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Case report
Microfilariae causing Pancytopenia: An unusual case

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ABSTRACT

Abstract: Filariasis is a common health problem in India. It may defy the diagnosis if it presents as atypical manifestation. There are only few case reports on microfilaria presenting as pancytopenia.We present here a case with microfilarial infection who presented as pancytopenia without any symptoms of lymphatic obstruction. Introduction: It is very common to detect microfilarial infection presenting with lymphatic destruction, however it may escape our attention in atypical manifestation. Filarial infection is common in India with highest endemicity in Bihar, Kerala, Uttar Pradesh.[1] We present here a case of Microfilariae infection who presenting with pancytopenia and hematuria and ecchymosis and was diagnosed after repeated peripheral blood examination.

1. CASE PRESENTATION

A 20 year old female from Gorakhpur, Uttar Pradesh presented to the OPD in September 2014 with history of high grade fever and ecchymotic patches all over body since 15 days and a recent onset hematuria. She also had a similar episode of fever followed byanemia with hematuria in July 2013.There was no history of bone pain, weight loss or anorexia. There was no history of diabetes mellitus, hypertension or any prior medication. Examination revealed severe pallor and ecchymotic patches all over body. Systemic examination was normal. She had hemoglobinof 3.7 gm/dl, total leucocyte count 1800/cmm with differential count of neutrophil 20%, lymphocyte 80%, eosinophil count 0%, platelet count 10000/cmm. General blood picture showed normocytic normochromic picture with mild anisocytosis, poikilocytosis, and polychromatophilic cells. There was no hemoparasite in smear examined. The urine showed 3-4 pus cells /HPF and 12-15 RBCs/HPF and no chyle. The urine culture revealed no organism. Peripheral smear for malarial parasites was repeatedly negative and IgM, IgG for typhoid was also negative. Her chest x-ray was normal. Liver, renal function tests, serum electrolytes, blood sugar, erythrocyte sedimentation rate and serum lactate dehydrogenase were within normal limits. Bone marrow aspiration and biopsy was performed which showed cellular marrow with normoblastic erythropoiesis and dysmyelopoeisis with normal megakaryopoiesis. Thus a possibility of functional myelosuppression was made. Her peripheral smear was repeated after three days of hospital stay, which incidentally revealed microfilaria parasite. (Figure 1 and figure 2). In this case of fever, ecchymosis and pancytopenia with a past history of a similar episode one year back, the differentials are malaria, paroxysmal nocturnal hemoglobinuria and aplastic anemia. On admission, she received prophylactic iv antibiotics (ceftazidime and amikacin) in view of severe neutropenia.There was no improvement. On day 3, when microfilaria was reported in her peripheral smear, diethycarbazine (DEC) 100 mg 8 hourly was started. She became afebrile and her counts also started improving within 7 days. She responded to DEC and was discharged. She continued DEC for 21 days along with oral iron. In follow up, her hemoglobin improved to 8.2 gm/dl over a period of 2 months.

DISCUSSION

Wuchreriabancrofti is endemic in sub-Saharan Africa, Southeast Asia and India. It is responsible for 98% of all the filarial infections in India. [1]Acute presentation includes a wide range of clinical features such as fever, lymphatic obstruction,headache,malaise whereas chronic phase presents as lymphadenopathy, lymphedema,hydrocoele and elephantiasis.[2] However isolated blood and bone marrow involvement is very rare.[3]Microfilarial infection as acause of pancytopenia has been supportedby few other studies. [1-6]In their cases, microfilaria was isolated in bone marrow and PBF was normal.In our case, microfilariae was found in third day sample of peripheral blood examination(PBF) emphasizing the role of repeated blood examination preferably from a nocturnal sample in patients presenting with fever and pancytopenia in endemic areas. Hematuria could be a result of thrombocytopenia with or without filariae induced cystitis. We could not do cystoscopy in this case. The present case was unique since there was no eosinophilia. Absence of eosinphilia may

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possibly be because of microfilaria induced cytokine response leading to bone marrow dysfunction.Microfilariainfection as a cause of fever and pancytopenia in this case was also substantiated by the fact that patient dramatically responded to antifilarial medication. The possible cause of her previous episode could have been occult filariasis.

Conclusion

Microfilarial infection presenting with unusual manifestation such as pancytopenia may cause delay in diagnosis, hence possibility of microfilarial infection must be kept in mind particularly in endemic areas even with atypical presentation.Repeated PBF examination preferably from a nocturnal sample, must be evaluated in all cases of fever with pancytopenia in endemic areas. This diagnosis has opened up a easily treatable cause of pancytopenia.

Figure 1: Photomicirograph showing microfilaria parasite in peripheral blood (20x)

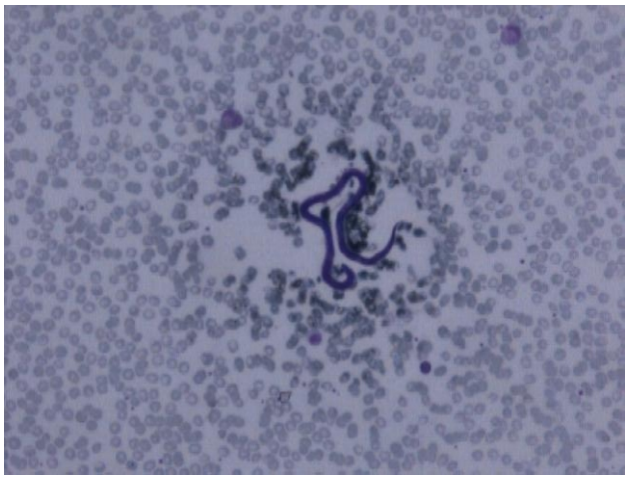
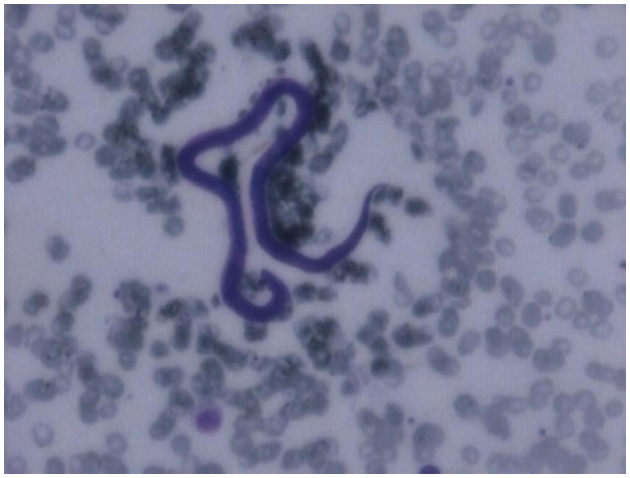


Figure 2: Photomicrograph showing microfilariae parasite in high power (40x)



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