known exposure in the previous 7 days.

Introduction

Plague, an infectious bacterial disease of animals and humans, is deadly in humans if left untreated. Transmitted by a flea bite, contact with contaminated fluids, or inhalation of infectious droplets, plague presents in humans as bubonic (most frequent), pneumonic, or septicemic plague.

Risk Areas

Human infections occur most frequently in and around households with rodent populations. The global incidence of plague has declined in recent years with 4,420 cases (including 750 deaths) reported during 2010-18; incidence may be underestimated due to inadequate surveillance systems in many areas. More than 95% of cases occur in Africa, mainly in DRC and Madagascar. More than 300 cases per year occur from September through April in Madagascar, with pneumonic plague accounting for 10% of cases. Cases also occur in Uganda, Tanzania, and Mongolia. During 2010-19, only 5 cases were acquired naturally in the US.

Transmission

Bubonic and septicemic plague are most often transmitted by the bite of an infected rodent flea. Humans can also become infected when handling tissue or bodily fluids of a plague-infected animal or person.

Pneumonic plague is transmitted from person to person via inhalation of aerosolized respiratory droplets (e.g., by cough and sneezing). Typically, this requires direct and close contact with the infected person. Transmission via droplets is the only way that plague can be transmitted from person to person.

Risk Factors

The risk of plague for travelers is extremely low (especially if travel is limited to urban areas with modern hotel accommodations) and is usually restricted to rat-infested rural endemic areas. Reservoirs include rats, field mice, gerbils, birds, and marmots. All ages are at risk for infection.

Travelers potentially at risk include:

- Persons exposed to the bites of wild rodent fleas during an outbreak or to the tissues or fluids of a plague-infected animal
- Persons closely exposed (i.e., face-to-face contact or being within the same closed space, such as a room or vehicle) to a person or animal with suspected pneumonic plague
- Persons traveling to a highly epidemic area for a short duration

Symptoms

Symptoms most commonly occur 1 to 7 days following exposure and may present in 1 of 3 ways:

- Bubonic plague (the most frequent presentation): sudden onset of fever, headache, chills, weakness, and 1 or more painful, swollen, tender lymph nodes
- Septicemic plague: fever, chills, extreme weakness, abdominal pain, shock, and (possibly) bleeding into the skin and other organs. Skin and other tissues can turn black and necrotic.
- Pneumonic plague: fever, headache, weakness, and a rapidly developing pneumonia, with shortness of breath, chest pain, cough, and sometimes bloody or watery mucous

Consequences of Infection

Untreated bubonic plague, which can develop into septicemic plague, is fatal in approximately 50% to 60% of cases but decreases to 10% to 20% with early antibiotic treatment. Untreated pneumonic plague causes respiratory failure or shock and is always fatal.

Need for Medical Assistance

Persons with symptoms suggestive of plague who live in or have recently traveled to any plague-endemic area should seek medical care immediately.

Prevention

Nonvaccine

Preventive measures are aimed at reducing contact with fleas, rodents, and other wildlife that might be infected.

- Avoid areas with recent plague epidemics or epizootics, especially places where large numbers of rats have died of plague.
- Avoid contact with rodents, fleas, and sick or dead animals (including cats) in plague-endemic areas.
- Use insect repellents containing DEET or picaridin; consider using aerosol room-insecticides to kill indoor insects; apply permethrin to clothing, outer bedding, and bed netting; and stay in the cleanest places possible (see ***Insect Precautions***).
- Follow droplet precautions (for health care workers) while working with suspected plague patients, especially if the patient is coughing.
- Avoid crowded areas and direct contact with persons who are coughing in areas where pneumonic plague has recently been reported.
- Clean potentially infected surfaces with ordinary disinfectants such as Lysol or chlorine-containing preparations that kill bacteria within 1 to 10 minutes.

Vaccine

Currently, no effective plague vaccines are available commercially or to the military and a potential vaccine has yet to reach advanced clinical development.

Antibiotic

Postexposure preventive antibiotic treatment is indicated for persons (including pregnant women) with known exposure to plague, such as close contact with a pneumonic plague patient or direct contact with infected bodily fluids or tissues. Several oral antibiotic options exist and are taken once or twice daily for 7 days depending on the antibiotic: doxycycline (only for children aged 8 years and older), ciprofloxacin, levofloxacin, or moxifloxacin.

© 2026 Shoreland, Inc. All rights reserved.