In the Literature

Ebola in West Africa: Getting Ready for What Comes Next - Measles and More


Vaccination campaigns have been associated with an estimated 80% decrease in global annual measles mortality since 2000, with the number of deaths having decreased to approximately 102,000. This success has extended to West Africa, including the countries of Sierra Leone, Guinea, and Liberia, the countries at the center of the unprecedented outbreak of Ebola virus disease (EVD) that began in early 2014. EVD accounted for 10,699 deaths among 25,831 cases (14,841 laboratory-confirmed), as of 14 April 2015 [1]. Although this outbreak is currently waning, other problems—social, economic, and infectious—are likely to follow. Among the most prominent infectious concerns is a resurgence of measles, a viral predator of susceptible populations that have been subjected to man-made and natural disasters. Takahashi and colleagues have estimated the risk of measles resulting from the already very limited available healthcare, on the heels of the West Africa EVD epidemic.

Prior to the Ebola outbreak, the 3 countries were planning renewed measles vaccination campaigns because of an increasing number of individuals susceptible to this paramyxovirus. The investigators estimated that approximately 778,000 children were lacking measles vaccination in the 3 countries at the start of the Ebola outbreak and that monthly vaccination rates decreased by 75%, leading to a monthly increase in susceptible persons of 19,000 among children 9 months to 5 years of age. This estimated increasing risk will almost certainly be compounded by the social and economic disruption caused by the EVD outbreak that results in, among other things, increasing malnutrition and vitamin A deficiency. This increase in unvaccinated children in Sierra Leone, Guinea, and Liberia would also put individuals in contiguous countries not affected by the EVD outbreak at risk of measles. But measles is not the only risk. At the same time, it was estimated that 600,000 children in the 3 countries would fail to receive BCG and polio vaccinations. In addition to disruption of vector control will lead to increased risk of malaria transmission. Treatment of many patients with malaria, human immunodeficiency virus infection, and tuberculosis has been impaired during the EVD outbreak.

As a consequence of this analysis, the authors strongly urge a remedial vaccination campaign to include measles and other targets in order to avoid a new wave of deaths following the resolution of the current EVD epidemic. In recognition of the problem, on 20 March 2014, the World Health Organization (WHO) issued a statement “calling for the intensification of routine immunization services in all areas, and for mass measles vaccination campaigns in areas that are free of Ebola transmission” [2]. WHO pointed out that it recommended mass administration of antimalarial medications to all eligible people in areas strongly affected by EVD. Sierra Leone and Liberia responded with door-to-door distribution from October 2014 to January 2015, reaching an estimated 3 million people. Liberia and Guinea have each stepped up their immunization programs. The need for continued support and intervention during this critical period is apparent.

References

Optimal Treatment of Uncomplicated Malaria due to Chloroquine-Resistant Plasmodium falciparum in Returned Travelers


The US Centers for Disease Control and Prevention (CDC) recommends that returned travelers with uncomplicated malaria due to Plasmodium falciparum acquired in regions where the organism remains susceptible to chloroquine (Central America west of the Panama Canal, Haiti, the Dominican Republic, and most of the Middle East) be treated with this 4-aminoquinoline [1]. In contrast, the CDC recommends that patients with uncomplicated P. falciparum (or unidentified
malaria species) infection acquired in a region with chloroquine resistance receive as their optimal choice either atovaquone-proguanil (AP; Malarone) or artesether-lumefantrine (AL; Coartem), without specifying a preference. Gryenberg and colleagues in Tel Aviv have performed a retrospective study that provides evidence that AL is the better choice in nonimmune travelers.

The investigators reviewed all patients with P. falciparum infection hospitalized at a single institution from 2001 to 2013 during which 44 patients received AP (4 tablets each with 250 mg atovaquone and 100 mg proguanil for 3 days) and 25 received AL (20 mg artemether and 120 mg lumefantrine per tablet with 4 tablets given at 0 and 8 hours and then twice daily for a total of 6 doses). Most infections were acquired in Africa, predominately West Africa.

The time to resolution of fever was significantly faster in those treated with AL compared to those receiving AP: 44 ± 22.7 hours vs 77 ± 28.0 hours; P < .001. The duration of hospitalization was also briefer in the AL recipients (3.18 ± 1.3 vs 5.14 ± 2.8 days; P = .041). Treatment with AP failed in 6 (13.4%) of AP recipients and 1 (4%; P = .41) treated with AL. Three of the 6 AP failures remained parasitemic after receiving a complete course of therapy whereas the other 3 had recrudescence of infection within 1 month. The single AL failure was due to recrudescence in a patient who received only 5 treatment doses. The treatment failure rates in returnees from West Africa were 17% (5/30) among AP recipients and 4.5% (1/22) in those treated with AL.

These results may not be applicable to semi-immune travelers (eg, those visiting family and friends) or to nonimmune travelers returning from Asia, given the relatively small numbers of these included in the analysis by Gryenberg and colleagues. It should also be noted that 93% of the subjects in this analysis were male. Finally, of course, this was not a prospective randomized trial. Nonetheless, it does strongly suggest that AL is the preferred treatment of uncomplicated chloroquine-resistant P. falciparum infection.

Reference

Case Vignette: Legionella Infection of an Infant Born in a Bath


A 6-day-old infant was admitted to hospital with sepsis for which ampicillin and gentamicin were administered. Learning that the infant had undergone water birth supervised by a midwife led to further testing and a diagnosis of infection with Legionella pneumophila serogroup 1. The patient died after 19 days of hospitalization. Investigation uncovered problems with the delivery tub and the water used in the birth. Legionella could not, however, be identified in the bath system which, in the interval, had been drained, disinfected, and placed in storage. Several similar cases of this complication of water birth have previously been reported.

Case Vignette: Toscana Encephalitis in a US Traveler to Italy


An 82-year-old man developed a febrile illness 2 days after returning from a 2-week trip in July to Italy’s Amalfi coast. Fever persisted despite antibiotic administration, and he was admitted to hospital where it was noted that he exhibited increasing apathy and new-onset bilateral hearing loss, as well as a petechial eruption involving his lower trunk and extremities. His platelet count was 109,000 platelets/mm³. Examination of cerebrospinal fluid (CSF) found a protein concentration of 169 mg/dL, glucose level of 59 mg/dL, and 86 nucleated cells/mm³ with 75% lymphocytes. Although other virologic studies were negative, a positive Toscana virus neutralizing antibody test at a titer of 1:32 was detected in CSF. A convalescent serum neutralizing antibody was positive at 1:2460 seven weeks after illness onset. Toscana virus is present in countries along the Mediterranean littoral; in Italy, where the seroprevalence is as high as 50%, it is the most frequent cause of meningitis from May to October.

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