Common Parasite With Uncommon Associations

As previously described by others, filariasis has many hematologic associations. The goal of this article is to describe three patients with hematologic malignancies that were detected in the course of investigating clinical manifestations of their parasitic infections. We are describing the original work is properly cited.

Dear Editor,

Filaria is a common problem in India. The infection is seen endemically in the coastal regions especially around Orissa and Bihar. Incidental filariasis has previously been described in cytology smears from a wide variety of sites and its presence in a bone marrow aspirate was described as early as 1976. However, association with hematologic malignancies is limited to only an occasional case report. We are describing three cases of filaria infection detected first when the patients were investigated for a suspected hematologic disorder.

Case 1
A 41 year old male presented with complaints of weakness and easy fatiguability for one year with fever for 1 month and petechial rash for 15 days. On examination, he was pale, febrile with a just palpable spleen. There was no lymphadenopathy or hepatomegaly. His hemoglobin was 12 g/dl, total leucocyte count was 98.6X10^9/L with a platelet count of 56X10^9/L. Differential leucocyte count on peripheral smear showed 94% blasts and a bone marrow examination was advised. The bone marrow smears showed 95% blasts which were negative for Myeloperoxidase (MPO), Sudan Black (SB), Periodic acid schiff (PAS). An occasional microfilaria was identified on the SB stained slide which was sheathed with a free cephalic space and tail tip free of nuclei. On the basis of these findings, the species was identified as Wuchereria bancrofti (Figure 1). On immunophenotyping, the blasts were positive for CD19, CD10, cytoplasmic CD79a, TdT, CD34, HLA-DR and negative for CD2, CD7, CD13, CD33, CD117, CD 64 and MPO. He was diagnosed as CD10 positive B-ALL. Following this, the peripheral smear was reviewed and it showed an occasional microfilaria. The patient was given a course of diethylcarbamazine before chemotherapy was started. He is presently on induction chemotherapy and doing well.

Figure 1. Sudan black stained bone marrow smear showing microfilaria of Wuchereria Bancrofti and SB negative blasts (400X).

Case 2
A 71 year old male presented with generalized lymphadenopathy. His cervical lymph node biopsy was suggestive of Classical Hodgkin’s lymphoma. A Staging bone marrow biopsy was performed. Hemogram showed a hemoglobin of 8.2 g/dl, TLC of 3.6 X10^9/L with a platelet count of 84 X10^9/L. His peripheral smear showed pancytopenia. The differential count showed 65% neutrophils, 30% lymphocytes, 3% monocytes and 2% eosinophils. There was an occasional microfilaria of Wuchereria bancrofti. Bone marrow aspirate and biopsy was cellular and did not show any evidence of lymphoma involvement.
Case 3
A 40 year old male presented to the department of hematology in view of leukocytosis. He was a case of acute onset quadriparesis with respiratory and bulbar palsy. His CECT spine was suggestive of myelitis of tubercular/viral etiology. He was provisionally started on antitubercular therapy. His routine hemogram showed a TLC of 21.3 \times 10^9/L, hemoglobin of 11.4g/dl and platelet count of 356 \times 10^9/L, in view of leucocytosis, a NAP score was advised. The NAP score was 185 with a control of 162. Incidentally on the NAP stain, a few microfilariae were seen (Figure 2). A repeat hemogram and peripheral smear examination were done which showed neutrophilic leucocytosis (N90L6E1M3) and occasional microfilariae of Wuchereria bancrofti were identified. However, there was no evidence of any hematological disease.

Figure 2. Neutrophil Alkaline Phosphatase stained peripheral smear showing microfilaria of Wuchereria Bancrofti and NAP positive neutrophil (1000X).

Discussion
Sonal Jain, Monica Sharma, Jasmita and Seema Tyagi.
Department of Hematology, All India Institute of Medical Sciences, New Delhi
Correspondence to: Dr. Jasmita, M.D. Department of Hematology, All India Institute of Medical Sciences, New Delhi. Phone Number: 9999347544, Fax: 01126588663. E-mail: drjasmita@gmail.com

Competing interests: The authors have declared that no competing interests exist.

References:
1. Gupta S, Gupta R, Bansal B, Singh S, Gupta K, Kudesia M. Significance of incidental detection of filariasis on aspiration smears: A case series. Diagn Cytopathol. 2009. 11: 38(7): 517-520.
2. Pradhan S, Lahiri VL, Elhence BR, Singh KN. Microfilaria of Wuchereria bancrofti in bone marrow smear. Am J Trop Med Hyg 1976; 25: 199-200. PMid:1259081
3. Sharma P, Tyagi S. An unusual cause of eosinophilia in AML-M4 without the inv(16) abnormality. J Blood Disord Transfus 2010; 1:104. doi:10.4172/2155-9864.1000104