

Relapsed cholangitis revealing hepatic distomatosis in western Algeria apropos of a case

Summary

Fascioliasis is a worldwide but unevenly distributed zoonosis caused by the trematode *Fasciola hepatica* that infects domesticated herbivores. Fascioliasis also occurs accidentally in humans through ingestion of freshwater or aquatic plants laden with metacercariae. Human infections are common in developing countries and not uncommon in Europe, and rare in Algeria. The clinical evolution has been classically described in two phases: an acute phase of hepatic parenchymal invasion of an immature worm larva (parenchymal phase) and a stationary phase after stay in the bile duct and egg production (ductal phase). We report a case of a 50-year-old man from Tlemcen, western Algeria, with cholangitis (liver disorder, abdominal pain and jaundice). The diagnosis was confirmed by serology. The serological examination (Western Blot) was positive and the results of magnetic resonance imaging were compatible with fascioliasis.

Keywords: cholangitis, fasciola hepatica, watercress, jaundice

Volume 14 Issue 1 - 2023

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Received: 04th Jan, 2023 | **Published:** February 13, 2023

Introduction

Distomatoses are cosmopolitan zoonoses caused by trematodes: *Fasciola hepatica* and *F. gigantica*.¹ Global prevalence has exceeded three million cases.²

In Algeria, only hepatobiliary distomatosis, or *Fasciola hepatica* fasciolosis, called large liver fluke, is pathogenic for humans. These are rare and sporadic cases.

The disease presents in the invasion phase with non-specific digestive disorders, asthenia, myalgia. Complications are mechanical and inflammatory: retentional jaundice, hepatic colic attacks, access of cholangitis, cholecystitis.

The biological diagnosis is essentially based on the search for antibodies on serum. Diagnosis of a suspicion of distomatosis requires the search for circulating antibodies by immunoenzymatic technique (EIA or "ELISA") or indirect hemagglutination (HAI) and by immunoblotting (IE "Western blot").³ The treatment of fascioliasis is based on 2 doses of 10mg/kg of triclabendazole administered 12 hours apart, orally. Nitazoxanide 500mg orally twice a day for 7 days may be effective, but data are limited. We are going to report a case of hepatic distomatosis due to *Fasciola hepatica* diagnosed following cholangitis

Case report

A 50-year-old man, married father of 03 children, originally from Beni Senouss in Tlemcen, director of a professional company, with no known medical and surgical history consulted within the infectious disease department in July 2021 for: fever, sweats, dry cough, abdominal pain and progressive constipation for 10 days

Clinical examination is normal

Radiologically: Chest X-ray and abdominal ultrasound are normal

Biologically: normal hemogram, C-reactive protein CRP at 342mg/L, sedimentation rate at 68 at the first hour

- The RT-PCR of SARS-cov19 is negative; IgG positive serology, WRIGHT and Widal-Félix serology are negative.
- The patient was treated by Azythromycin then Ciprofloxacin but without significant improvement.

- Ten days after the patient describes an exacerbation of abdominal pain.
- A second assessment was made: the white-cell count was 17400/mm³ with 15 percent eosinophils, the platelet count was 148000/mm³. Elevated bilirubin and hepatic enzymes were seen in blood exam (ALT: 189 U/lit, AST: 167U/lit, Alk-ph: 540U/lit, Bil-T:25.2mg/dl, Bil-D: 12.2mg/dl).
- A hepatic ultrasound showed dilation of the main bile duct without visible obstacle, the patient was hospitalized with triple parenteral antibiotic therapy based on cefotaxime, gentamycin and metronidazol.
- Control blood count: hyperleukocytosis with predominance of eosinophils at 8600 elements per milliliter of blood.
- The interrogation finds the notion of consumption of Cresson and seminal cases of his family.
- The search for *Fasciola hepatica* eggs in the stools comes back negative.

Serology by immune blot (Western Blot) confirmed the diagnosis of hepatic distomatosis due to *fasciola hepatica* (Figure 1).

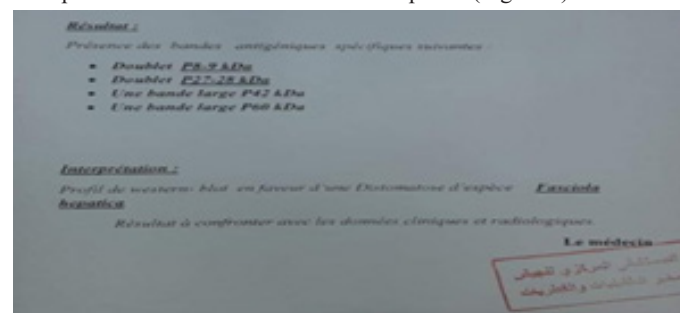


Figure 1 western blot of fasciola hepatica distomatosis.

The patient was treated with triclabendazole 10mg/kg for three days with a good clinical and biological evolution. Three months later, the patient repeated the same clinical and biological picture with fever, sweating, hepatic colic, weight loss of five kilograms,

hyper eosinophilia at 6500 elements per milliliter, hepatic cytolysis three times normal and CRP at 196mg/l. The Hepatic magnetic resonance imaging (MRI) showed an heterogeneous harmonious hepatomegaly by the presence of a poorly circumscribed hypovascular area most likely corresponding to a vermicular appearance with signs of cholangitis. Stool parasitology revealed viable eggs of *Fasciola hepatica*, the patient was treated a second time by Praziquantel in trios taken for a single day with antihistamines.

- There were no adverse effects.
- The control hepatic assessment normalized after 15 days.
- Eosinophil count returned to normal after one month.
- After a regular clinical-biological follow-up for six months, the patient was declared cured.

Discussion

Hepatobiliary distomatosis or fasciolosis is a parasitic condition due to the invasion of the liver and bile ducts by a species of Trematode, *Fasciola hepatica* commonly called Great liver fluke, it is a zoonosis which mainly affects ruminants. Humans become infected by ingesting plants contaminated with metacercariae,⁴ which is very popular in all regions of herbivore breeding,⁵ with the exception of cold areas such as Canada, northern Scandinavia, Iceland and Siberia.⁶ Foodborne trematodiasis is an emerging public health problem, particularly in Southeast Asia and the Western Pacific region.⁷ There are two main species affecting cattle in Algeria, namely *Fasciola hepatica* which causes a trematode disease that is endemic in our country and *Dicrocoelium dendriticum* or small liver fluke.⁶

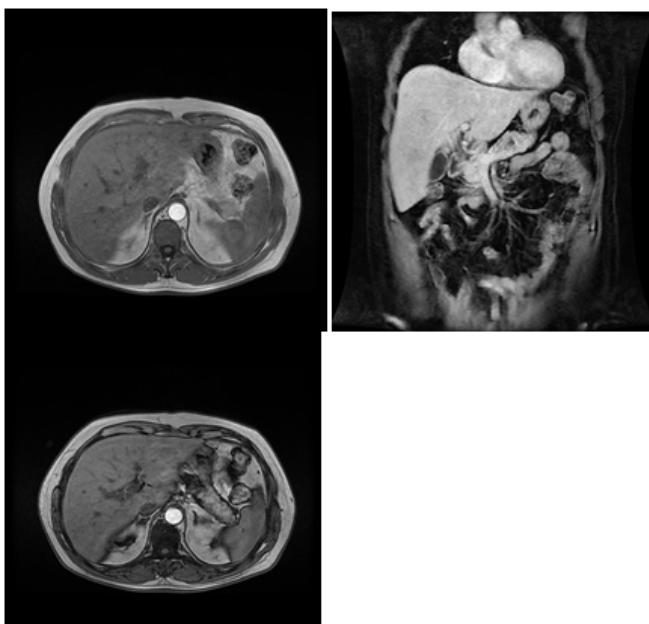


Figure 2 Hepatic magnetic resonance imaging (MRI) which shows harmonious hepatomegaly with hypovascular areas and vermicular aspects.

In Algeria, studies on hepatobiliary distomatosis caused by *Fasciola hepatica* and its vector, although they date back to the 1800s, remain insufficient compared to those carried out, for example, in Europe. Cases of human distomatosis have been reported by SENEVET and CHAMPAGNE in 1928 and 1929 (8) and by Guy et al. in 1969 5.⁹ The territory of Beni Snous is located in the mountains of Tlemcen, 41km southwest of Tlemcen, has a hot Mediterranean climate with dry summer (Figure 03).

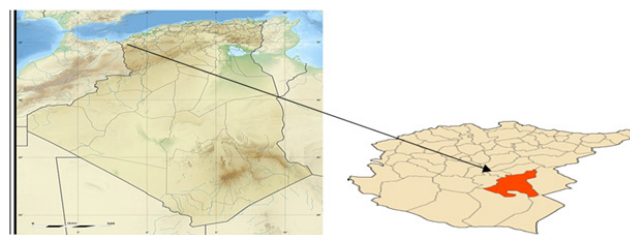


Figure 3 Geographical location of the commune of Beni Senous in western Algeria.¹⁶



Figure 4 Beni Senouss Tlemcen sink.¹⁷

The clinical picture of our patient was more or less typical with the association of infectious, respiratory and hepatic syndrome, we were influenced by the occurrence during the third wave of COVID 19 which caused a delay in diagnosis.

The contamination was summer unlike the cases published by D. Szymkowsk (5) where the contamination was in winter.

Clinically, our case was comparable to the two cases published by Seyed Farshi¹⁰ in IRAN who were operated for suspected cholelithiasis.

As soon as the diagnosis of hepatic distomatosis was suspected, we proceeded to an investigation in the entourage of our patient. We know, in fact, the familial character of the disease, due to the fact that it is at the family table that the infestation occurs. The disease can also present a frankly epidemic character. It spreads all the more as infesting watercress becomes more popular and more successful within the population considered. Our patient had stayed around a reviere in beni senouss and had consumed watercress with other family members composed of 07 members the cases of hepatic distomatosis thus detected were trivial in terms of their clinical and biological expression, and in terms of their evolution, also trivial, towards recovery, under the effect of treatment (Albendazol)

- Two brothers 47 years old and 43 years old who had the same symptomatology but without relapses
- The 84-year-old mother with chronic renal failure was asymptomatic diagnosed by screening
- The 42-year-old wife who had a minor form of simple hepatic colic
- Two cousins who developed cytolytic hepatitis

The great polymorphism of the clinical picture presented by the parasitized people around this small epidemic has been reported by several series of literatures such as that of Rondelaud.¹¹

Human distomatosis is rare in Algeria¹² like the Maghreb countries and in France, but frequent in certain countries such as Egypt¹³ where a seroprevalence of human hepatic distomatosis has reached 18%.¹⁴ However, several studies have revealed a considerable frequency of animal hepatic distomatosis¹⁵ we can wonder about the causes behind this decrease in human cases, especially when we know that the animal reservoir of the disease is important (cattle) the change in diet could constitute a valid hypothesis to explain thereby.

Acknowledgements

None.

Declaration of conflict of interest

The authors declare that they have no known competing financial interests or personal relationships which might appear to influence this article.

Funding

None.

References

1. Keiser J, Utzinger J. Emerging foodborne trematodiasis. *Emerg Infect Dis*. 2005;11(10):1507–1514.
2. M Sanei Taheri, Aminzade Z, Shokohi SH, et al. Hepatobiliary fasciolosis: clinical and radiological features. *Iran J Parasitol*. 2007;1;2(4):48–55.
3. HAS: Update of medical biology procedures relating to the diagnosis of *Fasciola hepatica* distomatosis. 2018.
4. Dorchies P, Heskia B. The Great Moat Observatory Results of a survey of 520 cattle during the winter. Nantes, France: Collection of Conferences of the National Days of the GTV; 2007. 853–858.
5. Szymkowisk D, Rondelaud D, Dreyfus G, et al. Epidemiological study of 69 cases of human distomatosis due to *Fasciola hepatica* occurring in the Haute Vienne department between 1981 and 1998. *Med Mal Infect*. 2000;30:262–269.
6. Al–Atrakji O. Contribution to the study of some biochemical parameters during fascioliar infestation. Thesis. *Mag Vet Constantine*. 2004. 153p.
7. Sabourin E, Alda P, Vázquez A, et al. Impact of human activities on fasciolosis transmission. *Trends Parasitol*. 2018;34:891–903.
8. Senevet G, Champagne R. Third Algerian case of human distomatosis due to *Fasciola hepatica*. Good effects of Stovarsol. *Bull Soc Pathol Exot*. 1928;21:222–224.
9. Guy Y, Khati B, Rocha E, et al. Hepatic distomatosis caused by *Fasciola hepatica*. About a Case. *Arch Inst Pasteur Algeria*. 1969;1:67–73.
10. Farshi S, Hedayeye A. A Contribution to the study of hepatic distomatosis in IRAN, report of two cases of distomatosis operated on as cases of cholelithiasis. *Acta Medica Iranica*. 1985.
11. Rondelaud D. [Epidemiological data on human distomatosis (*Fasciola hepatica* L.) in the Limousin region of France. The species of plants eaten and snail hosts]. *Ann Parasitol Hum Comp*. 1980;55(4):393–405.
12. Coumbaras A. Hepatic distomatosis in Algeria. *Ann Parasitol Hum Comp*. 1966;41(1):71–77.
13. Hassan MM, Moustafa NE, Mahmoud LA, Abbaza BE, Hegab MH. Prevalence of *Fasciola* infection among school children in Sharkia Governorate, Egypt. *J Egypt Soc Parasitol*. 1995;25(2):543–549.
14. Safar E, Mikhail E, Bassiouni G, et al. Human fascioliasis in some areas in Cairo and Giza Governorates, Egypt. *J Egypt Soc Parasitol*. 2005;35(1):181–192.
15. CHOUGAR, Linda, Harhoua, et al. Study of bovine hepatic distomatosis from the slaughterhouses of three wilayates (Tizi–Ouzou, Bouira, Bejaia). 2000.
16. Algeria_relief_location_map.jpg
17. <https://www.vitamedz.com/photos/41/41335–khemis–beni–snous–mfiteh–abdelatif.jpg>