



Vivax Malaria with Severe Hemolysis- A Case Report

Haseena NM and Panicker M

Lifecare Hospital, Musaffah, Abudhabi, UAE

*Corresponding author: Haseena NM, Lifecare Hospital, Musaffah, Abudhabi, UAE; E-mail: ameennoushad@hotmail.com

Abstract

Malaria is an endemic disease transmitted by the bite of infected female Anopheles mosquitoes. It is transmitted mainly in the tropical countries. In UAE, Malaria imported by the large immigrant work force from major disease endemic areas remains a large burden. Five species of malaria affect human. These are *P. vivax*, *P. falciparum*, *P. ovale*, *P. malaria* and *P. knowlesi*. Hemolysis due to *P. falciparum* is well known as it can invade RBCs of all ages and causes high parasitemia. Infected RBCs get sequestered in the post capillary venules causing obstruction of microcirculation. RBCs are lysed by the mature schizonts causing anemia due to hemolysis. *P. vivax*, infect young RBCs and can cause hemolysis but the parasitemia is not high as in *P. falciparum* and there is no peripheral sequestration of RBCs. A 28 Years old male presented with fever and diagnosed to have Vivax malaria developed sudden hemolysis and rapid drop in Haemoglobin. With prompt diagnosis and packed RBC transfusion and treatment of malaria, patient improved Even though Plasmodium vivax malaria is the commonest form, life threatening complications are rare. Here we report a case of life threatening hemolysis associated with *P. Vivax* malaria.

Keywords: Hemolysis; Parasitemia; Anaemia

Introduction

Hemolysis and anaemia associated with *P. vivax* malaria occurs as a result of the lysis of young red cells by schizonts. In Plasmodium falciparum (*P. falciparum*) malaria, the extent of haemolysis and anaemia is much greater due to lysis of all forms of RBCs, high parasitemia and obstruction of microcirculation by sequestered RBCs.

Case Report

A 28 Years old male came to my opd with c/o high grade fever, headache and nausea for 1 week. He was seen in a clinic and was given some treatment, including antibiotics but the fever was persisting. Blood test was done from outside and showed pancytopenia and was referred here. He had recently came from Pakistan after his vacation and also gave past history of malaria and typhoid fever. On examination, he was febrile, ill looking, dehydrated, had pallor and jaundice. Systemic examination was normal. Lab investigations were done showed Hb of 7.2 gm/dl with low hematocrit and RBC count .Platelets were low. WBC

count was normal .Blood indices were normal. CRP was high. Malaria card test came positive. Widal test was negative. Bilirubin was high with predominance of unconjugated BR. With the diagnosis of Malaria patient was admitted. The malaria smear showed ring forms, trophozoites and gametocytes of vivax malaria with a parasitic index of 2.8%. There was no evidence of any abnormal RBCs. Reticulocyte count was high.

In the midnight of admission, patient developed sudden chest discomfort, his BP dropped to 80/40 mm hg. ECG was normal He was given saline infusion and was shifted to ICU. BP improved after fluid resuscitation. Repeat CBC showed further drop in Hb to 5.7 gm/dl with further decrease in hematocrit. Platelets remain the same. LDH was high. His renal function was normal. Antimalarial treatment was given with chloroquine .G6PD activity was checked and was normal. Coombs test was negative.3 units of packed cell transfusion was given after cross matching .Patient didn't have further hemolysis after starting chloroquine. Hb improved to 8.4 gm/dl and was discharged. Primaquine also was given to the patient. Patient came for a

Received date: 07 June 2023; **Accepted date:** 14 June 2023; **Published date:** 21 June 2023

Citation: Haseena NM, Panicker M (2023) Vivax Malaria with Severe Hemolysis- A Case Report. SunText Rev Case Rep Image 4(4): 186.

DOI: <https://doi.org/10.51737/2766-4589.2023.086>

Copyright: © 2023 Haseena NM, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.



follow up after 5 days, and repeat Hb improved to 10.3 gm/dl. Repeat Malaria smear was negative [1-3].

Discussion

Plasmodium vivax is the most common malaria species. It affects more than one third of world's population. It is more common in the tropical areas but it can survive in the colder areas also due to its dormant phase in the liver in the form of hypnozoites. Anaemia is a common consequence of *vivax* infection. *Plasmodium vivax* infect young RBC'S and causes hemolysis and anemia. The parasitemia is less than 2% in *vivax* malaria. The destruction of infected RBC'S are less due to the low parasitemia. But in addition destruction of uninfected RBC's occur in spleen and bonemarrow which added to the burden. Other contributing factors of anemia are Splenic and reticuloendothelial hyperactivity and bone marrow suppression. Early treatment with an effective antimalarial (chloroquine), can prevent adverse outcomes associated with severe anaemia. Prompt identification of hemolysis and if required packed cell transfusion is to be given. Reliable prevention of recurrent malarial infection caused by relapses will require hypnozoitocidal therapy. Primaquine is the only licensed hypnozoitocidal agent available and can exacerbate haemolysis in individuals with G6PD deficiency. So always check for G6PD activity before giving primaquine.

References

1. Diagnosis and treatment of *Plasmodium vivax* Malaria. *Am J Trop Med Hyg.* 2016; 95: 35-51.
2. World Health Organization. Guidelines for the Treatment of Malaria. 3rd edition. Geneva, Switzerland: WHO; 2015.
3. A case of *plasmodium vivax* malaria associated with autoimmune hemolytic anemia. Department of Internal Medicine, the Armed Forces Yangju Hospital, Gyeonggi Province, Korea.