



Mansonella perstans filariasis in an HIV patient: finding in bone marrow

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A 30 year-old asymptomatic black man was admitted to our hospital for monitoring of his HIV illness, contracted by heterosexual contact. He had lived in Senegal. Nine months before admission he had developed bilateral cervical lymphadenopathy. Hematologic and blood chemical values at that time revealed CD4 lymphocytes $0.094 \times 10^9/L$, CD8 $0.951 \times 10^9/L$ and IgG values of 2,400 mg/dL; hemoglobin and platelet values were normal and his leukocyte count was $5.8 \times 10^9/L$ (neutrophils $1.38 \times 10^9/L$, eosinophils $1.39 \times 10^9/L$). A diagnosis of AIDS (A3 category) was made. Combined antiretroviral therapy with zidovudine and zalcitabine and *Pneumocystis carinii* prophylaxis with cotrimoxazole were begun. Eosinophil count increased progressively ($2.88 \times 10^9/L$), and CD4 lymphocyte concentration improved ($0.338 \times 10^9/L$). A stool culture yielded no pathogenic microorganisms, and a stool of examination for parasites was negative. Radiographs of the chest did not reveal abnormal images.

Microscopic examination of a needle aspirate from the sternum showed hypocellularity and marked eosinophilia. A microfilaria was observed (Figure 1). Several marrow smears were examined and no more parasites were found. Peripheral blood samples were concentrated by Knott's technique;¹ the microfilaria was identified as *Mansonella perstans*.

Mansonella perstans filariasis is transmitted by *Culicoides* spp, in which microfilariae develop to the infective stage; subsequent development to the gravid adult stage in vertebrate hosts requires several months. These microfilariae are vermiform, appear to be composed of nuclei interrupted by spaces and other cells, precursors of organs and organelles. A blunt tail filled with nuclei, and the absence of a sheath are the most characteristic features.^{2,3}

In general, *Mansonella perstans* is considered as an innocuous filaria that produces little or no pathology in human host.⁴ Cases of conjunctival allergic nodules⁵ or slight urticarial skin lesions have been reported.⁶ It is widely distributed in tropical Africa and less in South America and is often seen in immigrants or individuals who have travelled in areas where it is endemic. The location of adult worms in a human host is less known, but it is believed they inhabit the abdominal cavity and mesentery. Microfilariae without sheaths are small, approximately 2-3 by 4-5 microns, and circulate in peripheral blood without any

periodicity. The presence of a microfilaria in the bone marrow of our patient may indicate that they can cross the blood vessel wall;⁷ the peripheral blood samples were recolected in the morning.

Our patient began AIDS specific treatment and his CD4 lymphocyte count improved, but at the same time, his eosinophil count also increased. He remained asymptomatic all the time. We believe that the *Mansonella perstans* parasitic infection had no influence on the evolution of the HIV infection.

We found a microfilaria in the bone marrow by chance. Diagnosis of *Mansonella perstans* filariasis should be made from peripheral blood by Knott's technique. This possibility should be investigated in immigrants from Africa or South America with asymptomatic eosinophilia.

References

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Figure 1. *Mansonella perstans* in bone marrow smear (May-Grünwald-Giemsa; oil immersion magnification, x1,000).

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