THE PATHCARE NEWS

Schistosomiasis / Bilharzia

Schistosomiasis is a parasitic disease of public health importance. Due to the variable presence of diagnostic laboratory parameters in the natural history of the disease, laboratory findings should be interpreted in the context of the clinical history (including exposures), physical examination and radiological findings. The first laboratory feature of new bilharzia infection, may be an eosinophilia noted on the FBC approximately 3-6 weeks after infection. In endemic settings, the finding of haematuria has been used as an indication of urinary bilharzia infestation, especially in children. Ova appear at approximately 6-8 weeks post infection.

Microscopy

The gold standard for diagnosis is ova demonstrated on urine, stool or in tissue biopsies (e.g. bladder or rectal biopsy). Urine should be collected in the late morning. Stool and urine samples are concentrated to increase yield and *schistosomiasis/bilharzia* microscopy should be indicated on the request form (urine parasite microscopy; stool parasite microscopy). Mild infections may be missed on microscopic examination, due to sensitivity being parasite burden-dependant.

Antibodies

Serology is useful in low prevalence or travel medicine settings. Antibodies may be detected 6-8 weeks after exposure. *Bilharzia* IgM response may indicate recent exposure/infection, while an IgG response suggests recent or past exposure/infection. Bilharzia serology offers useful (though not 100%) sensitivity for excluding established bilharzia exposure/infection. However, false positive results (especially IgM), for example due to animal schistosome, or non-schistosome helminth exposure, may be encountered. In a low prevalence setting, suboptimal specificity hampers the positive predictive value. Serology is not useful to monitor treatment response.

Antigens

A more specific diagnostic strategy, which is advised if bilharzia serology results are unexpectedly positive, is a combination of urine microscopy (for red cells & ova) and the urine circulating cathodic antigen (CCA). Alternatives for unexpected positive bilharzia serology, would be repeat interval serology or the serum circulating anodic antigen (CAA) test.

Treatment

Praziquantel is active against mature adult worms, which are present in the host at 8-12 weeks after infection. This stage of infection corresponds (approximately) with the appearance of microscopic and serological laboratory features. As praziquantel lacks activity against earlier phases of the parasite, it is inappropriate to use as post-exposure prophylaxis. Therapeutic failure may result from too early treatment. Patients with microscopic evidence of infection, should be re-evaluated after 4 weeks to demonstrate clearance. The antigen tests (CCA and CAA) are able to monitor treatment response, becoming negative 2-3 weeks after successful treatment.