Reply to "Clonorchiasis or Paragonimiasis?"

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As mentioned in our previous article,[1] a 23-month-old girl was admitted to our hospital with a 1-month history of progressive cough and a 3-week history of wheezing. Both her chest X-ray and computed tomography showed bilateral ground-glass attenuation and reticular opacities. *Clonorchis sinensis*-specific IgG in serum was positive in a dot immunogold filtration assay established by Wang *et al*.[2] using soluble *C. sinensis* antigen. IgG to other parasites including *Paragonimus westermani*, *Paragonimiasis sichuanensis*, *Schistosoma japonicum*, and *Spirometra mansoni* were all negative. We failed to find any parasites' eggs in the patient's feces. For patients with slight infection or in early stage, it is not easy to detect *C. sinensis* eggs in feces.

In "Clonorchiasis or paragonimiasis", authors advanced that patients may be infected by paragonimiasis. For the patient had pulmonary involvement, we thought she was infected by paragonimiasis. However, we did not find any evidence directly supporting the diagnosis of paragonimiasis.

Clonorchiasis and paragonimiasis may show cross-reactivity in immunological tests indeed. They both could be infected through eating raw freshwater crayfish, causing elevated eosinophils in complete blood count and sensitivity to praziquantel. However, it is indiscreet to insist that the patient had paragonimiasis but not clonorchiasis despite the IgG to paragonimiasis was negative while IgG to clonorchiasis was positive.

Invasive parasitic diseases including lung infections occurred when infected by *Leishmania donovani*, *Plasmodium falciparum*, *Schistosoma haematobium*, *Schistosoma japonicum*, and *Paragonimus westermani*. Pulmonary involvement is common in paragonimiasis but rare in clonorchiasis. Clonorchiasis complicated with pulmonary involvement has been reported in Germany, Korea, and China.[3-5] However, only a few parasites cause diffuse parenchymal lung disease (DPLD). *Strongyloides stercoralis* hyperinfection could mimic accelerated idiopathic pulmonary fibrosis.[6] A case of interstitial pulmonary fibrosis and spontaneous pneumothorax associated with *S. haematobium* was reported in South Africa.[7] In laboratory settings, Retnla-/- mice developed fibrosis in lungs after challenged with *Schistosoma mansoni* eggs.[8] A variety of cytokines (especially Th2 cytokines), chemokines, and growth factors play important roles in regulation of pulmonary fibrosis. *C. sinensis* could have induced DPLD in a similar way as its infection is also associated with Th2 cytokines. The exact mechanism needs further investigation.

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Conflicts of interest

There are no conflicts of interest.

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