

Case Report

Vivax Malaria Presenting with Fever and Tender Hepatomegaly

BK Tarafder¹, MT Islam², MM Roshed³, MAB Siddique⁴, AM Hossain⁵, KD Sarker⁶

Abstract:

Malaria caused by vivax is more common than those caused by falciparum. We report here a patient of vivax malaria presented with tender hepatomegaly. A 30 year old male from a rural area was admitted with high grade irregular fever for 5 days with severe right hypochondriac pain for 2 days. Patient was toxic and agonizing with pain. He had tender hepatomegaly. His cardiovascular and respiratory examination findings were normal. ICT for malaria and blood film revealed presence of *P. vivax*. His hepatic enzymes and viral markers were negative and ultrasonogram of hepatobiliary system excluded features of hepatitis or any abscess cavity. Echocardiogram showed no cardiac abnormality. Presence of tender hepatomegaly in the absence of other co-morbidity is rare in vivax malaria and not well documented in adults, which makes this presentation.

Key words: Vivax, Malaria, Fever.

Introduction:

Despite various strategies taken by the government and WHO, malaria is still a major cause of death in many countries including Bangladesh¹. It is a mosquito borne disease caused by *P. vivax*, *P. falciparum*, *P. malarae* and *P. ovale*. Malaria caused by vivax is more common than malaria caused by falciparum^{2,3}. But disease severity and complications are more described in falciparum malaria^{2,4}. Often patients present with atypical symptoms causing diagnostic confusion⁵. Atypical presentations are less commonly described with vivax compared to falciparum^{5,6}. We report here a patient of vivax malaria presented with tender hepatomegaly.

Case Report :

A 30 year old male from a rural area was admitted with high grade irregular fever for 5 days with severe right hypochondriac pain for 2 days. He was well 5 days ago when he developed fever. Fever was high grade from the beginning, sometimes with swinging rise, having no particular pattern, and was associated with chills and rigors. Patient experienced profuse sweating when the fever subsided and he needed to change his clothes. He was started on azithromycin and paracetamol by a local doctor. After 3 days, he started to experience right hypochondriac pain which was progressively increasing in severity, being most severe with the height of temperature. Fever was associated with headache. Patient denied any urinary complain, cough or vomiting. He used to drink safe water and use sanitary latrine. He practiced hand hygiene and used mosquito net in house. He had no significant event in last few months except his return from Mumbai, India 4 months back where he stayed few months in search of job. When we examined the patient on 5th day of illness, he was very toxic, agonizing with pain. His temperature was 103^oF, pulse 120/min & regular, BP 110/70mmHg. Anaemia, jaundice, cyanosis, clubbing was absent. JVP was not raised. Abdomen was soft with tender hepatomegaly, about 4cm from right subcostal margin along mid-clavicular line. Examination finding of respiratory, cardiac and other major systems was normal. His Blood reports including CBC, SGPT, S. bilirubin, Urine RE, Chest X-ray P/A view and Plain x-ray of abdomen were normal. USG confirmed hepatomegaly with normal hepatic

1. Dr. Binoy Krishna Tarafder, MBBS, FCPS (Medicine), Assistant Professor, Dept. of Medicine. Faridpur Medical College, Faridpur.
2. Dr. Mohammad Tanvir Islam, MBBS, FCPS (Medicine), Associate Professor, Dept. of Medicine. Bangabandhu Sheikh Mujib Medical University, Dhaka.
3. Dr. Md. Mahabubur Roshed, MBBS, M Phil (Pathology), Assistant Professor, Dept. of Pathology. Khulna Medical College, Khulna.
4. Dr. Mohammad Abu Bakar Siddique, MBBS, MD (Internal Medicine), Assistant Professor, Dept. of Medicine. Faridpur Medical College, Faridpur.
5. Dr. Ahmed Manadir Hossain, MBBS, FCPS (Medicine), Assistant Professor, Dept. of Medicine. Faridpur Medical College, Faridpur.
6. Dr. Karzan Dey Sarker, MBBS, Registrar, Dept. of Medicine. Faridpur Medical College Hospital, Faridpur.

Address of correspondence :

Dr. Binoy Krishna Tarafder, MBBS, FCPS (Medicine), Assistant Professor, Dept. of Medicine. Faridpur Medical College, Faridpur.
Mobile: +88-01815005452, Email: binoymmch@yahoo.com

parenchymal echotexture, no abscess formation and normal diameter of the vessels and ducts and a repeat USG was also unremarkable. His echocardiographic findings were normal. Patient also was not responding to empirical antibiotic and other supportive treatment. Blood was sent for ICT for malaria which was positive for *P. vivax*. A blood film confirmed the presence of *P. vivax*. Patient started to improve from the following day after starting antimalarial drug. Pain and fever subsided and patient was able to eat, drink and perform all daily activities within 3 days and was discharged from hospital without any complication.

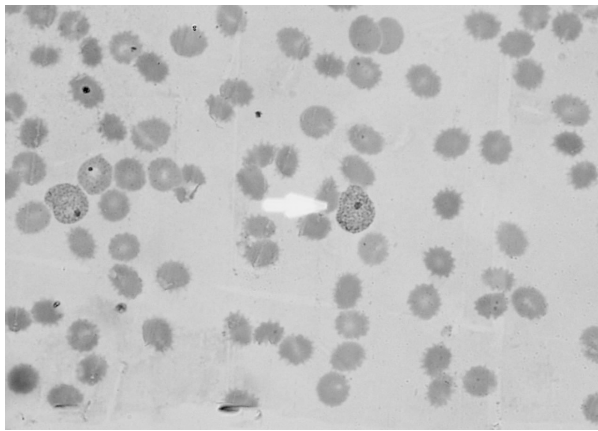


Fig.1: Blood film for malarial parasite showing *P. vivax* within RBC.

Discussion:

Malaria is a common cause of mortality and morbidity in the endemic areas. Increased global travel and human migrations causing the disease with increased frequency in non-endemic areas also⁷. When it presents with typical features, diagnosis is not very difficult. But unusual presentations lead to diagnostic dilemma causing delay in diagnosis and hence delay in initiation of correct treatment. Chance of complication is more in this group of patients⁵. Our patient presented with fever and tender hepatomegaly which initially led us to think of liver abscess. But USG did not find any abscess or mass. Patient didn't have any evidence of heart failure or acute viral hepatitis or gonococcal perihepatitis. Considering fever with chills which subsided with sweating and travel history to India, we did ICT for malaria and sent blood film for detection of malarial parasite. His positive ICT for malaria and presence of *Plasmodium vivax* inside RBC on blood film confirms the diagnosis of vivax malaria. This was an atypical presentation of malaria. We searched online literatures extensively for various atypical presentations of malaria. We found Falciparum malaria presented with acute abdomen, urticaria, unexplained shock, Budd

Chiari Syndrome, influenza like illness, fulminant hepatic failure, dysphasia with cerebellar sign, AKI with Diabetes Incipidus, tetany and perforated duodenal ulcer⁸⁻¹⁴. We also found vivax malaria to present in atypical way like acute gastroenteritis without fever at presentation, status epilepticus with 6th cranial nerve palsy, migrainous headache, episodic urticarial rash, relative bradycardia, postural hypotension, severe anaemia, thrombocytopenia, pancytopenia, ARDS, mimicking AMI, renal failure, impending hepatic failure, AGN and subconjunctival haemorrhage^{2,4,5,7,15-21}. Nontender hepatomegaly is common feature in malaria. But tender hepatomegaly is very rare. We found two reported cases of malaria having tender hepatomegaly. Among them, one falciparum malaria case was associated with acute HEV hepatitis with tender hepatomegaly²² and in another falciparum malaria patient had Budd Chiari Syndrome caused by compression of IVC by hypertrophic caudate lobe⁸. No vivax malaria patient was found to have tender hepatomegaly. "Non-specific reactive hepatitis" unrelated to viral or other illness occurs in 57% of malaria, but in our case no signs of hepatitis clinically or biochemically were evident²³. Rare cases of tender hepatomegaly was found in children suffering from falciparum malaria, but no study was found to show presence of tender hepatomegaly in adults suffering from vivax malaria²⁴. So our case is probably the first reported malaria case having tender hepatomegaly caused by vivax malaria infection itself.

Conclusion:

Vivax malaria was considered earlier to be benign with typical presentation. But it is reported increasingly to present with unusual features and severe form of disease though the underlying mechanism is not clear. High index of suspicion is needed to deal with these patients.

References :

1. World Health Organization. (2014). World Malaria Report, 2012. Geneva: WHO, 2012. See http://www.who.int/malaria/publications/world_malaria_report_2014-no-profiles.pdf.
2. Prasad K, Manimala SR, Rash K. *Plasmodium vivax* malaria: An unusual presentation. Indian J Crit Care Med. 2009 Apr-Jun; 13(2):103-5.
3. Mendis, K, Sina BJ, Marchesini P, Carter R. The neglected burden of *Plasmodium vivax* malaria. The American journal of tropical medicine and hygiene 2001; 64(1 suppl):97-106.
4. Sreehari D, Singh VB, Chetan KHB, Babulal MP. Vivax malaria causing subconjunctival haemorrhage: Case report. J Bacteriol Parasitol. 2013; 4:225.

5. Vinod KV, Talari K, Gopalakrishnan M, Nisar KK, Datta TK. Unusual presentations of vivax malaria: a report of two cases. *J Vector Borne Dis.* 2012 Mar;49(1):49-51.
6. Zaki SA, Shanbag P. Atypical manifestations of malaria. *Res Rep Trop Med.* 2011; 2:9-22
7. Lomar AV, Vidal JE, Lomar FP, Barbas CV, Matos GJ, Boulos M. Acute respiratory distress syndrome due to vivax malaria: case report and literature review. *Braz J Infect Dis.* 2005 oct; 9(5):425-30.
8. Kulkarni VK, Asgaonkar D, Kamath S. BUDD-CHIARI SYNDROME. [Cited 2015 July 29] Available from: http://www.bhj.org.in/journal/2000_4202_apr00/case_413.htm
9. Ahsan T, Rab SM, Shekhani MS. Falciparum malaria or fulminant hepatic failure. *Journal-Pakistan Medical Association* 1993; 43: 206-206.
10. Sandhu G, Ranade A, Ramsinghani P, Noel C. Influenza-like illness as an atypical presentation of falciparum malaria in a traveler from Africa. *J Emerg Med.* 2011 Jul; 41(1):35-8.
11. Shahar AM, Ngiu CS, Hashim HZ, Tan HJ, Periyasamy P. No Coma, but Expressive Dysphasia with Cerebellar Signs: An Unique Presentation of cerebral malaria. *Ann Acad Med Singapore.* 2011 Aug; 40(8):382-3.
12. Premji R, Roopnarinesingh NA, Cohen JL. THR-432: Diabetes Insipidus, an Atypical Presentation of Malaria. [Cited 2015 July 29] Available from: <http://press.endocrine.org/doi/abs/10.1210/endo-meetings.2015.NP2.THR-432>
13. Zaki, SA, Shanbag P, Shenoy P. Unusual presentation of malaria as tetany: a case report. *J Vector Borne Dis.* 2010; 47(2):123-5.
14. Dewanda NK, MidyaM. Perforated duodenal ulcer in a child: An unusual complication of malaria. *Med J DY Patil Univ.* 2015; 8:261-3.
15. Mohapatra MK, Padhiary KN, Mishra DP, Sethy G. Atypical manifestations of *Plasmodium vivax* malaria. *Indian J Malariol.* 2002 Mar-Jun; 39(1-2):18-25.
16. Ozen M, Gungor S, Atambay M, Daldal N. Cerebral malaria owing to *Plasmodium vivax*: case report. *Annals of Tropical Paediatrics* June 2006; 26(2):141-4.
17. Martinez-Ocana JC, Serra A, Bonet J, Fernandez-Crespo P, Caralps A. Acute glomerulonephritis without fever: an unusual presentation of malaria on mefloquine prophylaxis. *Nephron* 1996; 73(2):372-74.
18. Indraneel D, Jayita D, Govardhan DR, Indranil M. Unusual presentation of *Plasmodium vivax* malaria mimicking acute myocardial infarction - a case report. *International Journal of Advanced Research* 2015; 1:589-92.
19. Dhanpat KK, Ashish D, Sanjay KK, Vishal S, Parmendra S, Shilpi G, et.al. Severe *Plasmodium vivax* Malaria: A Report on Serial Cases from Bikaner in Northwestern India. *Am J Trop Med Hyg.* 2009 Feb; 80(2):194-8.
20. Fitri LE, Sardjono TW, Hermansyah B, Candradikusuma D, Berens-Riha N. Unusual presentation of vivax malaria with anaemia, thrombocytopenia, jaundice, renal disturbance, and melena: a report from malang, a nonendemic area in Indonesia. *Case reports in infectious diseases*, 2013. [Cited 2015 July 29] Available from: <http://www.hindawi.com/journals/criid/2013/686348/>
21. Nigam P, Indulkar M, Bansod A. Impending hepatic failure due to *Plasmodium vivax* Malaria: a case report. *Int J Med Res Rev.* 2014; 2(2):156-8.
22. Aslam SM. An interesting case of complicated falciparum malaria and hepatitis E virus co-infection. *International Journal of Clinical cases and Investigations.* 2015; 6(3):35-7.
23. Ramachandran S, Perera MV. Jaundice and hepatomegaly in primary malaria. *The Journal of Tropical Medicine and Hygiene,* 1976 Sep; 79(9):207-10.
24. Sowunmi A. Hepatomegaly in acute falciparum malaria in children. *Trans R Soc Trop Med Hyg.* 1996 Sep-Oct; 90(5):540-2.