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Case Report

Vivax Malaria Presenting with Fever and Tender Hepatomegaly

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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 Bangladesh[1]. 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 confusion[5]. 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.

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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^{0}F, 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. billirubin, Urine RE, Chest X-ray P/A view and Plain x-ray of abdomen were normal. USG confirmed hepatomegaly with normal hepatic

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.

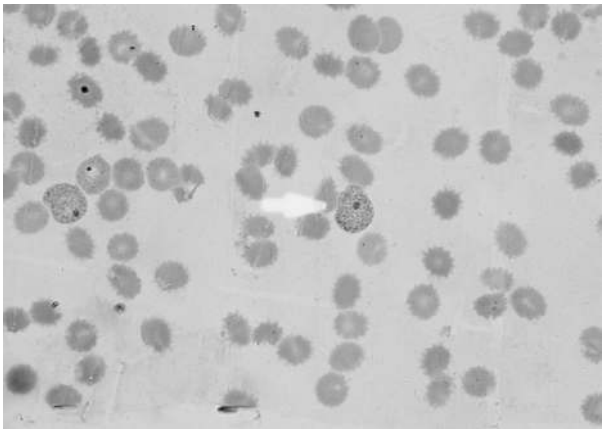

Fig.1: Blood flim for malarial parasite showing *P. vivax* within RBC.

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 also[7]. 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 patients[5]. 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 ulcer[8-14]. 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 hepatomegaly[22] and in another falciparum malaria patient had Budd Chiari Syndrome caused by compression of IVC by hypertrophic caudate lobe[8]. 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 evident[23]. Rare cases of tender hepatomegaly was found in children suffering from falciparum malaria, but no study was found to show presence of tender hepatomegly in adults suffering from vivax malaria[24]. 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.

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