

Microfilaria in A Bone Marrow Aspirate

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Abstract

Filariasis is fairly common in certain parts of India with the patient presenting with pyrexia, lymphadenopathy and elephantiasis. Microfilariae have been reported in many organs of the body as well as in rare situations such as vaginal smears, nipple secretions and ascitic fluid. There have been very few case reports of its presence in bone marrow aspirate. Our case was a 24 year old male patient who had presented with fever with chills and anaemia. Clinically filariasis was not suspected. Microfilaria was detected in the bone marrow aspirate which was done as investigation for his fever and anaemia.

Introduction

Filariasis is fairly common in certain parts of India with the patient presenting with pyrexia, lymphadenopathy and elephantiasis. Microfilariae have been reported in many organs of the body as well as in rare situations such as vaginal smears, nipple secretions and ascitic fluid. The presence of microfilaria in bone marrow is an unusual finding. There have been very few case reports of its presence in bone marrow aspirate.^{1,2} We encountered one such case.

Case Report

Our patient was a 24 year old man, a resident of Mumbai. He presented with fever with chills of 3 days duration associated with breathlessness. Clinical investigation revealed the patient to have pallor (+). All investigations done to determine the cause of fever were uncontributory. The clinical impression was pyrexia of unknown origin with megaloblastic anaemia. The complete hemogram revealed Hb – 7 gm%, TLC – 4200/cu mm, platelet count – 139000. The RBC count and blood indices were within normal limits. Peripheral blood smear showed moderately hypochromic normocytic RBCs, platelets were adequate. The differential leucocytic count was polymorphs – 68%, lymphocytes – 24%, eosinophils –

8%. The examination of the bone marrow aspirate shows a mildly hypercellular marrow and a normoblastic reaction. The M:E ratio was 2:1. There was a mild increase in the eosinophil precursor cells. The megakaryocytes were normal in number and morphology. Also observed as an incidental finding in the bone marrow aspirate were microfilariae that were sheathed with the tail end free of nuclei (Figs. 1 and 2). These microfilariae were *Wuchereria bancrofti* the most common species in India.

Discussion

Once deposited at the site of puncture the larvae slowly enter through the skin on their own. They then form “third stage larvae”, which reach the lymphatic channels and settle down in regional lymphnodes. They mature in 5-18 months time producing new larvae. These then enter through the thoracic duct into the venous system, pulmonary capillaries and finally into the peripheral circulation.³ Thus they may lodge in any part of the circulatory system including the bone marrow.

In this patient the mild eosinophilia, respiratory complaints and fever was due to the parasitic infestation although the patient had no overt symptoms attributable to the parasitic infestation. Thus the presence of microfilariae in the bone marrow indicates their ability to cross the vessel wall.⁴ There

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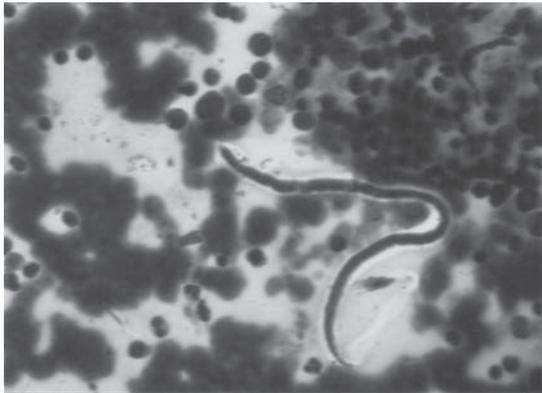


Fig. 1 : Bone marrow aspirate smear showing sheathed microfilaria of *W. bancrofti* 100X.

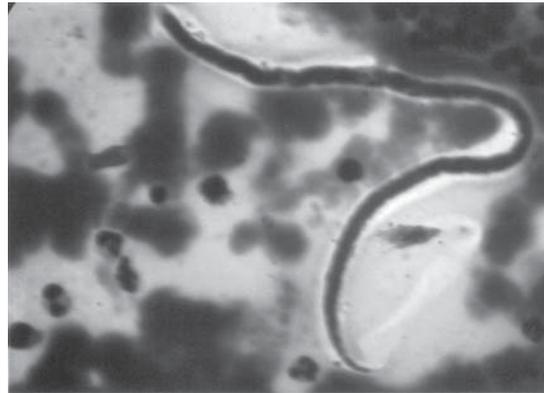


Fig. 2 : Higher magnification of the microfilaria in the bone marrow smear 400 x.

have been case reports in literature of patients presenting with anaemia and asymptomatic filariasis but it has been difficult to prove the relationship between filariasis and anaemia.²

References

1. Rani S, Beohar PC. Microfilaria in bone marrow aspirate : A case report. *Acta Cytol* 1981; 25 (4) : 425-9.
2. Shenoï U, Pai PR, Pai U, *et al.* Microfilariae in bone marrow aspiration smears. *Acta Cytol* 1998; 42 (3) : 815-16.
3. Chartterjee KD. Parasitology in Relation to Clinical Medicine. 7th edition, 1969: pg. 180-83.
4. Pradhan S, Lahiri VL, *et al.* Microfilaria of *Wuchereria bancrofti* in bone marrow smear. *Am J Trop Med Hyg* 1976; 25 (1) : 199-200.

DEPRESSION AND CHRONIC DISEASE

'These results indicate the urgency of addressing depression as a public-health priority to reduce disease burden and disability, and to improve the overall health of populations'

Depression is often comorbid with other chronic diseases and can worsen associated health outcomes. Saba Moussavi and colleagues examined evidence from the World Health Surveys about the worldwide prevalence of depression, asthma, angina, arthritis, and diabetes. They showed that depression produced a greater decrement in health than the other chronic diseases analysed, especially when comorbid with diabetes. In a Comment, Gavin Andrews and Nickolai Titov argue that treatment for depression should at least be on a par with that for other chronic diseases.

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