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## Case Report

# Successful Treatment of *Fasciola hepatica* with Metronidazole in a Child: A Case Report

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***Abstract***

*Fasciola hepatica* is a zoonotic liver trematode that usually causes infection in cattle and sheep, and is transmitted to humans by consuming water and aquatic plants contaminated with metacercaria. The detection of *Fasciola* eggs in stools, serological evaluation and radiological evaluation are essential for diagnosis. Triclabendazole is the first-line therapy for fascioliasis. However, as triclabendazole is not an easily accessible drug in countries such as Turkey, it reveals a quest for alternative therapies. In this report, we present a 10-year-old boy with fascioliasis successfully treated with a course of metronidazole 1.5 g/day for 3 weeks in 2020. During the follow-up, eosinophilia and radiological findings completely recovered. Here we report a case of pediatric fascioliasis that was cured with metronidazole successfully.

## Introduction

*Fasciola hepatica* is a zoonotic liver trematode that usually causes infection in cattle and sheep, and is transmitted to humans by consuming water and aquatic plants contaminated with metacercaria. The detection of *Fasciola* eggs in stools, serological evaluation and radiological evaluation are essential for diagnosis. Triclabendazole is the first-line therapy for fascioliasis (1). However, as triclabendazole is not an easily acces-

sible drug in countries such as Turkey, it reveals a quest for alternative therapies.

Here we report a case of pediatric fascioliasis that was cured with metronidazole successfully.

## Case Report

A 10-year-old asymptomatic boy was referred to the Pediatric Infectious Diseases Outpatient Clinic of the Marmara University School of Medicine, Istanbul, Turkey for further evaluation of his peripheral eosinophilia in 2020. Patient consent has been obtained from the patient to share the details of his condition. Patient history revealed he lived in a rural area with his family on a farm.

No findings except hepatomegaly were detected on physical examination. Laboratory tests revealed marked eosinophilia (31%) with normal total IgE level. Abdominal ultrasonography showed hepatomegaly, a linear, hypoechoic lesion at liver segment 6, and a 2-cm lymphadenopathy at the portal hilus level. In abdominal Magnetic Resonance Imaging (MRI), subcapsular lesions with subtle, irregular borders and lymphadenopathy at the level of liver segment 6 was detected (Fig.1). *Fasciola* serology could not be applied due to technical insufficiency. Stool examination was negative for *Fasciola* eggs. An ultrasound-guided liver tru-cut biopsy was performed and in the biopsy material, eosinophil-rich abscess formation was observed around the necrosis supporting the diagnosis of *F. hepatica* infection. The patient was diagnosed with fascioliasis with clinical, radiological and pathological findings.

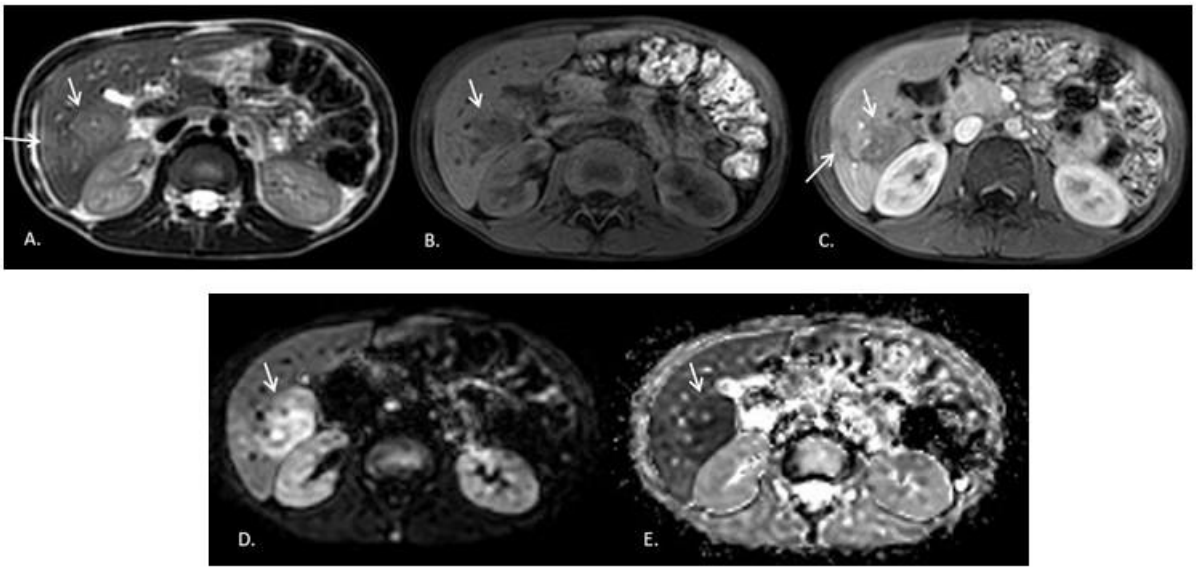


**Fig. 1:** Magnetic Resonance Imaging (MRI) of liver: axial plane images show subcapsular lesions with subtle, irregular borders in the right lobe of the liver (segment 6), slightly hyperintense in T2WI (A), hypointense in T1WI (B), without significant contrast enhancement after gadolinium injection (C). The lesions show diffusion restriction according to DWI (D) and ADC map (E)
T2WI: T2 weighted image
T1WI: T1 weighted image
DWI: diffusion weighted imaging
ADC: apparent diffusion coefficient

Three weeks of 1.5 g/day metronidazole treatment was initiated due to the inaccessibility of triclabendazole (2). After 3 weeks of metronidazole treatment eosinophilia returned

to normal and abdominal ultrasonography and MRI showed complete resolution of the lesions. During 12 months of follow up, he was asymptomatic with no eosinophilia or new hepatic lesions.

## Discussion

In the life cycle of *Fasciola*, humans are an accidental host and are infected by drinking water or eating plants contaminated with metacercaria (1). Our patient had no history of drinking contaminated water but he was living in a rural area.

The parasites invade the liver and settle down in the biliary tract where they become mature and produce eggs that are excreted with stool. Fascioliasis includes 4 clinical stages: Incubation phase, acute phase, latent phase and chronic phase (3). Our patient's stage corresponded to the beginning of the chronic phase due to the presence of eosinophilia and lack of symptoms.

First line treatment of fascioliasis is triclabendazole but it is not available in Turkey. The process of receiving a supply of the drug from abroad is often prolonged and expensive. Nitazoxanide, praziquantel and bithionol are also other unachievable treatment options in Turkey. For this reason, we looked for an alternative drug. Mansour-Ghanei et al reported that metronidazole 1.5 g/day for 3 weeks is an effective treatment for adults and underlined it could be applied on children (2). Herewith we started metronidazole at 1.5 g/day for 3 weeks and started the process for receiving a supply of triclabendazole from abroad. During 12 months of follow up, our patient was cured with metronidazole and had no need for triclabendazole.

The diagnosis and treatment of *F. hepatica* is a challenging situation as it is rare in non-endemic areas and can be asymptomatic in patients. Metronidazole is a promising, well-tolerated treatment option of fascioliasis in children. To the best of our knowledge, our patient is the first cured pediatric case of *F. hepatica* with metronidazole in the literature.

## Financial Supports

None.

## Conflict of interest

We declare that we have no conflict of interest.

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