Be Vigilant for Travelers' Malaria Risks, Treatment

BY DIANA MAHONEY
New England Bureau

CAMBRIDGE, MASS. — Increases in travel between the United States and developing countries, as well as immigration from developing countries to the United States, raises the potential for transmission of malaria within the United States, Dr. Elizabeth D. Barnett said at a conference on pediatric infectious diseases.

"In 1973, there were 22 reported cases of malaria in the United States," reported Dr. Barnett, director of the International Clinic at Boston Medical Center. By comparison, in 2003, there were 1,278 reported cases of malaria in the United States—mostly acquired in Africa—resulting in seven deaths." Although this number is down from the 1980 high of 1,864 reported cases, U.S. physicians must be aware of the signs and symptoms of the potentially fatal parasitic disease as well as the diagnostic and treatment criteria.

In terms of diagnosis, "first and foremost, malaria should always be in the differential of a febrile patient who has visited a malarial area," said Dr. Barnett at the meeting, sponsored by Boston University, PEDIATRIC NEWS, and FAMILY PRACTICE NEWS. The signs and symptoms of the disease are often nonspecific. They can include fever—which is almost always present but may be periodic—headache, chills, sweating, back pain, myalgias, diarrhea, nausea, vomiting, and cough.

"A malaria diagnosis requires an examination of blood smears. Typically multiple smears are needed because the level of parasitemia can vary," she said. "If malaria is suspected [but not supported by initial smears], multiple smears over multiple days may be needed." Thick smears are more sensitive but also more difficult to read. Thin smears are easier to read and are often used for diagnosing parasite species.

Because of the nonspecificity of symptoms, "it's important to maintain a high index of suspicion for malaria," Dr. Barnett said. "Delays in diagnosis and treatment can lead to life-threatening complications and worsened prognosis."

In addition to smears, other necessary diagnostic laboratory tests include complete blood count to identify anemia and/or thrombocytopenia, liver function tests to assess the degree of hemolysis and liver function impairment, glucose, blood urea nitrogen and creatinine, and urinalysis.

When malaria is diagnosed, treatment should be based on the severity of the condition and local drug resistance patterns. For uncomplicated malaria, "assume *Plasmodium falciparum* is the species until this can be confirmed, and choose [an oral] drug regimen based on regional resistance patterns," said Dr. Barnett.

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DR. BARNETT

The Centers for Disease Control and Prevention says "chloroquine [Aralen] is the treatment of choice in regions where there is no chloroquine resistance," she reported. In regions with chloroquine-resistant plasmodia, treatment options include quinine in combination with doxycycline, tetracycline, or clindamycin; atovaquone in combination with proguanil (Malarone); or mefloquine (Lariam), but only if it is not being used prophylactically.

More aggressive treatment is required for complicated malaria (coma, renal failure), which is almost always caused by *P. falciparum* and is associated with a 15%-20% mortality rate, said Dr. Barnett. "These patients should be hospitalized and parenteral therapy should be initiated as soon as the diagnosis is suspected."

Besides being aware of diagnostic and treatment options, physicians should vigilantly recommend chemoprophylaxis for patients traveling to malarial areas. "The prophylactic drug of choice is chloroquine if travel will be to areas with no reported chloroquine resistance," said Dr. Barnett. "If travel will be to areas with chloroquine resistance, prophylactic options include mefloquine or atovaquone-proguanil. Doxycycline can be considered for children who are at least 8 years of age, and primaquine can be used in rare situations, such as when there are contraindications to all of the other alternatives. G6PD [glucose-6-phosphate dehydrogenase] deficiency must be ruled out before prescribing."

Ideally, malaria prophylaxis should begin 1-2 weeks prior to travel (2-3 days for Malarone) and should continue weekly during the trip and for 4 weeks (7 days for Malarone) after leaving the area. ■

Skin Lesions Rare in Systemic, CNS Neonatal Herpes Cases

BY DOUG BRUNK
San Diego Bureau

LAS VEGAS — Most cases of disseminated and CNS neonatal herpes don't present with skin lesions, Dr. M. Jeffrey Maisels said at a meeting sponsored by the American Academy of Pediatrics and its California Chapters 1, 2, 3, and 4.

"You can't rely on seeing a herpetic-looking vesicle on a baby's skin to tip you off that the baby might have systemic herpes or CNS neonatal herpes," said Dr. Maisels, who chairs the department of pediatrics at William Beaumont Hospital, Royal Oak, Mich. The chief complaint in cases of disseminated neonatal herpes is often decreased activity—the so-called "quiet baby"—in the first 2 weeks of life, as well as decreased oral intake and some respiratory distress.

The chief complaint in disseminated neonatal herpes is often decreased activity—the so-called 'quiet baby' in the first 2 weeks of life.

Physical exam may reveal hypothermia, lethargy, and/or hypoperfusion. Tachypnea and seizures also may occur.

"When you do the lab tests, these babies commonly have metabolic acidosis," said Dr. Maisels, also of Wayne State University, Detroit. They commonly come in with severe thrombocytopenia and severe coagulopathy. They have liver involvement, renal involvement, and hypoglycemia.

Treatment involves acyclovir 60 mg/kg per day as well as intensive care and management of the coagulopathy, which usually consists of multiple transfusions with fresh frozen plasma, cryoprecipitate, packed red blood cells, and platelets.

"This condition has a high mortality: 56%-90%, and it is close to 100% if they come in with severe shock or coma," Dr. Maisels said.

In cases of CNS neonatal herpes, which typically occurs between birth and 6 weeks of life, the chief complaints are decreased feeding and slowly progressive lethargy. Physical exam usually reveals hypothermia, depressed neurologic exam, and apnea. Seizures also may occur.

CBC and other lab tests will usually be normal or nonspecific. Cerebrospinal fluid (CSF) findings vary depending on the presence of meningoencephalitis, encephalitis, or meningitis.

In a case of herpetic meningoencephalitis, "the most striking finding is significantly elevated CSF protein," Dr. Maisels said. "So if you have a baby who shows up and looks a little sick and has what looks like aseptic meningitis but has a CSF protein of 250 [ng/L], then you have to think about CNS neonatal herpes," he said. "The [blood] glucose can be normal. It can be low as well."

In the case of herpes meningitis or pure encephalitis, the CSF protein may not be elevated.

Mortality of CNS neonatal herpes is about 15%. ■