

MANSONELLA PERSTANS FILARIASIS: FAILURE OF ALBENDAZOLE TREATMENT

by

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Summary. — Infections with *Mansonella perstans* are common in certain parts of Africa and South America. There is no standard treatment at present. We evaluated the effect of albendazole on microfilaremia in ten consecutive patients. No decrease in microfilarial counts could be demonstrated after a median follow-up period of 45 days. Albendazole was not shown to be useful for treatment of *Mansonella perstans* filariasis.

KEYWORDS: *Mansonella perstans*; *Dipetalonema*; Filariasis; Treatment; Albendazole

Introduction

Infections with the filarial parasite *Mansonella perstans* (previous *Dipetalonema perstans*) are common in several areas in Africa and South America. The adult worm lives mainly in the peritoneum, pleural and pericardial cavity and in the perirenal fat. Microfilariae are present in the blood. Culicoides are the main vectors. Infection with *Mansonella perstans* remains one of the lesser understood filarial infections. It is frequently found as a seemingly innocuous organism which seems well tolerated. Although clearly not as pathogenic as onchocerciasis or lymphatic filariasis, the infection seems to have a broad clinical spectrum. It has been associated with eye lesions, general malaise, arthralgia, neurological symptoms and endocrinological disturbances (3, 5, 6, 7). No large controlled prospective study has been performed to determine the exact extent of the pathology attributable to this nematode. Since there is no consensus regarding the pathogenicity of this organism, the need for therapy is debatable.

Several treatment schemes have been tried with variable results. Therapy with diethylcarbamazine has a low cure rate (5, 10). Ivermectin has been proven ineffective (11). High dose mebendazole for prolonged periods can produce disappearance of microfilaremia (8, 9, 12, 13). The association of levamisole with high dose mebendazole was successful in a limited number of patients (4, 8). Mebendazole is poorly absorbed from the gastrointestinal tract. Successful treatment required high dosage over prolonged periods. Albendazole is a benzimidazole related to mebendazole. It is better absorbed than mebendazole (14). Albendazole was evaluated in onchocerciasis (1, 2), but not yet in *Mansonella perstans* filariasis. In onchocerciasis, the main effect of albendazole was filarial embryotoxicity affecting all intrauterine

stages, but was not microfilarial or macrofilaricidal. The most encouraging results were obtained with 800 mg daily for seven days, which led to prolonged suppression of skin microfilarial counts. We decided to evaluate albendazole for the parasitological effect on *Mansonella perstans* parasitemia.

Methods

Ten consecutive patients (four men, six women; 39-76 years) with *Mansonella perstans* microfilaremia were identified at the Institute of Tropical Medicine, Antwerp, Belgium. All patients returned from Central Africa and resided in Belgium during the study. After the follow-up period, they returned to Africa. All gave informed consent. The microfilaremia was determined with the modified Knott concentration technique (using 5 ml of venous blood in 45 ml formaline). Baseline full blood count, absolute eosinophilia, IgE, creatinine and liver function tests were obtained. Albendazole was given in three different dosages: 400 mg BD for three days (five patients), 400 mg BD for seven days (one patient) or 400 mg BD for ten days (four patients). Eventual side effects were noted. Control of the microfilaremia and the above parameters was performed after a variable follow-up period. Changes in microfilarial densities were analyzed by the bilateral Wilcoxon signed-ranks test.

Results

After a median follow-up period of 45 (range 27-132) days, a median increase of 39 % (95 % confidence interval: - 63 % to + 240 %) in microfilarial counts was observed (Table 1). No patient was amicrofilaremic after treatment. The 95 % confidence interval for the cure rate was 0 % to - 33 %. No abnormalities were detected in the haematological and biochemical parameters. One patient had slight fatigue during treatment, which disappeared after the treatment was stopped.

TABLE 1
Mansonella perstans microfilaremia before and after treatment with albendazole

Sex	Age	Treatment days	μ fil before	μ fil after	Diff. %	Follow-up days
F	73	3	1,120	190	- 83	31
M	59	3	42	260	+ 519	95
M	76	3	18	14	- 22	43
M	62	3	460	48	- 90	132
F	42	3	6	0	- 100	27
F	65	7	22	108	+ 391	44
F	39	10	200	142	- 29	48
M	63	10	210	132	- 36	42
F	55	10	18	50	+ 178	31
F	50	10	160	228	+ 42	47

Discussion

Our study analyzed the parasitological effect of albendazole on *Mansonella perstans* parasitemia. The regimes used were well tolerated and no important side effects were detected. Unfortunately they could not show any beneficial change after a median follow-up period of 45 days. A late effect on microfilarial counts cannot be excluded. Outside the study, one patient with eosinophilia but negative microfilaremia was given albendazole 400 mg BD for ten days for a suspicion of occult strongyloidiasis. Control after this treatment showed the presence of a low number of *Mansonella perstans* microfilaria in his blood. We conclude that in this study, albendazole was not shown to be useful for treatment of *Mansonella perstans* filariasis.

Filariose à *Mansonella perstans*: traitement à l'albendazole sans effet.

Résumé. — Des infections à *Mansonella perstans* sont répandues en certaines régions d'Afrique et de l'Amérique du Sud. Jusqu'à présent, il n'y a pas de traitement standardisé. Nous avons évalué l'effet de l'albendazole sur la microfilariémie chez dix patients consécutifs. Il n'y a pas eu de diminution de la microfilariémie après un follow-up médian de 45 jours. On n'a pas pu démontrer d'activité de l'albendazole dans le traitement de la filariose à *Mansonella perstans*.

Mansonella perstans filariasis: albendazole behandeling zonder effect.

Samenvatting. — Infecties met *Mansonella perstans* zijn frekwent in bepaalde gedeelten van Afrika en Zuid-Amerika. Tot op heden is er geen standaard behandeling. Wij evalueerden het effect van albendazole op de microfilariemie bij tien opeenvolgende patiënten. Er kon geen vermindering van de microfilariemie vastgesteld worden na een mediane follow-up van 45 dagen. Er kon geen nuttig effect van albendazole aangetoond worden voor de behandeling van *Mansonella perstans* filariasis.

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