

An uncommon finding in a peripheral blood smear

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A young, Senegalese man was admitted to an Italian hospital with acute fever (40.5°C) and headache ten days after returning from a 3 month stay in his home country. The patient reported recent malaria episodes treated with antimalarial drugs. On admission physical examination revealed a palpable spleen: full and differential blood cells count, as well as routine blood biochemistry tests, were unremarkable. Although thin blood films for malaria parasites were reported negative after the first reading, a diagnosis of malaria was made on clinical grounds and antimalarial treatment administered. Given the clinical diagnosis the same slides were thoroughly reviewed looking for low parasitemia that could have been overlooked. During this second reading a few spirochetes, 4 to 10 per slide (Figure 1), were detected by a different observer in all the patient's slides. The final diagnosis of relapsing fever caused by *Borrelia* spp. was then made.

Imported relapsing fever is a rare event in Europe,¹⁻⁷ and to our knowledge this is the first case described in Italy.

Apart from being recurrent in nature, relapsing fever offers no pathognomonic signs and it may be easily misdiagnosed as malaria.¹ Diagnosis of relapsing fever is made by demonstrating the presence of spirochetes in thick or thin blood films. Intraperitoneal inoculation of white mice is a more sensitive test⁸ but it is not usually available in most laboratories. Available serological tests lack both specificity and sensitivity and are of little help.¹ On May-Grünwald-Giemsa stained slides *Borrelia* spp. causing relapsing fever appear as mauve-red wavy filaments, 0.5 μm thick and 8 to 20 μm long, having lost their original cork-screw appearance observable with dark-ground microscopy on wet preparations.

Tick-borne relapsing fever is endemic in Senegal, where *Borrelia crocidurae* is the prevalent etiological agent⁸ and transmitted by the soft-tick *Alectorobius sonrai*. Travellers coming from this African country seem to be at particular risk for contracting this infectious disease.^{1,3,4}

References

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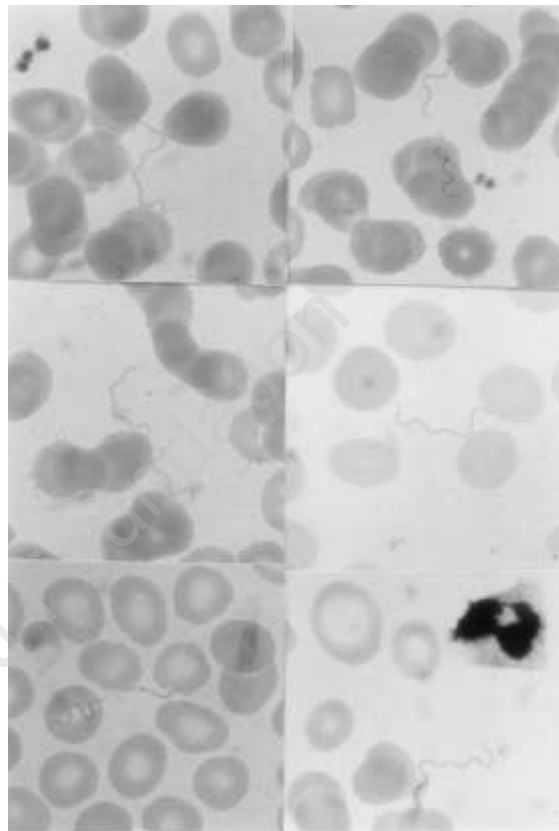


Figure 1. *Borrelia* spp. in peripheral blood smears (MGG, original magnification ×1000).

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