


Merlin disease code: 08302 Q Fever, Chronic (*Coxiella burnetii*)

[Paper case report form](#) required

 Acute and convalescent sera for all cases must be sent to the Bureau of Public Health Laboratories

No Merlin extended data

This condition has been identified as a potential bioterrorism agent by the CDC.

Background

Chronic Q fever is an infection that persists for more than 6 months. Potentially fatal endocarditis may evolve months to years after acute infection, particularly in persons with underlying valvular disease. Infections of aneurysms and vascular prostheses have been reported. Immunocompromised individuals are particularly susceptible. Rare cases of chronic hepatitis without endocarditis, osteomyelitis, osteoarthritis, and pneumonitis have been described.

Clinical criteria for case classification

Newly recognized, culture-negative endocarditis, particularly in a patient with previous valvulopathy or compromised immune system, suspected infection of a vascular aneurysm or vascular prosthesis, or chronic hepatitis, osteomyelitis, osteoarthritis, or pneumonitis in the absence of other known etiology.

Laboratory criteria for case classification

Confirmatory:

One or more of the following:

- Serological evidence of IgG antibody to *Coxiella burnetii* phase I antigen $\geq 1:800$ by indirect immunofluorescence assay (IFA) (while phase II IgG titer will be elevated as well; phase I titer is higher than the phase II titer),
- **Or** detection of *C. burnetii* DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR),
- **Or** detection of *C. burnetii* antigen in a clinical specimen by immunohistochemistry (IHC),
- **Or** isolation of *C. burnetii* from a clinical specimen by culture.

Presumptive:

Antibody titer to *C. burnetii* phase I IgG antigen $\geq 1:128$ and $< 1:800$ by IFA.

Epidemiological criteria for case classification

Not applicable.

Case classification

Confirmed:

A clinically compatible chronic illness in a person with confirmatory laboratory criteria.

Probable:

A clinically compatible chronic illness in a person with presumptive laboratory criteria.

Criteria to distinguish a new case from previous reports

Not applicable.

Comments

Specimens from suspected chronic patients should be evaluated for IgG titers to both phase I and phase II antigens. Current commercially available EIA tests (which test only for phase 2) are not quantitative, cannot be used to evaluate changes in antibody titer, and hence are not useful for serological confirmation. IgM tests are not strongly supported for use in serodiagnosis of acute disease, as the response may not be specific for the agent (resulting in false positives) and the IgM response may be persistent. Complement fixation (CF) tests and other older test methods are neither readily available nor commonly used.

Serologic test results must be interpreted with caution, because baseline antibodies acquired as a result of historical exposure to Q fever may exist, especially in rural and farming areas.

Exposure is usually via aerosol, is broadly interpreted, and may be unknown (especially for chronic infection), but often includes the presence of goats, sheep, or other livestock, especially during periods of parturition. Direct contact with animals is not required, and variable incubation periods may be dose dependent.