Co-incidental diagnosis of Chronic Myeloid Leukemia (Chronic phase) and Filariasis in a Young Adult: An Interesting Case Report

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ABSTRACT

Filariasis is a major public health problem in tropical countries including India. There have been very few case reports of incidental filariasis in the peripheral blood smears in patients with leukemia. We present a case where simultaneous initial diagnosis of chronic phase of chronic myeloid leukemia (CML) and filariasis was made. Such an association has been reported very rarely. Here we are reporting a similarly rare association in a thirty year old lady.

Key words: Microfilaria, Wuchereria Bancrofti, CML.

CASE REPORT

A Thirty-year-old lady presented with two episodes of low-grade fever, weakness and fatigability over fifteen days. She was referred from her primary health care providers to our centre in view of thrombocytosis. Physical examination revealed only pallor, without hepatosplenomegaly or lymphadenopathy. Ultrasonography abdomen also showed no organomegaly. Computerized Tomography scan of abdomen revealed mild hepato-splenomegaly. Initial peripheral blood counts on day of admission revealed haemoglobin of 9.8 g/dl, total leukocyte count of 9.09 x 10^3/microL (differential count : 58% polymorphs, 32% lymphocytes, 5% monocytes, 2% eosinophils and 3% basophils) and platelet count of 958 x 10^3/microL. Detailed peripheral blood smear examination showed basophilia (without eosinophilia) and incidentally microfilaria of Wuchereria bancrofti. Successive hemograms over next10 days revealed increasing thrombocytosis which reached up to 19Lakh/microL and increasing anaemia. JAK-2 mutation study on peripheral blood was negative. In view of peripheral basophilia and thrombocytosis peripheral blood BCR/ABL was done, which came out to be positive. Later on bone marrow aspiration-biopsy and conventional cytogenetics were performed which revealed t(9,22) with 9q deletion in 90% of cells with morphologic & immunophenotypic findings suggestive of chronic myeloid leukemia (chronic phase). Based on the above findings, a diagnosis of chronic phase of CML with microfilaria of Wuchereria bancrofti was established. Hence this was an unusual case of CML, chronic phase with incidental filariasis. Patient was started on Tablet Imatinib and Diethylcarbamazine (DEC) to which she responded and her blood parameters normalized in one month time.

DISCUSSION

Filarial infection is endemic in some parts of India. It may be associated with other disorders. Even when not suspected clinically, microfilaria may be sometimes found in peripheral smear or bone marrow smear. The coexistence of microfilaria and malignancy may be coincidental. Filariasis, in association with solid malignancies, is well-described in literature.[1]

In the natural history of lymphatic filariasis, the adult worm lodges in the lymphatics and the microfilariae circulate in the blood stream.[2]

Suniti pahwa et al., and Deepa R et al., found coincidental microfilaria in a case of blastic phase of CML.[3,4]

Peripheral blood eosinophilia is a common hematological finding in filariasis. Our case lacked eosinophilia. This is similar to a few other reported cases where bone marrow microfilaria was associated with lack of eosinophilia.[5,6,7]

The absence of peripheral blood eosinophilia in these cases may be due to altered immune response secondary to malignancy or due to the oxidative stress associated with filariasis.[8]

CONCLUSION

Hence, it is concluded that the possibility of microfilaria should be kept in mind in patients with fever, even in the absence of classical clinical presentation. The coexistence of microfilariae and CML is a coincidence. The careful screening of smears can diagnose a treatable infection as well as malignancy.

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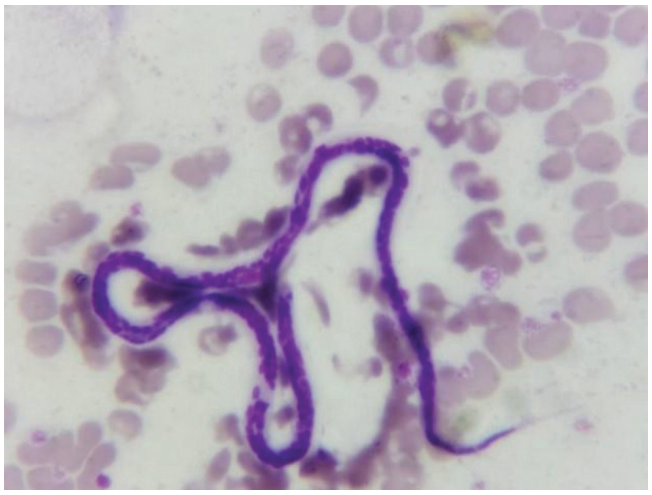
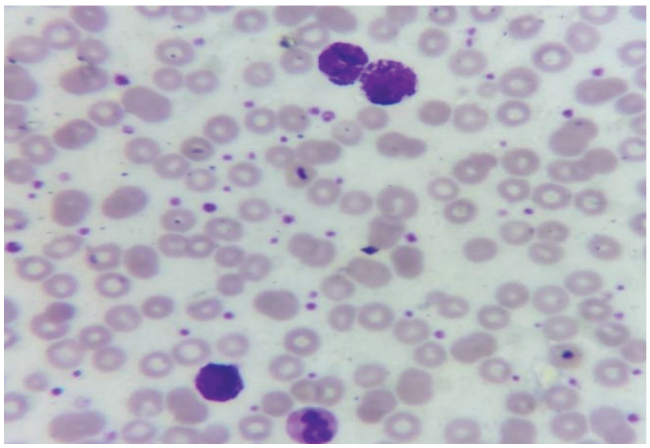
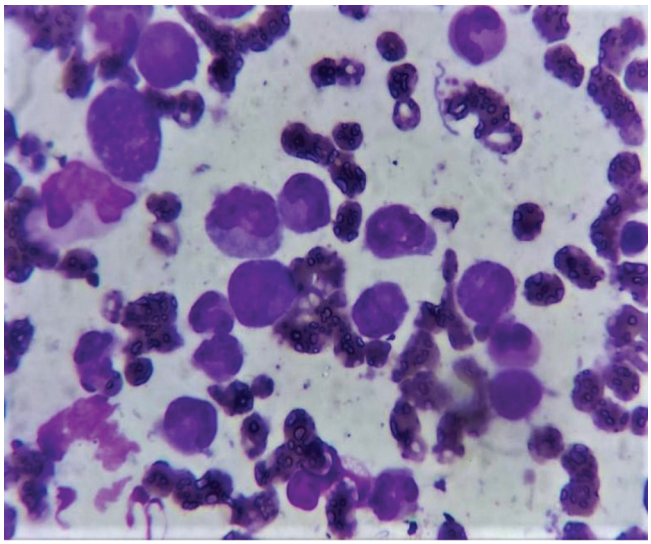


Photomicrograph-1: Microfilaria (40x)

Photomicrograph-2: Sheathed Microfilaria without nuclei in tip of tail(100x)



Photomicrograph-3: Basophilia on Peripheral smear(100x)



Photomicrograph-4: CML on Bone Marrow (100x)

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