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Short Report

Mebendazole treatment of dracunculiasis

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MULLER (1979) claimed that no alteration of the adult *Dracunculus medinensis* or its larvae was seen after benzimidazole treatment. Further trials established that several benzimidazole drugs reduced the inflammation and lessened the duration of disabilities. Mebendazole was used by KALE (1975) in a dose of 400 mg daily for 5 d, and by PAUL *et al.* (1983) in a daily dose of 1000 mg for 10 d. Both studies showed that mebendazole promoted rapid healing of worm emergence ulcers, induced earlier expulsion or easier manual extraction of worm, and prevented clinical relapse, However, the authors agreed that mebendazole had only moderate efficacy but was fairly well tolerated. The proposal to schedule mebendazole in primary health drug lists for villages in areas of Bénin with endemic dracunculiasis prompted this field trial.

The trial was carried out in 4 villages of the central part of Bénin, consisting of about 200 people each. The villages were surveyed for 4 years to obtain epidemiological data; the average incidence of dracunculiasis was 31%, 35%, 20% and 12% respectively.

During the first year no treatment was given to villagers except for management of wounds. In the second year and after, antibiotics and anti-inflammatory drugs were adminstered when necessary. The trial took place in the third and fourth years. Patients were allocated to 2 groups. The first group (107 patients) received 400 mg mebendazole daily for 5 d every week during the entire duration of their disease; the dosage was not adjusted for age or weight. The second group (613 patients) received normal supportive treatment without mebendazole.

Weekly follow-up was conducted during the entire transmission season (September–May). At each examination, everyone in the trial was asked to complete a questionnaire recording duration of disease and disability, number of worms, location of emergence, and number of non-emerged worms. The diagnosis of a non-emerged worm was made on the presence of non-traumatic oedema or worm migration trails under the skin.

Neither disease duration nor disability duration were significantly different between the 2 groups ($P>0{\cdot}05$; Table 1). Non-emerged worms were much more common in the treated group ($P<0{\cdot}00001$; Table 1). The site of emergence was significantly different between the 2 groups ($\chi^2=24{\cdot}21$, 2 degrees of freedom, $P<0{\cdot}0001$; Table 2).

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Table 1. Duration of disease and disability after mebendazole treatment of dracunculiasis

	No. of cases	Duration of disease (d)	Duration of disability (d)	No. of non-emerged worms
Treated	107	128	40	45 (42·1%)
Control	613	103	32	37 (6·0%)
Value of Student's *t*	–	0·34	0·12	10·82

Table 2. Distribution of site of emergence of *D. medinensis*

	No. of worms emerging	Lower limbs	Upper limbs	Abdomen to head
Treated	406	319 (78·5%)	51 (12·6%)	36 (8·9%)
Control	1463	1289 (88·1%)	98 (6·7%)	76 (5·2%)

The difference observed between the 2 groups could be explained by behavioural disorders induced by the high dose of mebendazole used in this trial. Adverse effects have never been described following a single dose of mebendazole. The diagnosis of non-emerged worms could be considered as subjective, but the emergence of the worm is obvious. The migration of the worms, resulting in the unusual pattern of emergence, could endanger the patient, as the *Dracunculus* female can expel embryos into any internal cavity such as joints.

The benefits of mebendazole treatment therefore cannot offset its complications. Following PAUL *et al.* (1983), mebendazole is not recommended in mass treatment of dracunculiasis, and such therapy should be discouraged.

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