ejpmr, 2017,4(05), 112-114

SJIF Impact Factor 4.161

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Report

ISSN 2394-3211

EJPMR

SPONTANEOUS RUPTURE OF FALCIPARUM MALARIAL SPLEEN: A CASE REPORT

Jalal Kasouati*[1,4], Jawas Rochdi[2], Oussama Mtioui Chkairi[3], El arbi Bouaiti[1] and Abd alhamid Zrara[4]

[1]Biostatistical Clinical and Epidemiological Research Laboratory, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco.

[2]Blood Transfusion Center, Mohammed V Military Teaching Hospital, Rabat, Morocco.

[3]Parasitology and Mycology, Mohammed V Military Teaching Hospital, Rabat, Morocco.

[4]Hygiene and community medicine Department, Mohammed V Military Teaching Hospital, Rabat, Morocco.

***Corresponding Author: Dr. Jalal Kasouati**
Biostatistical Clinical and Epidemiological Research Laboratory, Faculty of Medicine and Pharmacy, Mohammed V University, Rabat, Morocco.

Article Received on 08/03/2017 **Article Revised on 28/03/2017** **Article Accepted on 19/04/2017**

ABSTRACT

Spontaneous rupture of a malarial spleen is rare with Plasmodium Falciparum species. Most often it is a fatal complication when not diagnosed and treated on time. Here is presented a case of a Moroccan 32-year-old patient who is admitted in the emergency department of Mohammed V Military Teaching Hospital, Rabat for spontaneous spleen rupture after returning from a malaria-endemic country.

KEYWORDS: spontaneous spleen rupture; malaria; plasmodium falciparum.

INTRODUCTION

The WHO African Region continues to bear the brunt of the global burden of malaria. In 2015, 88% of global cases and 90% of global deaths occurred in the African Region. Five parasitic species are responsible for the disease in humans. Plasmodium falciparum is the species implicated in the most severe clinical forms. In Morocco, malaria cases are imported cases. We relate here the case of a serious complication that is spontaneous splenic rupture in a Moroccan citizen returning from malaria-endemic countries.

CASE REPORT

It is a 32-year-old male patient who has spent six months in the Central African Republic admitted to the emergency department of the Mohammed V Rabat Hospital for Hemoperitoneum With splenic rupture, then transferred to surgical resuscitation for postoperative management. He had taken antimalarial chemoprophylaxis made of mefloquine 250 mg once a week a long of his stay in this country but didn't after returning.

The patient complained 5 days before admission of an intermittent fever accompanied by night sweats, headache, reduced urine output and abdominal pain with distension associated with bilateral hip pain.

On clinical examination, the patient was was febrile at 39.5°C and slightly pale, his pulse rate was 120/min. His abdomen was distended with diffuse tenderness mainly over the left hypochondrium, with splenomegaly.

Faced with the notion of staying in a malaria endemic country, a blood smear and a thick drop were made. The results were positive in favor of Plasmodium falciparum infection with an estimated parasitemia of 1/1000. The biological assessment also revealed thrombocytopenia at 80,000 / mm3, anemia at 8,6g/dL and an elevation of C-reactive protein to 76.7 mg / L.

Sonography of the abdomen revealed Splenic hematoma and enlarged spleen with free fluid in the abdomen. The patient had abdominal CT scan (figure 1) which demonstrated the presence of a homogeneous splenomegaly associated with a peritoneal effusion of medium abundance.

The patient was admitted to the operating theater for exploration. This revealed the presence of a splenic rupture with hemoperitoneum responsible for a peroperative hemorrhagic shock which required the administration of noradrenaline and the transfusion of two packed red blood cell transfusions and four units of fresh frozen plasma. The surgical procedure consisted of total splenectomy with hemostasis and abundant peritoneal lavage.

He was administered antimalarial treatment (Artemether/lumefantrine 40/240 mg, 2 tablets twice a day) for three days and antibiotic prophylaxis (amoxicillin 3g a day) for seven days. Following vaccination recommendations for splenectomized patients, he was vaccinated against Streptococcus pneumoniae, Neisseria meningitidis and Haemophilus influenzae.

The postoperative evolution was favorable. The discharge of the patient took place after fourteen of his hospitalization on oral daily doses of Phenoxymethylpenicillin (1,000,000 IU twice a day) based prophylaxis.

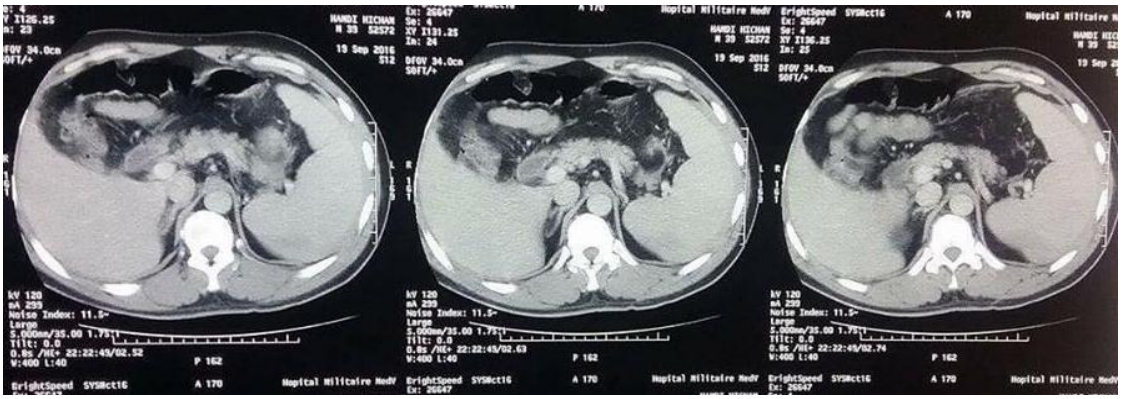

Figure 1: Abdominal CT-scan; splenomegaly and perisplenic hematoma.

DISCUSSION

The first case of spontaneous rupture of the spleen (SRS) was reported by Atkinson, an English surgeon, in 1874.[1] It's observed in infectious, neoplastic, hematological and systemic diseases.[2] Malarial (SRS) is uncommon even in the malaria endemic regions. This may lead to delayed or missed diagnosis of splenic rupture, which may be life threatening.[3] It is an important and life threatening complication of Plasmodium vivax infection, but is rarely seen in Plasmodium falciparum malaria.[4–6] Very few case reports are available in the literature documenting spontaneous rupture of malarial spleen.[7–11] Only an estimated 2% of falciparum malaria cases present with spontaneous splenic rupture.[3]

Antimalarial chemoprophylaxis is very important, about 90% of malaria cases occur only after returning to an endemic area and for the most part within two months.[12] Our patient took his medication along his stay in endemic zone but he stopped it at the return.

The spleen plays an important role in fighting malaria, producing antibodies against the parasite. Hyperactive Malarial Syndrome also known as Tropical Splenomegaly Syndrome is the first cause for splenomegaly in endemic regions. This Splenomegaly makes the spleen more fragile and more exposed to rupture.[13,14] Three mechanisms can be involved in the splenic rupture: Episodic increase in intra abdominal pressure on a friable spleen, vascular occlusion due to reticuloendothelial hyperplasia causing a splenic infarction, and brutal splenic congestion.[14,15]

A few diagnostic criteria for labeling a case as spontaneous rupture have been recommended by Orloff and Peskin[16] (i) absence of any history of trauma; (ii) absence of any pre-existing splenic disease; (iii) absence of adhesions or scarring in the spleen; and (iv) presence of grossly normal spleen. To detect this complication early, a high index of clinical suspicion is required, along with abdominal ultrasonography or contrast-enhanced CT scan of the abdomen. An abdominal ultrasound can detect subcapsular hematomas, perisplenic collections, splenic rupture, and hemoperitoneum. An abdominal CT scan is more accurate and more useful in diagnosis and monitoring.[14]

Concerning the treatment, choosing between surgical or conservative treatment depends on the severity of splenic lesions and the hemodynamic repercussions. Laparotomy and splenectomy remains the first-line in management of uncontrolled hemorrhagic shock secondary to splenic rupture. Antimalarial treatment should always be associated in the management of spontaneous splenic rupture due to malaria parasites.[17,18]

CONCLUSIONS

Spontaneous splenic rupture in complicated falciparum malaria is extremely rare but it should be suspected in patients with malaria who present with an acute abdomen. Antimalarial chemoprophylaxis before, during and after the return of an endemic country remains the best way to avoid this fatal complication.

REFERENCES

1. Atkinson E: Death from idiopathic rupture of the spleen. BMJ, 1874; 2: 403e–404.
2. Fuks D, Browet F, Brevet M, Vidal B, Manaouil D, Regimbeau JM. Spontaneous splenic rupture during a febrile crisis of Plasmodium falciparum.
3. Choudhury J, Uttam KG, Mukhopadhyay M: Spontaneous rupture of malarial spleen. Indian Pediatr, 2008; 45: 327–28.
4. Strickland GT: Malaria. In: Strickland, G.T. (Ed.), Hunter's Tropical Medicine, seventh ed. Saunders, Philadelphia, PA, 1991; 586–617.
5. World Health Organization Action Programme, 1986. Severe and complicated malaria. Trans R Soc Trop Med Hyg, 1986; 1–50.
6. Wyler DJ: Plasmodium secies (malaria). In: Mandell GL, Douglas RG Jr., Bennet JE (eds.), Principles and Practice of Infectious Diseases, 3rd ed. Churchill Livingstone, New York, 1990; 2056–66.

7. Ozsoy MF, Oncul O, Pekkafali Z et al: Splenic complications in malaria: report of two cases from Turkey. J Med Microbiol, 2004; 53: 1255–58.
8. Yagmur Y, Kara IH, Aldemir M et al: Spontaneous rupture of malarial spleen: two case reports and review of literature. Crit Care, 2000; 4: 309–13.
9. Abouzahir A, Bouchama R: Spontaneous spleen rupture in the course of malaria. Med Mal Infect, 2008; 38: 153–55.
10. Hamel CT, Blum J, Harder F, Kocher T: Non-operative treatment of splenic rupture in malaria tropica: review of literature and case report. Acta Trop, 2002; 82(1): 1–5.
11. Tauro LF, Maroli R, D'Souza CR et al: Spontaneous rupture of the malarial spleen. Saudi J Gastroenterol, 2007; 13: 163–67.
12. Leder K, Black J, O'Brien D et al. Malaria in travelers: a review of the GeoSentinel surveillance network. Clin. Infect. Dis., 2004; 39(8): 1104–12.
13. Osman MF, Elkhidir IM, Rogers SO, Williams M. Non-operative management of malarial splenic rupture: The Khartoum experience and.
14. Correia M, Amonkar D, Audi P, Kudchadkar S. Spontaneous rupture of a malarial spleen - A case report and review of literature. The Internet Journal of Surgery.
15. Kapoor U, Chandra A, Kishore K. Spontaneous rupture of spleen with complicated falciparum malaria in a United Nations Peacekeeper: a case report. Med J Armed Forces India, 2013; 69: 288-290.
16. Orloff MJ, Peskin GW: Spontaneous rupture of the normal spleen, a surgical enigma. Surg Gynaecol Obstet, 1990; 31: 171e173.
17. Lemmerer R, Unger M, Voßen M, Forstner C, Jalili A, Starzengruber P, et al. Case report: Spontaneous rupture of spleen in patient with Plasmodium ovale malaria. Wien Klin Wochenschr, 2016; 128: 74-77.
18. Mueller I, Zimmerman PA, Reeder JC. Plasmodium malariae and Plasmodium ovale – the 'bashful' malaria parasites. Trends Parasitol, 2007; 23: 278–283.