Case Report

DOI: 10.7860/JCDR/2017/23352.9608

Bilateral Cervical Lymphadenopathy Atypical Presentation of Malaria-A Rare Case Report

Internal Medicine Section

DWIJEN DAS[1], KALLOL BHATTACHARJEE[2], SURINDER GHINTALA[3], AMIT KR KALWAR[4]

ABSTRACT

Malaria, the most common parasitic disease of humans, remains a major health and economic burden in most tropical countries. An 18-year-old male from rural north eastern India presented with four days fever with chill. The patient was conscious, oriented but confused. Physical examination revealed bilateral multiple, discrete cervical lymphadenitis without organomegaly or sternal tenderness. Blood parameters were normal except transient thrombocytopenia. Blood smear and antigen were positive for both *plasmodium vivax* and falciparum with negative viral markers. Fine Needle Aspiration Cytology (FNAC) of cervical lymph nodes showed non-specific reactive lymphadenitis which subsided with antimalarial treatment. Lymphadenitis is an extremely rare presentation in malaria and is considered as an important negative finding. We reported this case to highlight that such unusual manifestations may present in malaria in endemic areas which may baffle the clinicians.

Keywords: Lymphadenitis, *Plasmodium Vivax*, Thrombocytopenia

CASE REPORT

An 18-year-old male student, presented with four days history of fever with chills and rigors without any history of sore throat, painful deglutition, cough, ear discharge, oral ulceration and dental pain. On examination patient was conscious, oriented but confused. General examination revealed bilateral cervical multiple enlarged lymph nodes which were discrete and non- matted, non-tender, involving supra-clavicular and posterior cervical nodes, largest lymph node was 2×4 cm size, while smallest was 1×1cm. Teeth and gums were healthy and oropharynx including tonsils were found normal. His body weight was 55 kg. On abdominal examination liver and spleen were not palpable. Sternal tenderness was absent. There were no focal neurological signs, papilloedema or neck stiffness noted on clinical examination. Examination of cardiovascular system and respiratory system were normal.

Investigations showed Haemoglobin (Hb) 12.2 gm/dl, TLC 4.77× 10^3/mm^3, peripheral smear did not show any atypical lymphocytes. Platelet counts ranged from 27000 to 80000 /mm^3 on first three days, which was increased to 162000 /mm^3 on discharge at day nine. Both *Plasmodium falciparum* (pf) and *vivax* (pv) were found on blood film examination in ring form and antigen for pf and pv was positive. The principle of antigen test is as described below:

It is an immunoassay based on sandwich principle. The conjugate contains a colloidal gold conjugated to monoclonal anti-pan specific pLDH (Parasite Lactate Dehydrogenase) antibody. The test uses monoclonal anti-Pf pLDH antibody (Test line F) and monoclonal anti-Pan specific pLDH antibody (test line P) immobilized on a nitrocellulose strip. The test sample is added to the device. On addition of assay buffer, the red blood cells get lysed. If the sample contains P.falcifarum and or P.vivax/P.malariae/P.ovale, the colloidal gold antibody conjugate complexes with the Pf specific pLDH/pan specific pLDH in the lyse sample. This complex migrates through the nitrocellulose strip by capillary action. When the complex meets the line of the corresponding immobilized monoclonal antibody, the complex gets trapped forming a purplish pink band which confirms a reactive test result. Absence of a colored band in the test region indicates a non-reactive test result. A red procedural control line should always develop at "C" region to indicate the test as been performed properly. (The reagents used were: 1) Malcard, J. Mitra & Co. pvt., ltd, New Delhi India and cross checked with; 2) DiaMed Optimal, DiaMed AG, 1785 Cressier s/Morat, Switzerland). Sensitivity and specificity of this test is 100% and 99.95% respectively.

Dengue, leptospira, hepatitis B and C, HIV were negative. Serology for Ebstein Barr virus (EBV) was also negative. Urine examination, renal function test, liver function test were within normal limits. Chest radiography was unremarkable. Ultrasonography of abdomen showed mild hepatosplenomegaly with normal echo texture. Abdominal lymphadenopathy was absent. FNAC of cervical lymph node showed nonspecific reactive lymphadenitis. In view of positivity of falciparum and vivax malaria, patient was started with artesunate at the dose of 2.4mg/kg of body weight on 0, 12, 24 hours and then once daily for 7 days and clindamycin at the dose of 10 mg/kg of body weight in three divided doses for seven days and replenished with IV fluid as he was dehydrated. Fever subsided on third day of initiation of therapy and lymph nodes started regressing and platelet count increased. Within seven days, patient was totally asymptomatic, his lymph nodes regressed and platelet count reverted to near normal values. On improvement of his symptoms and blood parameters, he was discharged on ninth day with primaquine 15 mg daily for 14 days. Patient was doing well on his next follow up after two weeks.

DISCUSSION

Malaria can present with a variety of signs and symptoms. Paroxysms of fever associated with rigors and sweating is classical of malaria. Malaria causes significant morbidity and mortality globally. Though, the classical presentation of malaria is with paroxysms of fever associated with chill and rigors and subsides with sweating, but these are seen only in 50-70% of patients with malaria [1]. Clinically, malaria may be associated with a variety of manifestations ranging from a simple febrile syndrome to lethal complications. Among all countries in the South East Asian region, the highest number of cases and deaths are reported from India [2]. Atypical features of malaria include migraine, cough, bradycardia, postural hypotension, anaemia, thrombocytopenia, pancytopenia, cerebral involvement and rarely rupture of spleen in cases of huge splenomegaly resulting in acute abdomen [3]. Acute pancreatitis and myocarditis are also reported as one of the rare presentation in falciparum malaria [4,5]. One of the rarest of rare clinical presentation of malaria is lymphadenopathy, which is an important negative

finding to exclude the disease. Various uncommon presentations of malaria are seen in endemic areas, which results in diagnostic difficulties for the clinicians. We have described a case of 18-year-old male who presented with fever, confusion and bilateral cervical lymphadenopathy with peripheral blood film showing *Plasmodium falciparum* and *vivax* malaria. Regression of lymphadenopathy resulted following antimalarial regimen. Informed formal written consent was taken from the patient for its publication in his own language.

Among plasmodium species, *Plasmodium falciparum* is responsible for severe and fatal malaria. The symptoms and signs of malaria can be wide and none of them are diagnostic. The classical paroxysms may not be seen in many patients. Malaria can present with unusual features in endemic areas due to development of immunity, increasing resistance to antimalarial drugs, and the indiscriminate use of antimalarial drugs [6]. Malaria should be considered in the diagnosis of any acute febrile illness unless excluded by lack of exposure and repeated negative examination of blood smear. Appearance of rashes and focal signs and nonappearance of lymphadenopathy are considered as helpful features for exclusion of malaria. On the other hand, lymphadenopathy is a feature of many other diseases.

This patient presented with history of fever and on examination had significant cervical lymph nodes enlargement. Commonly, the differential diagnosis of such a clinical presentation includes viral infection, tuberculosis, leukaemia or lymphoma. In malaria, lymphadenopathy is not a common clinical finding and extensive literature search revealed only two case reports of axillary lymphadenopathy and abdominal lymphadenopathy [Table/Fig-1] [7-9]. A wide variety of disorders may present with lymphadenopathy as the initial or subsequent manifestation which may range from simple benign hyperplasia to malignancy of multiple organs. Resection of lymphoid tissues may decrease in immunity against various diseases including malaria. The patient in question was from hyperendemic area and presented with mixed malarial infection. Triggered T and B cell response may be responsible for development of lymphadenopathy. However there is a paucity of literature which hinders a definitive conclusion in this regard [10].

Author(s)	Clinical presentation	Reported from
Nisahan B et al., [7]	Bilateral axillary lymphadenopathy: A rare manifestation of *Plasmodium falciparum* malaria	Sri Lanka
Gera C et al., [8]	Cervical Lymphadenopathy: A Rare Presentation of Malaria	Punjab, India
Sood A et al., [9]	Abdominal lymphadenopathy in Malaria	Punjab, India
Present Case	Bilateral cervical lymphadenopathy	Assam, India

[Table/Fig-1]: Literature search of cases reported on lymphadenopathy in Malaria [7-9].

This case illustrates that malaria can no longer be safely excluded if associated with lymphadenopathy especially in the endemic areas even though it is considered as an important negative finding. Although, malaria does not figure in the differential diagnosis of lymphadenopathy, the present case is an exception which warrants the clinicians for more vigilance regarding the history of travel, residential address in relation to prevalence of malaria and endemicity to facilitate the diagnosis in an atypical case.

CONCLUSION

In the endemic or hyper endemic areas, the clinical presentations of malaria may be diverse and often lead to diagnostic dilemma. As such, it is prudent for the clinicians to consider malaria in the differential diagnosis of any perplexing presentations in the endemic areas, unless excluded by repeated blood slide examinations.

REFERENCES

[1] Zaki SA, Shanbag P. Atypical manifestations of malaria. Res Trop Med. 2011;2:9–22.
[2] Sharma S, Aggarwal KC, Deswal S, Raut D, Roy N, Kapoor R. The unusual presentation of a usual organism - the changing spectrum of the clinical manifestations of Plasmodium vivax malariain children: a retrospective study. J Clin Diagn Res. 2013;7(9):1964-67.
[3] Gopisetty S, Sarveswaran J, Achuthan R, Davies J, Ausobsky JR. Acute surgical abdomen—an atypical presentation of Plasmodium vivax malaria. Gut. 2007;56:447- 48.
[4] Ghosh S, Das SK, Sharma A. Unusual presentation of acute pancreatitis in falciparum malaria. Trop Parasitol. 2014;4(1):56–57.
[5] Khattak AL, Ali W, Samore NA, Idris M, Khan MN, Pasha W. Complicated plasmodium falciparum malaria initially presenting as myocardites. J Ayub Med Coll Abbottabad. 2014;26(3):413-15.
[6] Zaki SA, Shanbag P. Plasmodium vivax malaria presenting with skin rash - a case report. J Vector Borne Dis. 2011;48(4):245-46.
[7] Nisahan B, Kumanan T, Selvaratnam G. Bilateral axillary lymphadenopathy: A rare manifestation of Plasmodium falciparum malaria. Sri Lankan Journal of Infectious Diseases. 2014;4(2):118-20.
[8] Gera C, Kumar N, Malhotra N. Cervical Lymphadenopathy: A Rare Presentation of Malaria. JAPI. 2010;58:264.
[9] Sood A, Midha V. Abdominal lymphadenopathy in Malaria. Clinical Infectious Diseases. 1999;28:400-01.
[10] Chakravarty S, Cockburn IA, Kuk S, Overstreet MG, Sacci JB, Zavala F. CD8+ T lymphocytes protective against malaria liver stages are primed in skin-draining lymph nodes. Nat Med. 2007;13(9):1035-41.

PARTICULARS OF CONTRIBUTORS:
1. Associate Professor, Department of Medicine, Silchar Medical College, Silchar, Assam, India.
2. Associate Professor, Department of Medicine, Silchar Medical College, Silchar, Assam, India.
3. Postgraduate trainee, Department of Medicine, Silchar Medical College, Silchar, Assam, India.
4. Assistant professor, Department of Medicine, Silchar Medical College, Silchar, Assam, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Dwijen Das,
Associate Professor, Department of Medicine, Silchar Medical College, PO. Ghungoor, Dist. Cachar-788014, Assam, India.
E-mail: drdwijendas@yahoo.co.in

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Aug 04, 2016**
Date of Peer Review: **Nov 01, 2016**
Date of Acceptance: **Jan 04, 2017**
Date of Publishing: **Apr 01, 2017**