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Stan Deresinski, Section Editor

In the Literature

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Pulmonary Hypertension in Schistosomiasis

Lapa M, Dias B, Jardim C, et al. Cardiopulmonary manifestations of hepatosplenic schistosomiasis. Circulation 2009; 119:1518–23.

It is estimated that 4%–8% of individuals infected with *Schistosoma mansoni*, *Schistosoma japonicum*, or possibly *Schistosoma mekongi* develop hepatosplenic disease and that a proportion of those also develop pulmonary arterial hypertension (PAH).

In one of the few examples of unequivocal life-long monogamy, schistosomulae form pairs and continually copulate within mesenteric venules. Some of the several hundred eggs produced each day lodge in presinusoidal periplortal spaces, where they elicit a granulomatous response, with subsequent fibrosis and, in some, portal hypertension. The development of PAH in some patients has been hypothesized to be the result of the development of shunting of blood from the portal to the caval system, with eggs lodging in the pulmonary capillary bed. The actual mechanism is likely to be more complicated than this, because some studies suggest that the development of PAH may occur in the absence of identifiable ova in the pulmonary capillary bed and that the observed histology is often indistinguishable from that seen in primary pulmonary hypertension.

Lapa and colleagues prospectively evaluated the prevalence of PAH in all patients with symptomatic hepatosplenic schistosomiasis who were observed in the gastroenterology department of the hospital of the University of Sao Paulo medical school. Systolic pulmonary artery pressure was calculated as a function of the tricuspid regurgitation jet observed by Doppler echocardiography. By this method, 12 (18.5%) of 65 patients were found to have a systolic pulmonary artery pressure >40 mm Hg. Eleven of the 12 then underwent right heart catheterization (1 patient refused), and PAH was confirmed in 5, representing 7.7% of the total cohort. The presence of pulmonary artery closing pressure ⩾15 mm Hg in 2 of the 5 patients indicated the presence of postcapillary pulmonary hypertension, whereas the other 3 had precapillary hypertension.

The authors estimate, based on their finding of a 7.7% prevalence of PAH in patients with manifestations of hepatosplenic schistosomiasis, that there are >270,000 individuals with PAH related to this infection in the world. If this calculation is correct, PAH adds significantly to the global burden of illness due to schistosomiasis. In places with adequate resources, such as the tertiary referral center in the capital of Brazil where this study was performed, patients with hepatopulmonary schistosomiasis should probably routinely undergo estimation of their systolic pulmonary artery pressure by Doppler echocardiography and, if elevated, right heart catheterization. The latter is important, to distinguish between precapillary and postcapillary disease, because the therapeutic approach to these differ.