



Risk Factors of Rickettsia and its Treatment Methods

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DESCRIPTION

Rickettsia is the name of a single genus, but the informal term "Rickettsia" plural "Rickettsiae" is usually not capitalized and generally applies to all members of the order Rickettsiales. As obligate intracellular bacteria, Rickettsiae rely on invasion, growth and replication within the cytoplasm of living eukaryotic host cells (usually endothelial cells). Therefore, Rickettsia species cannot be propagated in artificial culture. They must be grown either in tissue or in embryo culture. Chicken embryos are usually used according to methods developed by Ernest William Good pasture and his colleagues at Vanderbilt University in the early 1930s. Each year many new strains or species of Rickettsia are described.

Although some Rickettsia species are pathogens of medical and veterinary interest, many Rickettsiae are non-pathogenic to vertebrates, including humans, and often non-haemophagous, such as aphids and whiteflies. It infects only certain arthropods. Thus, although many Rickettsia species are arthropod-specific symbionts, they are often confused with pathogenic Rickettsiae (particularly in the medical literature), and current views of Rickettsiologia have a strong anthropocentric bias.

- Fever
- Severe headache
- A characteristic rash
- A general feeling of illness (malaise)

A scar may form at the bite site covered with a black crust (scab). Because the rash often does not appear for several days, early rickettsial infections are often mistaken for more common viral infections such as the flu. The lymph nodes may become swollen.

As the infection progresses, people usually experience confusion and severe weakness. It is often accompanied by coughing, difficulty breathing, and sometimes vomiting.

Prevention of rickettsial infections requires a judicious approach to avoiding associated arthropods. For epidemic typhus, this includes looking for ticks for potential exposure, walking especially in tall grass, and carefully removing ticks to keep blood from running to the skin. Control of typhus involves controlling lice on the human body with dichlorodiphenyltrichloroethane or lindane. Mouse spotted fever control includes flea and mouse control. Murine spotted fever can spread and cases should be reported. Control and monitoring of ectoparasites in cattle, sheep and goats is important in Q fever. Finally, repellents containing N,N-diethyl-3-methylbenzamide (DEET) are effective against typhus mites, and the U.S. military uses weekly doxycycline prophylaxis against this organism, to some extent.

- No vaccine is available to prevent typhoid group rickettsiosis.
- Recommend avoiding vectors by using repellents and protective clothing such as: Long socks used to cover exposed skin.
- Permethrin-treated clothing is effective in preventing tick bites and lasts at least a year on treated clothing.
- The use of DDT (dichloro-diphenyl-trichloroethane) on rat farms in the mid-1940s had a major impact on the incidence of typhus in the United States, demonstrating the efficacy of vector control technology in controlling the disease. On a small scale, vector control can help control local outbreaks.
- During a louse-borne epidemic typhus epidemic, washing blankets and clothing in hot water kills the lice and their eggs in conditions that encourage louse infestation. This is often not possible during typhus epidemics. In such cases, the World Health Organization recommends mass treatment with permethrin, which dusts clothing with compressed air.
- Treatment of animals and the environment with miticides has been shown to reduce tick populations. They promise to reduce the local disease burden in Arizona, Mexico, Brazil and Sonora, where RMSF is relatively common.

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