COUNTY OF SAN DIEGO
Department of Health Services
P.O. Box 85222, San Diego, CA 92186-5222

PHYSICIANS' BULLETIN

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Be on Alert for Vector-Borne Diseases

Seasonal warm weather has increased the likelihood physicians may see patients with arthropod and rodent-related illnesses. Although infrequent, illnesses such as rat bite fever, leptospirosis, and Rocky Mountain spotted fever, should be considered when diagnosing vector-borne diseases. The following diseases are of particular concern in San Diego County and should be considered when seeing patients who have a recent history of exposure to mosquitoes, other arthropods or rodents.

Encephalitis

Symptoms – Mild cases of this mosquito-borne disease occur as viral meningitis. Severe infections usually have acute onset of headache, high fever, meningeal signs, stupor, disorientation, coma, tremors, occasionally convulsions in infants, coma, and spastic, but rarely flaccid, paralysis.

Laboratory – Physicians are strongly encouraged to submit blood specimens on suspect cases of meningoencephalitis. The usual procedure in viral serologic tests is to hold the acute phase serum specimen until the convalescent specimen is collected and then submit them as a pair for testing to demonstrate a rise in antibody levels. If arboviral encephalitis is part of the differential diagnosis, however, the acute phase specimen should be submitted without delay for testing to detect IgM antibodies to St. Louis encephalitis (SLE) or western equine encephalitis (WEE). The initial serum usually has IgM antibodies that can be readily identified by the indirect immunofluorescent antibody (IFA) test.

Please submit 6-8 ml. whole clotted blood, or 3-4 ml. serum from each phase to the County of San Diego Public Health Laboratory, 3851 Rosecrans St., P.O. Box 85222, San Diego, CA 92186-5222. Specimens should be accompanied by a Public Health Laboratory Form 22.

Malaria

Symptoms – Symptoms of this mosquito-borne disease include shaking chills, high fever, sweats, and headache. Because of the cyclic nature of this disease, persons with mild symptoms should return when symptoms intensify and the parasite, which is not evident in the blood during mild symptoms, is once again present.

Laboratory – If malaria is suspected, a thick and thin smear of peripheral blood should be obtained and examined for the presence of malaria parasites. The blood should be collected prior to therapy.

Optimal results are obtained with blood collected during spikes of fever and with smears prepared from freshly collected uncoagulated blood. The smears and the blood (in purple top tubes with EDTA anticoagulant) may be delivered or sent to the Public Health Laboratory.

Hantavirus

Rodents are the primary reservoir hosts of recognized hantaviruses. Infected rodents shed virus in their saliva, urine and feces. Infection may occur when infective saliva or excreta are inhaled as aerosols; when dried or fresh materials contaminated by rodent excreta are disturbed or directly introduced into broken skin; or, possibly ingested in contaminated food or water. Infection has also occurred after a bite by of an infected rodent.

Symptoms – Initial symptoms are similar to less severe viral infections, with most cases experiencing fever, myalgias and chills. Other symptoms include: dyspnea, nonproductive cough, headache, nausea, vomiting, diarrhea and malaise.

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Laboratory – At present only the State Viral and Rickettsial Disease Laboratory can test for the viral agent which causes hantavirus pulmonary syndrome (HPS). Some commercial laboratories offer a test which can detect hemorrhagic fever with renal syndrome (HFRS), but this test is not recommended for diagnosing HPS. An acute blood sample (5-10 ml in a red top tube) and a case report questionnaire should be submitted to the Public Health Laboratory which will forward the specimen to the State. A convalescent serology at 10 to 14 days should be collected as well.

Specimens should be delivered to the Public Health Laboratory. For case report questionnaires and delivery instructions, call 692-8500.

Lyme Disease

Symptoms – Initial symptoms of this tick-borne disease may include a skin lesion/ rash, frequently, but not always, annular (erythema migrans - EM), accompanied by flu-like symptoms, fever and muscle aches. Some individuals exhibit swollen lymph glands. Most persons treated with appropriate antibiotics at this stage will have a quick recovery. Lack of treatment may result in long-term complications including disorders of the heart or nervous system, and arthritis.

Laboratory – Serological tests are widely available, however, their sensitivity are unclear, and they are not standardized. The patient should be treated based on clinical observations.

The Western Black Legged tick (*Ixodes pacificus*) is the primary vector for Lyme disease in California. Ticks may be saved and sent to County Vector Control for identification. Call 694-2888 for directions.

Plague

Plague has been documented in San Diego County in wild animals. Patients should be queried about possible exposures to fleas and/or their wild animal hosts in rural areas if symptomatology is consistent with the following.

Symptoms – The initial symptom is lymphadenitis in nodes of the inguinal, axillary or cervical area. The involved nodes are swollen and tender and may suppurate. Fever is often present.

Laboratory – For directions on collection and submission of appropriate specimens, call the Public Health Laboratory at 692-8500.

Tularemia

Tularemia has also been documented among wild animals in San Diego County. Exposure most often occurs during skinning/dressing or performing necropsies on rabbits, hares, and other wild animals; through the bites of infected deerflies, ticks and other arthropods; and by drinking contaminated water.

Symptoms – The primary symptom is one or more enlarged lymph nodes which may be accompanied by an indolent ulcer on the hand.

Laboratory – For directions on collection and submission of appropriate specimens, call the Public Health Laboratory at 692-8500.

Hybridized (Africanized) Honey Bees

Hybridized honey bees have been reported in Imperial and Riverside counties. The bees can be very aggressive when provoked, and persons attacked are likely to receive many more stings, and thus, more venom, than from the more common European honey bees. Persons with a hypersensitivity to bee stings may experience an anaphylactic reaction. Consideration of immunotherapy is recommended.

Multiple bee sting incidents (15 or more stings) should be immediately reported by telephone by medical care providers, as required by law. See reporting guidelines below.

Reporting

Prompt reporting by telephone of multiple-bee-sting incidents or suspected hantavirus, malaria, plague, tularemia or encephalitis cases is important. Call 515-6620, the Epidemiology Unit, weekdays between 8 a.m. and 5 p.m. On nights and weekends, call 565-5255, the County's communication center. The caller's name and telephone number will be taken and a Health Services staff person will return the call as soon as possible.