Strongyloidiasis Transcript

MINNESOTA CENTER OF EXCELLENCE IN NEWCOMER HEALTH MICROLEARNING SERIES

Hello, I'm Dr. Andrea Shahum. I'm an infectious disease physician, and I work at Infectious Disease & Travel Clinic with HealthPartners in Minnesota. Welcome to our Microlearning series presented by the Minnesota Center of Excellence in Newcomer Health. This series is designated to help health care providers, clinical teams, and public health workers better understand best practices for refugee health. Today's training will give an overview of the epidemiology of Strongyloidiasis, review of the infection cycle and symptoms, discussion of screening recommendations, and the diagnosis and treatment.

Strongyloidiasis is chronic parasitic infection. Risk factors for acquiring this infection include skin contact with contaminated soil, contact with human waste and sewage. Occupations that require ongoing contact with contaminated soil, such as farming or coal mining, may increase risk of infection.

Strongyloidiasis is widely distributed in the tropics and subtropics. Prevalence in serosurveys of refugee populations ranges from 25 to 46%. Southeast Asia has the highest regional seroprevalence, followed by Sub-Saharan Africa, Latin America and Caribbean.

As previously mentioned, a person gets infected when the larvae penetrate the skin and enter the bloodstream. The larvae then migrate to the lungs and small intestine, where adult females deposit eggs in intestinal mucosa. When infected larvae hatch, some invade the intestine wall and perirectal skin, causing autoinfection. Autoinfection cycle leads to long-term infection in humans if not treated. When infection is symptomatic, it usually presents with dermatologic, respiratory, or gastrointestinal symptoms, which correlates with organs involved within the infection cycle.

Strongyloidiasis infection can have a range of clinical presentations, but most commonly, infection is asymptomatic and might present only with eosinophilia. Among symptomatic patients, mild symptoms are most common. Severe infections such as hyperinfection or disseminated infection are less common but are associated with increased mortality and decreased immunity resulting in enhanced autoinfection.

Who should be screened? All asymptomatic persons who have lived in *Strongyloides*-endemic areas, those with persistent and unexplained eosinophilia, patients with immunosuppression or anticipated immunosuppression.

Chronic strongyloidiasis may be difficult to diagnose because of the limited presence of organisms and, often, intermittent larval shedding. Here are the listed labs used to diagnose strongyloidiasis. Eosinophilia or elevated IgE is seen in 40 to 60%. Although this is non-specific, it should prompt consideration of diagnosis. Serology has high sensitivity and specificity, and it's more sensitive than stool assay but less specific. Stool analysis includes molecular techniques and microscopy. Molecular

techniques have improved stool sensitivity and specificity and therefore preferred. Cytology or histopathology are occasionally used for direct observation of larvae.

Diagnosis is dependent on the suspected type of Strongyloidiasis infection. For asymptomatic or chronic infection with skin or respiratory symptoms, it is recommended to obtain serology only. For chronic infection with GI symptoms, obtain serology and stool PCR. For hyperinfection, obtain serology, stool analysis, and consider blood cultures if bacteremia is suspected.

Treat everyone with a positive or equivocal serology or positive stool tests. Ivermectin is the drug of choice. Adult and pediatric dose for asymptomatic or intestinal disease is a single dose. For hyperinfection, disseminated infection, or possible concomitant *Loa loa* infection, contact an infectious disease specialist. Albendazole is also used in rare cases as an FDA off-label use, however, is considered less effective.

During pregnancy, neither Ivermectin nor Albendazole are recommended and an infectious disease specialist should be consulted. After treatment, all patients should have repeat CBC and serology after six months. Stool samples should be repeated two to four weeks after therapy, if initially positive on microscopy. Treatment is not 100% effective, and therefore persistent or recurrent symptoms or eosinophilia may require repeat treatment**.**

Thank you for listening to today's training. To learn more about strongyloidiasis, please see our FAQ and visit the CDC website.

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