

# AN OBSTINATE CASE OF INTESTINAL CAPILLARIASIS

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## INTRODUCTION

Intestinal capillariasis has been considered endemic in the Philippines since an epidemic occurred in the area of Tagudin, Ilocos Sur in 1967-1968 (Dizon *et al.*, 1969). During the epidemic, thiabendazole was considered the anthelmintic of choice and various treatment regimens were employed (Whalen *et al.*, 1971). In spite of side effects and high relapse rate it remained the drug of choice for many years (Singson, 1969; Cabrera *et al.*, 1967; Singson and Banzon, 1969). In a review of the relapses of intestinal capillariasis, Singson (1974) reported that 68% of over 1,200 patients had recurrence of the disease at least once. These cases were considered relapses rather than re-infection since the number of new cases never approximated the number of relapses. In 1975, mebendazole was found to be the drug of choice in the treatment of the disease, given at a dose of 400 mg per day for 20 days. Side effects were not experienced and the relapses decreased dramatically (Singson *et al.*, 1975). Patients who relapsed as many as 11 times with previous treatment programmes were cured with doses of 400 mg mebendazole/day for 30 days (Cross *et al.*, 1979). One patient became a problem and

failed to respond to every drug regimen given to him. He experienced 16 relapses and he is the subject of the present report.

## A CASE REPORT

When first seen in July 1967 at the Capillariasis Research Center, Southern Ilocos Sur Emergency Hospital, Tagudin, Ilocos Sur, the patient was 38 years of age. He was a farmer-fisherman by occupation and lived in Barrio Tallaoen, Tagudin, Ilocos Sur.

His medical history revealed that on his first admission he had parasitologically confirmed intestinal capillariasis and he was treated with thiabendazole, 1 gm per day for 6 days. He was discharged as improved but 3 months later he again experienced symptoms of intestinal capillariasis, with borborygmi, abdominal pain and diarrhea and was readmitted to the hospital. He was retreated with thiabendazole 1 gm per day for 24 days and discharged without symptoms and a negative stool for *Capillaria philippinensis* eggs and worms.

He remained well until May 1969 when he was again admitted to the hospital with symptoms of intestinal capillariasis. He denied eating uncooked fish during the 1967 and 1969 admission. He was retreated with the same dosage of thiabendazole and discharged. He was seen again twice in 1971, 1972 and 1973 with the same symptoms and denials of eating uncooked fish. In November of 1972 mebendazole was being evaluated for the treatment of the disease and he was given the drug in a dosage of 200 mg/day for 13 days. He responded to this treatment but relapsed

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Table 1

Treatment given to a patient with multiple relapses of intestinal capillariasis.

Date of illness	Drug	Dose	Duration
July 1967	Thiabendazole	1 gm/day	6 d
Oct 1967	Thiabendazole	1 gm/day	24 d
May 1969	Thiabendazole	1 gm/day	30 d
Mar 1971	Thiabendazole	1 gm/day	30 d
Oct 1971	Thiabendazole	1 gm/day	30 d
Jan 1972	Thiabendazole	1 gm/day	30 d
Nov 1972	Mebendazole	200 mg/day	13 d
Mar 1973	Mebendazole	200 mg/day	10 d
Dec 1973	Mebendazole	100 mg/day	30 d
June 1975	Flubendazole	200 mg/day	10 d
May 1976	Flubendazole	200 mg/day	10 d
June 1978	Mebendazole	400 mg/day	30 d
Aug 1978	Mebendazole	400 mg/day	30 d
Nov 1978	Mebendazole	400 mg/day	30 d
July 1979	Flubendazole	100 mg, 800 mg, 600 mg, and 400 mg each for for a total of	7 d 28 d
Oct 1979	Mebendazole	600 mg/day 200 mg/day 100 mg/day	49 d 30 d 6 mo

4 months later. He was again treated with mebendazole 200 mg per day for 10 days, a dosage being evaluated at that time. He was again treated with mebendazole in December 1973, 100 mg per day for 30 days, relapsed and then treated the next two relapses with flubendazole, 200 mg per day for 10 days. He responded to these treatment as he did others. He received mebendazole 400 mg per day for 30 days three more times in 1978 and discharged as cured each time. In July 1979 he relapsed again and was treated with larger dosage of flubendazole for 4 weeks.

At the time of the 16th relapse in October 1979 he was admitted to the San Lazaro Hospital in Manila. On admission, physical

examination revealed a poorly developed, conscious, coherent and ambulatory patient. His weight was 45 kg, blood pressure 100/60 and pulse rate 70/min. Pertinent physical findings were mostly noted in the abdomen and extremities. The abdomen was scaphoid, liver and spleen were non-tender and not enlarged, but the bowel sounds were hyperactive. Lower extremities showed bilateral pedal edema.

Routine laboratory tests were carried out and the only remarkable findings were: decrease erythrocytes (3.2 mil/c.mm), decreased hemoglobin (11.8 gm %) and increased erythrocyte sedimentation rate ESR (51 mm/60 min). Stool examination showed the

presence of adult male *Capillaria philippinensis* and *Echinostoma* sp. ova. The blood chemistries showed a decrease in blood-urea-nitrogen (7.4 mg %), decreased total protein (4.5 gm %), decreased albumin (1.4 gm %) and decreased globulin (3.1 gm %). Serum sodium and serum potassium were decreased, 133.5 and 2.7 mEq/L, respectively. An upper gastrointestinal series showed an irritable and deformed duodenal cap consistent with chronic ulcer disease.

Mebendazole was administered at a dose of 600 mg/day for 49 days, 200 mg/day for 30 days and 100 mg/day for 6 months. Supportive measure such as multi-electrolyte intravenous fluids, diet high in carbohydrates and protein, as well as B-complex vitamins were also given.

Post-treatment laboratory examination showed stools negative for parasites on the 15th day of treatment. The blood chemistries were within normal limits on the 49th day of confinement and the patient was finally discharged completely symptom-free. The patient was seen periodically for the next few years and was found in good health. He has not had symptoms of intestinal capillariasis since 1979.

## DISCUSSION

Relapses in patients with intestinal capillariasis were not unusual when thiabendazole was used for treatment. As many as 68% experienced relapse, one to as many as eleven times (Singson, 1974). Patients receiving other anthelmintics found effective against the disease also experienced relapses. When mebendazole became available, the relapse rate decreased dramatically and the present patient is the only one who experienced repeated relapses with the standard treatment of 200 mg/day for 20 or 30 days. The drug of choice, however, remains mebendazole (Singson *et al.*, 1975).

The case presented in this report represents an unusual instance of intestinal capillariasis that relapsed 16 times. The relapses continued to occur inspite of receiving adequate dose of anthelmintics which have effective capillaricidal action. The recurrence of the disease could not be considered re-infection because the patient denied eating uncooked fish since first being treated for intestinal capillariasis.

The reason for the repeated relapses in this patient are not known. It is suspected that the drugs act selectively on the adult rather than the larval forms leading to incomplete elimination of the parasite when medication is not given long enough. If given continuously, however, at high doses for a prolonged period, larval forms that are maturing in the bowel will be affected and will be eliminated when becoming adult worms. The question also arises why did this happen only in this patient. The answer is also speculative. We suspected that larvae may have been in areas of the bowel unaffected by the drug and by the time the parasite matured the medication was no longer being given. These observations, therefore suggest that relapses could be prevented by a high dose and prolonged administration of capillaricidal drugs.

Relapses should be expected when low dosages of mebendazole are given. In our experience it is prudent to over-treat rather than under-treat. Even in preliminary trails with mebendazole, the drug given in lower dosages for shorter periods of time often resulted in relapse and unfortunately, sometimes death. The recommended treatment is mebendazole 200 mg/day in divided dosages for 20 days in case of first admissions and the same dosages for 30 days in case of relapses. If relapses persist the drug dosage should be increased and the days of treatment extended.

SUMMARY

A patient who experienced episodes of intestinal capillariasis caused by *Capillaria philippinensis* 16 times is presented. The patient was first seen in July 1967 with the parasitosis and was treated with thiabendazole. He experienced a relapse in October 1967. He was readmitted to the hospital again in 1969, twice in 1971, twice in 1972, twice in 1973, once each in 1975, 1976, three times in 1978 and twice in 1979. During this period he was treated with various dosages of thiabendazole, mebendazole and flubendazole. At the final admission he was treated with mebendazole, 600 mg per day for 49 days, 200 mg per day for 30 days and 100 mg daily for 6 months. The patient was cured and had no further relapses in 5 years. The recommended dosage of mebendazole is 200 mg per day for 20 days for new cases and 30 days for relapses. It is advised to over-treat the infection rather than under-treat because of the problem of relapses. Internal autoinfection occurs and it is believed that the drug acts selectively on the adults and not the larval forms of the parasite.

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