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Q Fever (Coxiella burnetii) 2008 Case Definition | CDC  
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Q Fever (  
Coxiella burnetii  
)  
2008 Case Definition  
Q Fever (  
Coxiella burnetii  
)  
2008 Case Definition  
NOTE:  
A surveillance case definition is a set of uniform criteria used to define a disease for public health surveillance. Surveillance case definitions enable public health officials to classify and count cases consistently across reporting jurisdictions. Surveillance case definitions are not intended to be used by healthcare providers for making a clinical diagnosis or determining how to meet an individual patient’s health needs.  
Subtype(s)  
Q fever, acute  
Q fever, chronic  
Exposure  
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.  
Subtype(s) Case Definition  
Expand All  
Q fever, acute  
Clinical Description  
Acute fever usually accompanied by rigors, myalgia, malaise, and a severe retrobulbar headache. Fatigue, night-sweats, dyspnea, confusion, nausea, diarrhea, abdominal pain, vomiting, non-productive cough, and chest pain have also been reported. Severe disease can include acute hepatitis, atypical pneumonia with abnormal radiograph, and meningoencephalitis. Pregnant women are at risk for fetal death and abortion. Clinical laboratory findings may include elevated liver enzyme levels, leukocytosis, and thrombocytopenia. Asymptomatic infections may also occur.  
Note: Serologic profiles of pregnant women infected with acute Q fever during gestation may progress frequently and rapidly to those characteristic of chronic infection.  
Clinical Criteria  
Acute fever and one or more of the following: rigors, severe retrobulbar headache, acute hepatitis, pneumonia, or elevated liver enzyme levels.  
Laboratory Criteria For Diagnosis  
Laboratory confirmed:  
Serological evidence of a fourfold change in immunoglobulin G (IgG)-specific antibody titer to  
C. burnetii  
phase II antigen by indirect immunofluorescence assay (IFA) between paired serum samples, (CDC suggests one taken during the first week of illness and a second 3-6 weeks later, antibody titers to phase I antigen may be elevated or rise as well),  
OR  
Detection of  
C. burnetii  
DNA in a clinical specimen via amplification of a specific target by polymerase chain reaction (PCR) assay,  
OR  
Demonstration of  
C. burnetii  
in a clinical specimen by immunohistochemical methods (IHC),  
OR  
Isolation of  
C. burnetii  
from a clinical specimen by culture.  
Laboratory supportive:  
Has a single supportive IFA IgG titer of ≥1:128 to phase II antigen (phase I titers may be elevated as well).  
Has serologic evidence of elevated IgG or IgM antibody reactive with  
C. burnetii  
antigen by enzyme-linked immunosorbent assay (ELISA), dot-ELISA, or latex agglutination.  
Note: For acute testing, CDC uses in-house IFA IgG testing (cutoff of ≥1:128), preferring simultaneous testing of paired specimens, and does not use IgM results for routine diagnostic testing.  
Case Classification  
Probable  
A clinically compatible case of acute illness (meets clinical evidence criteria for acute Q fever illness) that has laboratory supportive results for past or present acute disease (antibody to Phase II antigen) but is not laboratory confirmed.  
Confirmed  
A laboratory confirmed case that either meets clinical case criteria or is epidemiologically linked to a lab confirmed case.  
Q fever, chronic  
Clinical Description  
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  
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 Diagnosis  
Laboratory confirmed:  
Serological evidence of IgG antibody to  
C. burnetii  
phase I antigen ≥1:800 by 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 PCR assay,  
OR  
Demonstration of  
C. burnetii  
antigen in a clinical specimen by IHC,  
OR  
Isolation of  
C. burnetii  
from a clinical specimen by culture.  
Laboratory supportive:  
Has an antibody titer to  
C. burnetii  
phase I IgG antigen ≥1:128 and <1:800 by IFA.  
Note: Samples from suspected chronic patients should be evaluated for IgG titers to both phase I and phase II antigens. Current commercially available ELISA 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.  
Case Classification  
Probable  
A clinically compatible case of chronic illness (meets clinical evidence criteria for chronic Q fever) that has laboratory supportive results for past or present chronic infection (antibody to Phase I antigen).  
Confirmed  
A clinically compatible case of chronic illness (meets clinical evidence criteria for chronic Q fever) that is laboratory confirmed for chronic infection.  
Related Case Definition(s)  
Q Fever (  
Coxiella burnetii  
) | 2009 Case Definition  
Q Fever (  
Coxiella burnetii  
) | 1999 Case Definition  
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NNDSS receives and shares case data from state, local, and territorial health departments to help public health monitor, control, and prevent serious diseases.  
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