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The combined treatment with levamisole and mebendazole for a *perstans*-like filarial infection in Rhodesia

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An unsheathed microfilarial infection, extremely resistant to all forms of treatment, is particularly common in large areas of Rhodesia. These microfilariae have so long resembled *Dipetalonema perstans* that we have generally accepted that the infection is due to this filaria. As yet, no one has proved this because no adult worms have been demonstrated. Orihel has recently postulated that some of these may be due to *Meningonema peruzzi* (ORIHEL, 1973). To date, this filarial infection has been extremely refractory to treatment. A report by MAERTENS & WERY (1975) that a combination of mebendazole and levamisole was effective in their small series of cases, prompted us to treat in this way the patients we found harbouring the microfilariae in their blood. In three of them the microfilariae disappeared promptly but in one this therapy was unsuccessful.

Illustrative Cases

Case I

In June, 1968, Mrs. M. A., a European aged 35 from the Tenge (Kariba) area, developed an allergic swelling over her forehead and above her right eye ("bung eye"). This cleared after some weeks but she still complained of feeling exhausted. An eosinophilia of 24% in a leucocyte count of 12,800 was found. No ova were detected in the excreta and the bilharzial skin test was negative. Nevertheless she was given hycanthone. She continued feeling tired and nervous and had lost weight. In 1971 her blood showed a 13% eosinophilia. Later that year she developed upper abdominal pains. In 1975 the leucocyte count was 11,000 per mm^3, with an eosinophilia of 22%. A rectal biopsy revealed no ova, yet a second course of hycanthone was prescribed. As she lived in an endemic *perstans* area, her blood was examined for evidence of this parasite. Microfilariae, resembling *D. perstans* were discovered in August, 1976. Various drugs, including banocide, prednisolone and triostam, were administered during the course of several months but she continued to feel "ghastly". On 9 February, 1977, we decided to treat her with the combined course of mebendazole (100 mg. t.i.d. p.c.) [Vermox, Ethnor] and levamisole (100 mg. b.d.) [Ketraex, I.C.I.] by mouth for 10 days. She returned to normal health after completing this treatment. Four blood checks since, taken at the Blair Research Laboratory, have all proved negative.

Case II

Mr. I. A., aged 40, also from Tenge, was seen in July, 1977 because, for a year, minor cuts and scratches he received were slow in healing and often became septic. His leucocyte count was 13,800 with an eosinophilia of 7%. The bilharzial FAT was negative but 18 microfilariae, resembling *D. perstans*, were detected by the Blair Laboratory in two samples of his blood. He was treated for 10 days, as described above, but in November, 1977 his blood was still positive.

Case III

In a survey, carried out by Dr. Clarke in Tenge, Mrs. H., aged 48, was found to be harbouring microfilariae. She was asymptomatic. She showed an 8% eosinophilia (absolute eosinophil count 490 per mm^3) and the bilharzial FAT was positive. On 29/8/77 she was given the same course of mebendazole and levamisole as already described. Samples of her blood were examined on 21/10/77 and on 8/3/78 by the Buffy Count method, but no microfilariae were demonstrated.

Case IV

Mrs. D. W., aged 36, felt fit but microfilariae were discovered in her blood during Dr. Clarke's Tenge survey. Her blood showed an eosinophilia of 1%. On 2/9/77 mebendazole and levamisole were prescribed in the same dosage as for our other cases. When her blood was checked at the Blair Research Laboratory on 15/2/78 no microfilariae were found.

Comments

When Karel Maertens and Mare Wery in Zaire treated two patients successfully with mebendazole (400 mg. daily) and levamisole (300 mg. daily) the microfilariae disappeared rapidly from the blood which, thereafter, remained negative for these parasites. It would appear that in the combined use of levamisole and mebendazole we have two drugs capable of eliminating the microfilariae from the circulation and, therefore, it may be assumed that the adult filariae are killed.

All our patients took the drugs well and without side effects. However, from the literature, we know that in those suffering from connective tissue disorders, such as rheumatoid arthritis, in which the immunological mechanism is already disturbed,

untoward effects may occur with levamisole. Further, for such cases, the drug is usually given for a much longer period than our patients received (BALINT *et al.*, 1977; ROSENTHAL *et al.*, 1976).

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