Journal of african clinical cases and reviews / Journal africain des cas cliniques et revues

www.jaccrafrica.com ISSN 1859-5138 Open access

Clinical case

Etiological research of paediatric jaundice revealing hepatic schistosomiasis in a case at the Reference Health Centre of Commune II of Bamako. Mali

Recherche Étiologique d'un ictère pédiatrique révélant une Bilharziose hépatique à propos d'un cas au Centre de Santé de Référence de la commune II de Bamako. Mali

D Coulibaly*[1], MB Coulibaly[2], S Diallo[3], I Sidibé[5], AB Sidibé[7], M Sangaré[1], K Ouattara[1], A Doumbia[9], M Dembélé[8], M Diabaté[6], AS Diassana[1], F Sylla[1], K Ba[1], F Kané[3], A Dembélé[1], N Doumbia[4]

Résumé

La schistosomiase est une maladie parasitaire provoquée par des vers plats appelés schistosomes. La bilharziose intestinale à Schistosoma mansoni est très souvent latente chez les sujets, d'autres localisations ectopiques (foie, poumon, cœur) sont aussi signalées. Nous rapportons le cas d'un enfant de 8 ans qui avait présenté un ictère franc, altération de l'état général, hépatomégalie apparut depuis une année. La perturbation des fonctions hépatiques avec une légère anémie a été observée, le scanner abdominale avait montré un foie dysmorphique, globuleux de contours irréguliers de rehaussement hétérogène avec dilatation modérée des voies biliaires intra et extra hépatiques. L'examen microscopique après prélèvement de trois fragments de la muqueuse rectale met en évidence des œufs de schistosoma hematobium. Le diagnostic de bilharziose hépatique a été posé. La prise en charge a consisté au traitement avec le praziquentel 600, l'albendazole 400 mg et le duphalac.

Il faut penser à la bilharziose hépatique face à notre situation en zone endémique, la présence des antécédents médicaux du patient et toute la sémiologie clinique à travers un bon raisonnement clinique pour éviter le coût élevé lié à la prise en charge de cette maladie et son évolution chronique.

Mots-clés : Recherche étiologique, ictère pédiatrique, bilharziose hépatique.

Abstract

Schistosomiasis is a parasitic disease caused by flatworms called schistosomes. Intestinal schistosomiasis caused by Schistosoma mansoni is very often latent in subjects, other ectopic locations (liver, lung, heart) are also reported.

We report the case of an 8-year-old child who had presented with frank jaundice, alteration of the general condition, hepatomegaly appeared for a year. Disturbance of liver functions with slight anaemia was observed, abdominal CT scan had shown a dysmorphic, globular liver with irregular contours of heterogeneous enhancement with moderate dilation

of the intra- and extra-hepatic bile ducts. Microscopic examination after sampling three fragments of the rectal mucosa reveals schistosoma hematobium eggs. The diagnosis of hepatic schistosomiasis was made. Management consisted of treatment with praziquentel 600, albendazole 400 mg and duphalac.

It is necessary to think about hepatic schistosomiasis in the face of our situation in an endemic area, the presence of the patient's medical history and all the clinical semiology through good clinical reasoning to avoid the high cost associated with the management of this disease and its chronic course.

Keywords: Etiological research, paediatric jaundice, hepatic schistosomiasis

Introduction

Schistosomiasis is a parasitic disease caused by flatworms called schistosomes (1). It is a global public health issue because it is the second endemic in the world after malaria (1,2).

More than 200 million people harbour bilharzia and 120 million of them are sick with it (800,000 deaths/year). It is estimated that at least 92% of people in need of treatment live in Africa. Schistosomiasis particularly affects poor populations of farmers and fishermen. It also concerns the lack of hygiene and certain play habits of school-age children, such as swimming or fishing in infested waters, which make these children particularly vulnerable to infection (2). In Mali, epidemiological surveys carried out by the National Programme for the Control of Schistosomiasis show that the entire country is affected by this disease, with the prevalence still high (3).

Intestinal schistosomiasis caused by Schistosoma mansoni is very often latent in subjects undergoing successive reinfestations. Acute manifestations, such as bloody glairous diarrhea, are more common when it is a first contact with the parasite (4). Other ectopic sites (liver, lung, heart) are also reported (5).

Through this observation, we report the case of hepatic schistosomiasis in an 8-year-old child diagnosed clinically and through additional examinations.

Clinical case

An 8-year-old male student living in a rural area consulted us on 03/03/2022 for frank jaundice in our medical clinic (Figure 1). The onset of the disease dates back to February 2021 with the same symptomatology or his parents took him to a health district without success. Then he was referred to another district for care with a higher technical platform where he receives a positive Hbs serology assessment. Faced with this clinical picture, the child was referred once again to a third referral center.

In this third-reference structure, the patient received a battery of analyses to deepen the investigations. The immunological assessment carried out on 15/02/2021 as well as the serology of hepatitis B, C, A and HIV which came back negative. The anti-smooth muscle-screening and titration antibody (IFI-Triple substrate) and the anti-LKM6 endoplasmic reticulum-screening antibody (IFI-Triple substrate) were below 80 and 40, respectively, made on 26/04/2021. The haematological assessment of 16/02/2021 had found a mild anaemia with the level of haemoglobin at 10.2g, haematocrit at 33%, MCV at 87.6 fl, TCMH at 27.1 pg and CCMH at 30.9% and the rest was normal. The prothrombin level was 25%. Biochemistry showed an elevation of total bilirubin, direct and indirect with 278.4 mg/dl, 176.5 mg/dl and 101.9 mg/dl respectively, but creatinine was at 28 micromol/l. While ASAT/TGO was at 963 IU/L and ALT/TGP at 803 IU/L. Hemoglobin electrophoresis noted the presence of Hb F and serum protein electrophoresis showed a decrease in the A/g ratio, a decrease in Albumin and a decrease in Alpha 2. Abdominal ultrasound of the same period had shown the appearance of homogeneous hepatomegaly and a generalized thickening of the vesicular wall, all of which could suggest hepatitis and no dilation of the intra- and extra-hepatic bile ducts. With treatment received without success.

Faced with the persistence of the symptoms, the parents did another traditional treatment without

result.

On clinical examination in our structure, an alteration of the general condition, frank jaundice with dark urine, epistaxis (Figure 1) was noted. Examination of the abdomen found globular hepatomegaly. The rest of the physical examination was unremarkable. The discovery of a history of urinary schistosomiasis in childhood was found but without a surgical history, his vaccination schedule was complete.

The assessments we gave included: haematology, biochemistry, abdominopelvic CT scan, anoscopy, rectal mucosal biopsy, stool culture, ECBU and POK stool. The various conclusions noted the dysmorphic liver, globular with irregular contours of heterogeneous enhancement with moderate dilation of the intra- and extra-hepatic bile ducts. This aspect leads to a priori suspicion of chronic liver disease. Microscopic examination after sampling three fragments of the rectal mucosa reveals schistosoma hematobium eggs and the detection of grade I internal hemorrhoids. The PT and TCA were at 69% and 35s respectively. We also noted an increase in total and direct bilirubin, AST, and ALT with 130.9 micromol/l, 113.3 micromol/l, 215 IU/l and 118 IU/l, respectively. In view of all these elements, we concluded that hepatic parasitosis was diagnosed due to the schistosome.

To do this, the patient was put on praziquantel 600 mg, albendazole 400 mg and duphalac. Three months later (18/06/2022), the patient's general condition had returned to normal, jaundice and other signs disappeared. Microscopic examination after sampling three fragments of the rectal mucosa did not reveal schistosome eggs. The other complementary examinations were unremarkable. The course was favorable with a cure (Figure 2).

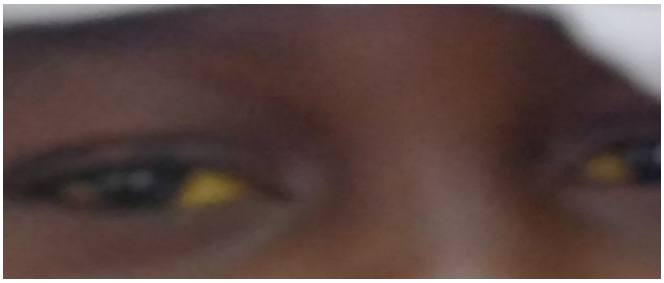

Figure 1: Jaundice before anti-parasite treatment

Figure 2: Disappearance of jaundice after anti-parasite treatment

Discussion

According to Dramane Z, boys are more infested than school-age girls in terms of bilharzian infestation, but the phenomenon is reversed in adults, with women being more infected than men (6). This confirmed the case of our case observation which was an 8-year-old boy.

For Soko T O, the circumstances of discovery are varied: hepatomegaly, alteration of the general condition with fever and abdominal pain, initial digestive hemorrhage (7). However, in endemic areas, hepatomegaly and splenomegaly can be observed in 35% and 15% of cases, respectively, according to Doehring-Schwerdtfeger E et al (8). But ascites is much later, as are the manifestations of hepatocellular insufficiency due to a long-preserved hepatic arterial vascular perfusion (6). In our case, an alteration of the general condition, frank jaundice with dark urine, epistaxis and globular hepatomegaly were noted.

Klotz F et al, iron deficiency anemia and hypereosinophilia may be observed, endoscopic examination may inconsistently (50% of cases) reveal granulations that sometimes confluent in a candle spot within an oedematous mucosa, sometimes with patches of superficial ulceration. Polypoid formations and hemorrhagic suffusions can also be observed (9). However, ultrasound is insufficient to diagnose the early forms of the disease for Lanuit R et al (10). In our observation of chronic evolution, the patient had developed normochromic and normocytic anemia with an abnormal increase in liver test values. An abdominal-pelvic CT scan performed by the patient had noted a dysmorphic, globular liver with irregular

contours of heterogeneous enhancement with moderate dilation of the intra- and extra-hepatic bile ducts but no malformation of the bile ducts.

The indirect parasitological diagnosis of the infection is made by hypereosinophilia, which is sometimes difficult because, on the one hand, it occurs in subjects that are often polyparasitized and, on the other hand, its values are not necessarily very high according to Soko T O et al (7). While direct parasitological diagnosis is based on the search for eggs in the host's excreta (feces, urine) is the most common technique for demonstrating the presence of adult worms and remains the reference method for all other diagnostic techniques. Particularly specific (close to 100%), simple to carry out (7). But rectal biopsy is the most sensitive research method, equivalent to a series of three stool tests [6,7]. It is preferable to perform three biopsies, as this method increases the sensitivity of the technique (9). In our case, we did not note hypereosinophilia, but schistosome eggs were found in the three rectal mucosal samples.

ForMeltzerEetal,themolecule[2-cyclohexylcarbonyl-1,2,3,6,7,11b-hexahydro4H-pyrazino (2,1-a) isoquinoline-4-one] is the cornerstone of the treatment because of its extended spectrum to all schistosomiasis, its low cost, its mode of oral administration in a single dose and its good tolerance with a dosage of 40 mg/kg (11). Our patient was put on Praziquantel 600 mg at a dose of 1 and a half tablets, albendazole 400 mg (1 tablet) and duphalac.

Our patient had not developed any complications and his evolution was favorable. However, Martins RD et al had announced that the course can be threatened by many complications, including: hepatocellular insufficiency and hypersplenism that can lead to pancytopenia (12).

The result of a cure is different depending on whether one is treating acute schistosomiasis with few visceral lesions, or old schistosomiasis with its procession of digestive or urinary disorders. Ideally, patients should be followed for one year. In addition to the clinical examination, a parasitological examination to control the stool or urine is systematically carried out to confirm the disappearance of egg laying in the third and sixth months according to Soko T O et al (7). The follow-up of our patient took place in 9 months.

Conclusion

Hepatic schistosomiasis is a disease that is not too common. We forget the diagnosis of this pathology even in the presence of certain signs because of its rarity. We have to think about it in the face of our situation in an endemic area, the presence of the patient's medical history and all the clinical semiology through good clinical reasoning. This will avoid the high cost of managing this disease and its chronic course.

***Correspondence**

Djénèba COULIBALY

tomdolar95@gmail.com

Available online : March 15, 2025

1 : Reference Health Center of Commune II of Bamako
2 : Community and University Health Center of Konobougou
3 : Bla/Ségou Reference Health Center
4 : Internal Medicine Department of the Mali Hospital
5 : First Aid International Doctor based Ansongo
6 : Directorate-General for Health and Public Hygiene
7 : National Office of Reproductive Health
8 : District Hospital of Commune IV of Bamako
9 : Paediatric Department of the Gabriel Toure University Hospital

Conflict interest : None

References

[1] Traoré NK, Coulibaly YI, Dolo H, Coulibaly CA, Sangho H, Doumbia S. Etude des facteurs associés à la non compliance au traitement de masse ciblant les Schistosomiases dans le District Sanitaire de Bougouni, Bankass et Tominian. Santé Publique Mali. 2020;10:71-8.

[2] Roth GA, Abate D, Abate KH, Abay SM, Abbafati C, Abbasi N, et al. Global, regional, and national age-sex-specific mortality for 282 causes of death in 195 countries and territories, 1980-2017: a systematic analysis for the Global Burden of Disease Study 2017. Lancet. 2018 Nov 10;392(10159):1736-88.

[3] Sangho H, Dabo A, Sangho O, Diawara A, Doumbo O. Prévalence et perception de la schistosomose en zone de riziculture irriguée au Mali. Mali Méd. 2005;3:15-20.

[4] Bourée P, Cornet M, Romand S, Bisaro F. Bilharziose intestinale avec rectorragies : à propos de trois cas. Rev Med Interne. 1994;15(7):481-3.

[5] Coulibaly MB. La schistosomiase tissulaire au Mali à propos de 145 cas au service d'anatomie et cytologie pathologiques du CHU du Point G. Thèse méd. 2013, FMPOS, Bamako. 72 p.

[6] Dramane Z, Gustave KB, Dianou D, Boubacar S, Jean-Noël P. Profil parasitologique de deux formes de schistosomiase (formes urinaire et intestinale) dans dix sites du Burkina Faso (pays d'Afrique sub-saharienne). Comptes Rendus Biol. 2013;336(5-6):317-9.

[7] Soko TO, Ba PS, Ndiaye M, Carmoi T, Klotz F. Bilharziose (schistosomose) hépatique. EMC - Hépatologie. 2017;0(0):1-17.

[8] Doehring-Schwerdtfeger E, Kaiser C, Schlake J. Ultrasound versus clinical examination as indication for S. mansoni associated morbidity in children. Trop Med Parasitol. 1992;43:245-8.

[9] Klotz F, Debonne JM. Le côlon et le foie : deux organes cible de la bilharziose. Concours Med. 1992;114:2913-22.

[10] Lanuit R, Klotz F, Delegue P, Riveau G, Capron A. Intérêt de l'échographie hépatosplénique dans la surveillance de l'endémie à S. mansoni (à propos d'une étude réalisée dans la région de Richard Toll au Sénégal). Med Trop. 1996;56:271-4.

[11] Meltzer E, Artom G, Marva E, Assous MV, Rahav G, Schwartz E. Schistosomiasis among travelers: new aspects of an old disease. Emerg Infect Dis. 2006;12:1696-700.

[12] Martins RD, Szejnfeld J, Lima FG, Ferrari AP. Endoscopic, ultrasonographic and US-doppler parameters as indicators of variceal bleeding in patients with schistosomiasis. Dig Dis Sci. 2000;45:1013-8.

To cite this article :

D Coulibaly, MB Coulibaly, S Diallo, I Sidibé, AB Sidibé, M Sangaré et al. Etiological research of paediatric jaundice revealing hepatic schistosomiasis in a case at the Reference Health Centre of Commune II of Bamako. Mali. Jaccr Africa 2025; 9(1): 181-185 https://doi.org/10.70065/2591.jaccrAfri.004L011503