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Fever, Cough and Pruritis in a 21-Year-Old Woman

Nader Fayazi [1], Nahal Mansoori [2], Fatemeh Abdollahi Mofakham [1], Payam Tabarsi [2,3], Mohammad Sajadi [4], Davood Mansoori [2,5]

[1] Department of Internal Medicine, [2] Department of Infectious Disease, [3] Mycobacteriology Research Center, NRITLD, Shahid Beheshti University M.C., [4] Department of Infectious Medicine, Institute of Human Virology , University of Maryland, School of Medicine, Baltimore-Maryland, [5] Lung Transplantation Research Center, NRITLD, Shahid Beheshti University M.C., TEHRAN-IRAN.

WHAT IS YOUR DIAGNOSIS?

A 21-year-old woman referred with fever, generalized pruritus, cough and weight loss (about 8 kg) since 2 months ago. She was a housewife, living in north of IRAN. She was in good health before that time. She had no history of smoking or drug consumption and her medical history was negative except for a Cesarean section performed 2 years ago. Physical examination revealed oral temperature of 38.2 ^{0}C and scratch marks all over the body without other abnormalities.

The laboratory findings were as follows: WBC = 14 × 10^3/µl (neutrophils=26%, Lymph=21%, eosinophils=53%), Hb=11/4g/dl (MCV=85 fl), platelet= 269× 10^3/µl, ESR= 25 ml/h, serum IgE= 2400 Iu/ml (normal up to 182). Bone marrow aspiration showed predominance of myeloid series with eosinophilia without any parasite, granuloma or malignant cells. Biochemistry, electrolyte, renal and liver function tests were normal. ANA, anti – DNA(ds), HBsAg , HCVAb and HIVAb were all negative. Angiotensin converting enzyme (ACE) level was normal. The serology of toxocara and echinococcus was negative. Spiral CT-scan of the chest, paranasal sinuses and echocardiography were normal. Spiral CT-scan of the abdomen with intravenous and oral contrast revealed multiple ill-defined hypodense foci in the liver (Figure 1). ***(Tanaffos 2007; 6(4): 63-65)***

Figure 1. Spiral CT-scan of patient

Correspondence to: Mansoori SD
Address: NRITLD, Shaheed Bahonar Ave, Darabad, TEHRAN 19569, P.O:19575/154, IRAN
Email address: dmansouree@yahoo.com

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Diagnosis: Fascioliasis (migratory phase)

The serologic test for Fasciola spp. was reported to be highly positive (ELISA) and triclabendazole was administered. After two weeks, fever and pruritus disappeared. At the second visit (3 months later), the patient did not have any complaints and had gained 7kg in weight .Although in this patient CT scan of the chest was completely normal and cough disappeared after therapy. At this time laboratory findings showed: WBC=7/3× 10^3/µl (neutrophil=61%, lymph=32%, eosinophil=7%) and spiral CT-scan of the abdomen with intravenous and oral contrast revealed a significant decrease in the size of the hypodense foci in the liver (Figure 2).

Figure 2. Spiral CT-scan of patient

Fasciola hepatica and *Fasciola gigantica* belong to the trematode family and are named sheep liver fluke. Mature worms in their natural host (mainly sheep and cattle) live in the common bile duct where they deposit their eggs. After completing their development in the fresh water, humans are infected by swallowing metacercarie on aquatic plants (watercress, water caltrops, waterlettuce, mint and parsley) or drinking contaminated water and occasionally by serving food in contaminated containers. In the small intestine excysted metacercarie penetrates into the peritoneum then liver where they pass through to the biliary tract. Adult fluke can live as long as 10 years in the biliary tract. This infection has two phases. The first (migratory or acute) begins from intestinal penetration until adult worms reach the bile ducts. Marked eosinophilia, abdominal pain, intermittent fever, weight loss, urticaria with or without increase in liver enzymes are characteristics of this phase of infection. In the second phase, adult worms stay in bile ducts and patients are asymptomatic or may have symptoms due to inflammation and intermittent obstruction of bile ducts. The diagnosis during the acute phase is based on epidemiology, clinical picture and often characteristics of the lesions on imaging of the liver particularly via CT-scan (1). Serologic tests are often useful during the acute phase because symptoms develop 1-2 months before eggs are detectable in the stool. Although stool exam is positive in about 25% of patients in this phase, sensitivity of serologic test is about 90% (2).

First line treatment is with triclabendazole (the drug of choice)(3,4). Rate of cure is about 80% with a single oral dose of 10 mg/kg and more with the second dose (if the first was ineffective). Alternative drugs are bithionol and nitazoxanide (limited experience reported with the latter) although metronidazole and praziquantel may also be effective (5). Infection with liver fluke is widespread throughout the world. Global prevalence of infection in humans is more than 3 million with the highest

rates in Bolivia, Peru, Egypt, Iran, Portugal and France. Some evidences suggest that in an endemic area human – to – human transmission may occur although the infection is usually transmitted to humans from infected sheep and cattle (6).

Fascioliasis is not uncommon in north of Iran (around the Caspian sea) and as many as 100 cases per year are reported in this area.It is estimated that in this part of the country about 1% of the population are infected by *Fasciola spp*.(6). Although *F.hepatica* is the main cause in many parts of the world, *Fasciola gigantica* has been reported to be the predominant species in Iran (7).

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