Council of State and Territorial Epidemiologists
Position Statement

03-ID-08

Committee: **Infectious Disease**

Title: **Rocky Mountain spotted fever**

Statement of the Problem:
The current case definition for Rocky Mountain spotted fever does not provide for the recognition/classification of cases (with clinically compatible illness) that have been identified through newer laboratory technologies with respect to diagnostic assays.

Statement of the desired action(s) to be taken:
We propose to revise/update the case definition to allow for laboratory evidence of infection through the use of newer laboratory methods (e.g. PCR).

Goals of Surveillance:
Identify cases and track incidence of RMSF in the US. Further define the clinical spectrum of disease.

Methods for Surveillance:
Generally passive, laboratory-based surveillance methods are used to detect cases meeting laboratory criteria.

Case Definition:
Clinical Description:
Rocky Mountain spotted fever (RMSF) is an illness caused by Rickettsia rickettsii, a bacterial pathogen transmitted to humans through contact with ticks. Dermacentor species of ticks are most commonly associated with infection, including Dermacentor variabilis (the American dog tick) and Dermacentor andersoni (the Rocky Mountain wood tick). Disease onset averages one week following a tick bite. Age specific illness is highest for children. Illness is characterized by acute onset of fever, and may be accompanied by headache, malaise, myalgia, nausea/vomiting, or neurologic signs; a macular or maculopapular rash is reported in most patients, and a rash is often present on the palms and soles. RMSF is fatal in approximately 20% of untreated cases, and severe fulminant disease is possible.

Laboratory criteria for diagnosis:

- Serological evidence of a significant change in serum antibody titer reactive with Rickettsia rickettsii antigens between paired serum specimens, as measured by a standardized assay conducted in a commercial, state, or reference laboratory. .

- Demonstration of R. rickettsii antigen in a clinical specimen by immunohistochemical methods.

- Detection of R. rickettsii DNA in a clinical specimen by the polymerase chain reaction (PCR assay).

- Isolation of R. rickettsii from a clinical specimen in cell culture.

Note: For confirmed cases, a significant change in titer must be determined by the testing laboratory; examples of commonly used measures of significant change include, but are not limited to, a four-fold or greater change in antibody titer as determined by indirect immunoflourescent antibody (IFA) assay or an equivalent change in optical density measured by enzyme-linked immunosorbent assay (EIA or ELISA).

Case Classification:
Confirmed: A person with a clinically compatible illness that is laboratory confirmed.

Probable: A person with a clinically compatible illness and serologic evidence of antibody reactive with R. rickettsii in a single serum sample at a titer considered indicative of current or past infection (cutoff titers are determined by individual laboratories).

Period of Surveillance:
Continual

Background and Justification:
The purpose of this position statement is to make the RMSF case definition consistent with that of other tickborne disease case definitions (e.g. Ehrlichiosis) and to include the newer lab tests which are now used more frequently.

Reference:

Centers for Disease Control and Prevention. Case definitions for infectious conditions under public health surveillance. MMWR 1997;46(No. RR-10). Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/00047449.htm

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