ROCKY MOUNTAIN SPOTTED FEVER

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Rocky Mountain spotted fever (RMSF) is generally a curable tick-borne disease but can in some instances become life threatening as the disease has a large spectrum of illness. It is caused by the Rickettsia rickettsii bacteria, carried by the Dermacentor tick with a predilection to the spring and early summer months. Tick bites are painless and many occur in body areas hidden by hair or in skin folds which explains why most patients do not even realize they have been bitten. Usually signs and symptoms begin within 5-7 days after being bitten by an infected tick. The early phase symptoms include a fever, headache, malaise, myalgias, arthralgias, and nausea with or without vomiting. A rash develops between the third and fifth days of illness which is why most patients do not have a rash when they first see the doctor, making the diagnosis very difficult at times. Although the skin rash may vary in appearance between patients, it generally begins on the ankles and wrists and spreads both centrally and to the palms and sole as a maculopapular eruption and then becomes petechial. Some patients may suddenly develop a petechial rash without a prior maculopapular eruption.

In up to 10 percent of patients the rash does not occur and this becomes a potential diagnostic problem as these cases are generally the most severe and fatal, and have been termed "spotless" RMSF. In addition, in dark skinned patients, the rash can be easily missed. These observations are clinically important because a delay in the institution of antimicrobial therapy beyond five days is associated with an increased mortality rate.

In addition to the early symptoms, cough, bleeding, edema, confusion, focal neurologic signs, and seizures may also be present. As the illness progresses, thrombocytopenia becomes more prevalent and may be severe; it is thought to result from increased destruction at sites of rickettsia-mediated vascular injury. Other laboratory findings that are common in advanced cases include hyponatremia, elevations in serum aminotransferases and bilirubin, azotemia, and prolongation of the partial thromboplastin and prothrombin times.

Although this is generally a clinical diagnosis, a **biopsy** of the skin lesion can be obtained by punch biopsy and will aid in the diagnosis of RMSF. The tissue is fixed in formaldehyde and should be examined for Rickettsia rickettsii using direct immunofluorescence or immunoenzyme methods which can provide an answer in a just a few hours. The diagnosis of RMSF is best confirmed serologically using the indirect fluorescent antibody (IFA) test.

Orally or intravenously administered **doxycycline** is the drug of choice for the treatment of RMSF in both adults and children, except for pregnant women. In pregnant women oral chloramphenicol should be used as it is the only available alternative to a tetracycline such as doxycycline.

This information has been provided to you compliments of the American Osteopathic College of Dermatology and your physician.