Clonorchiasis or Paragonimiasis?

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To the Editor: In recent Chinese Medical Journal, Sheng et al1 reported a case with diffuse parenchymal lung diseases, which was believed to be attributed to the infection of liver fluke Clonorchis sinensis. However, after careful check of the available evidences in this case, we think the case was more probably caused by the infection of lung fluke Paragonimus spp.

Clonorchiasis is majorly caused by eating raw freshwater fish.2 Although it has been reported that crayfish could also cause the infection,3 they are not as important in epidemiology as freshwater fish.2 Reversely, crayfish as well as crabs are important in transmission of paragonimiasis.4 Adults of C. sinensis parasitize in the biliary system and thus could cause liver and biliary disorders.5 Adults of Paragonimus spp. mainly parasitize in lung and thus could lead to the damage of lung.6 Based on these two clues (epidemiological history and clinical symptoms), an infection with Paragonimus spp. could first be assumed in this case.

Other evidences provided by Sheng et al. could not challenge the diagnosis of paragonimiasis. First, immunological test is usually used as auxiliary diagnosis in parasitic diseases due to the cross-reactivity in different parasites. Our team has just evaluated the diagnosis performance of four immunological diagnosis kits for clonorchiasis in China.5 It is found that among the many different heterologous sera from cases with other parasitic diseases (including schistosomiasis, paragonimiasis, trichinellosis, ascariasis, hookworm disease, and trichuriasis), those from paragonimiasis show most serious cross-reactivity to the antigens of C. sinensis.5 Among ten paragonimiasis cases, the false-positive number in four diagnosis kits of clonorchiasis was three, eight, eight, and nine, respectively.5 Second, eosinophilia is an important indicator for many parasitic diseases including paragonimiasis.6 Third, as a broad-spectrum trematodal and cestodal drug, praziquantel is also the first choice for treatment of paragonimiasis.6

In addition, the authors mentioned that the dot immunogold filtration assay established by Wang et al. was applied for the immunological diagnosis in this case.1 However, it is quite confusing that the method by Wang et al. in the reference is used for diagnosis of sparganosis mansoni other than clonorchiasis.8 Wang et al. showed the dot immunogold filtration assay for sparganosis mansoni has light cross-reactivity to clonorchiasis (8%) and serious cross-reactivity to paragonimiasis (52%).6 Although Spirometra mansoni spargana could parasitize in many different human tissues, the parasitizing in lung is infrequent.7 What’s most important is that sparganosis mansoni is usually caused by the ingestion of raw meat of frogs or snakes.7

In a word, although it is ambiguous what immunological diagnosis (for clonorchiasis or sparganosis mansoni) was finally used by Sheng et al., we still think this case was more probably attributed to paragonimiasis. Adult worms of Paragonimus spp. usually parasitize in the lung and discharge their eggs into airways, which eventually come to the outside through sputum.9 In some cases, ova could also be detected in feces.4 Thus, it is common that ova of Paragonimus spp. was not detected in the feces of this case. However, an examination of sputum should have been attempted in this case after the hospitalization, which probably benefits the drawing of a definitive diagnosis.

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Conflicts of interest

There are no conflicts of interest.

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Invasive parasitic diseases including lung infections occurred in Germany, Korea, and China. Pulmonary involvement has been reported in South Africa.

A variety of cytokines (especially Th2 cytokines), chemokines, and growth factors play important roles in regulation of pulmonary fibrosis in lungs after challenged with parasites including Clonorchis sinensis. When infected by C. sinensis, symptoms such as cough and a 3‑week history of wheezing. Both her chest X‑ray andRetnla‑/‑ mice developed hyperinfection could mimic accelerated idiopathic pulmonary parenchymal lung disease (DPLD).

In laboratory settings, Retnla‑/‑ mice developed hyperinfection could mimic accelerated idiopathic pulmonary parenchymal lung disease (DPLD). However, only a few parasites cause diffuse interstitial pulmonary fibrosis and spontaneous pneumothorax associated with C. sinensis. Pulmonary involvement is common in patients with infection of Sparganum mansoni by dot immune-gold filtration assay (in Chinese). Chin J Zoonoses 2008;24:319-21.

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The exact mechanism needs further investigation.

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