CASE REPORTS

A PEDIATRIC CASE OF RADIOLOGICALLY DIAGNOSED FASCIOLA HEPATICA

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Abstract

Fasciola hepatica (F. hepatica) is a parasitic infection encountered in many parts of the world, especially in developing countries. A 10-year-old girl presented with nausea and gastric pain who had normal physical examination and laboratory tests, except abdominal ultrasonography which showed the findings compatible with F. hepatica. Ten days later, significant eosinophilia was detected in the blood sample, and F. hepatica serology was found to be positive. Triclabendazole was started in a single dose of 10 mg/kg, and the same dose was repeated one month later. The patient well responded to this treatment, and thereafter full recovery was observed. The control abdominal ultrasonography performed two months later was normal. In conclusion, we argue that the radiological techniques may be beneficial in the early diagnosis of F. hepatica. Early treatment may prevent the severe complications.

Keywords: Fasciola hepatica, diagnosis, radiology, triclabendazole, child

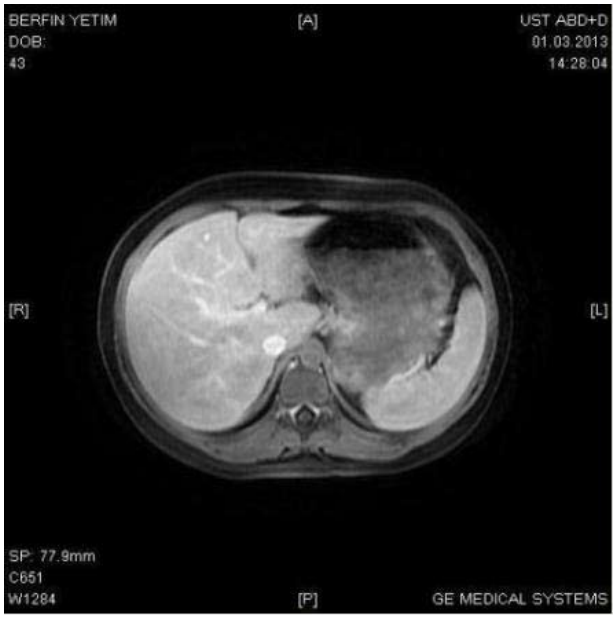
Introduction

Fasioliasis, caused by Fasciola hepatica (F. hepatica), is a zoonotic disease that is seen rarely in Turkey and neighboring countries. It is more common in Africa, West Europe and Latin America. It is thought that approximately 2.4 million people are infected by fascioliasis and 180 million are at risk of infection. (1-3) The diagnosis could be difficult to confirm in countries where the serological tests are not in routine use, the absence of ova in the stool in the acute phase, and the low and intermittent egg production of the parasite in the chronic phase. Parasites are sometimes detected incidentally during operations or invasive and non-invasive imaging procedures. (4,5). Radiological findings can often demonstrate characteristic changes, and thereby, assist in the diagnosis of fascioliasis. (6, 7)

Case Report

A 10-year-old girl was referred to our polyclinic with the complaints of nausea and gastric pain which begun one month ago. Physical examination revealed a body temperature of 370C, pulse rate 90/minute, respiratory rate 20/minute, and arterial blood pressure 110/80 mmHg. On laboratory examination, complete blood count (absolute eosinophil count: 420 cells/cumm) and blood biochemistry were normal. Abdominal ultrasonography (USG) revealed the findings of parenchymal phase of fascioliasis which were focal hyperechoic lesions, and diffuse involvement of the liver. Abdominal contrast-enhanced T1W magnetic resonance imaging (MRI) showed round, clustered hypointense lesions with peripheral contrast enhancement in the liver (Figure 1). After 10 days of the first examination, significant eosinophilia (absolute eosinophil count: 2650 cells/cumm) was detected in the blood sample. At the same time, indirect hemagglutination test for F. hepatica was 1/320 positive. Triclabendazole was given in a single dose of 10 mg/kg, and the same dose was repeated one month later. Patient responded to this treatment and eosinophilia subsided (absolute eosinophil count: 630 cells/cumm). Abdominal USG done after two months of the treatment was normal.

Figure1: T1W magnetic resonance imaging demonstrates round, clustered hypointense lesions with peripheral contrast enhancement in the liver



Discussion

Fasciola hepatica infection has two disease stages; the hepatic (acute) and biliary (chronic) stages. In the acute phase of the disease, it causes inflammation, necrosis, and subcapsular hemorrhages in the liver. In this phase, patients present with fever, right upper quadrant abdominal pain, nausea, vomiting, urticaria, jaundice, and hepatomegaly associated with eosinophilia. Our patient presented with nausea and gastric pain. In the chronic phase, the flukes reside in the bile ducts or extrahepatic locations. In this phase, patients may be asymptomatic or may have symptoms due to cholangitis, cholestasis, pancreatitis, or biliary obstruction. (8)

Ultrasonography is more useful diagnostic tool for F. hepatica infections in the early phase. (6) As seen in our patient, in the parenchymal phase of F. hepatica the USG findings are focal hypoechoic or hyperechoic lesions or diffuse involvement of the liver. (7) Magnetic resonance imaging demonstrates parenchymal clustered lesions, which are isointense on T1W images, with peripheral contrast enhancement after contrast administration. (7) Except the lesions which were hypointense, MRI findings of our case

were in accordance with radiological findings of the F. hepatica. Eosinophilia will be seen after the initial symptoms. (6) Similarly, 10 days after diagnosis, eosinophilia was observed in present patient. Her stool examinations were negative for parasite ova. The easiest means of establishing the diagnosis is visualization/demonstration of ova in the stool but it has low sensitivity. (9) Parasite cannot be seen in the stool so that serological tests are necessary to confirm the diagnosis as seen in present case.

Triclabendazole is recommended drug for treatment of fascioliasis because of its efficacy and safety. (10) Our patient responded to the same.

Conclusion

Infection due to F. hepatica is an important problem in the developing countries. Systemic parasitic infection should be considered among patients with gastric pain and nausea. We argue that the radiological techniques may be beneficial in the early diagnosis. Because the late or misdiagnosis is frequent and may lead to unnecessary surgical procedures such as cholecystectomy and/or hepatic segmentectomy, early diagnosis and treatment is important.

Financial disclosure and conflict of interest: None

Note: This case has been reported as a poster presentation at the "5thEurasia Congress of Infectious Diseases" conducted on 15-18 May 2013 in Tirana-Albania.

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E-published: 1st December 2013 Art # 67

DOI: 10.7199/ped.oncall.2013.67

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