DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control and Prevention

Splenomegaly in Congolese Refugees from Uganda
September 10th, 2015

Dear State Refugee Health Coordinator:

In March 2015, the U.S. Centers for Disease Control and Prevention (CDC) was notified of an unusually high number of splenomegaly (enlarged spleen) cases in Congolese refugee populations from Kyangwali Resettlement Camp near Hoima, Uganda. A recent evaluation of these refugees found that 16% of refugees had splenic enlargement. The International Organization for Migration (IOM), the designated panel physicians in Uganda, instituted additional diagnostic evaluation in refugees resettling from camps in Uganda where splenomegaly was detected. The purpose of this letter is to inform you of the overseas activities and to provide recommendations for additional testing and management after arrival.

Splenomegaly can result from many different etiologies. The most likely cause of splenomegaly in these Congolese refugees is chronic, repeated infections with malaria, however, other etiologies have not been ruled out. Patients with malaria-associated splenomegaly may not have any other signs or symptoms of malaria, or detectable parasites in their blood, if tested for malaria, however they may have palpable splenomegaly or report abdominal fullness. A severe form of malaria-associated splenomegaly called Hyperreactive Malarial Splenomegaly (HMS) Syndrome is associated with a massively enlarged spleen and patients are at increased risk for splenic rupture in settings of trauma. In addition, they may have hematological abnormalities (e.g. anemia [low red blood cell counts], thrombocytopenia [low platelet counts]) and may be more susceptible to secondary bacterial infection. This condition is considered a "diagnosis of exclusion" since there is no single diagnostic test that confirms the diagnosis-multiple etiologies must first be ruled out and a series of parameters must be met over a predefined time period. Therefore, to confirm diagnosis, refugees with a spleen $\geq$ 2 standard deviations larger than normal identified on pre-departure medical screening, with no other cause identified, will be classified as suspected HMS and will be followed with serial testing and/or evaluations upon arrival to the United States. In HMS, the spleen can be very enlarged and HMS patients are at risk

***Overseas screening and treatment*:** All consenting refugees with enlarged spleens will have testing for various etiologies, including malaria, and will have an ultrasound of the spleen and liver performed. All available results will be included on the DS 3026 (under "other/remarks" section of the Medical History and Physical Examination form). Refugees with splenomegaly with be monitored prior to departure and will have repeated malaria testing if they have signs or symptoms of malaria infection. Any refugee with a positive malaria test at any point prior to departure will be treated for acute malaria per the Ugandan guidelines (note that this may mean multiple treatments prior to departure). In addition, all Congolese refugees (including those with splenomegaly) will continue to receive pre-departure antimalarial treatment with arthemeter-lumafantrine immediately prior to departure for the U.S. per current guidelines.

Domestic follow-up: Given the high rate of relapse in HMS, it is recommended that all refugees who underwent HMS treatment overseas receive follow-up testing and treatment after arrival in the United States.

Testing should include:

1) Malaria IgM serological testing
2) Repeat abdominal ultrasonography with a focus on the spleen and pre-identified abnormalities
3) Testing for glucose-6-phosphatase (G6PD) deficiency

Treatment should include:

1) If G6PD is normal and the refugee is not pregnant, treat with a 2 week course of primaquine for the liver phase of malaria.
2) If the refugee has low G6PD level or is pregnant, obtain expert consultation before further treatment.

Monitoring and counseling:

Patients should be monitored with routine follow-up every 1-3 months for the first year. Those with signs or symptoms of recurrent malaria, with ongoing splenomegaly, with ongoing complications of splenomegaly (e.g. hematologic abnormalities) should be referred to a specialist. Persons with a large spleen should be reminded not to participate in physical activities that can cause trauma (e.g. soccer)—most individuals in this community know this already.

Additional information for clinical providers is provided in an addendum to this letter that should be shared with clinical providers who will be caring for these refugees following arrival.

Technical clinical guidance and questions can be directed to Dr. William Stauffer (stauf005@umn.edu).

Additional recommendations for the monitoring and/or treatment of refugees with malaria-associated splenomegaly *may* develop following this evaluation and, if so, states will be notified. Other routine post-arrival guidance for patients without a history of malaria-associated splenomegaly is unchanged. A representative from the CDC may contact the State/provider requesting follow-up clinical data on specific patients.

CDC Guidelines provide information on diagnostic testing for malaria, as well as post-arrival guidance on the management of malaria and its complications in refugee populations:

Diagnostic Testing: http://www.cdc.gov/malaria/diagnosis_treatment/diagnosis.html

Treatment Guidelines: http://www.cdc.gov/malaria/diagnosis_treatment/treatment.html

Sincerely,

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