Effectiveness of Mebendazole in *Trichuris trichiura*; A Report on 2 Cases of Mild Infection

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*Key words: Trichuris trichiura, mebendazole*

**Summary**

Two admitted patients, a 5-year-old Filipino girl and a 29-year-old Indonesian man, who were diagnosed otherwise were concurrently found to harbour *Trichuris trichiura* eggs in stoll specimens containing 3,300 and 30 eggs per gram feces (EPG), respectively. A satisfactory response was obtained with administration of mebendazole in the recommended dose of 100 mg twice daily for three consecutive days. Repeated post-treatment fecal examinations revealed 0 EPG. Adverse reaction, either physical or laboratory, due to the anthelmintic was negative. The study indicates that the effectiveness of mebendazole on mild infection with *T. trichiura* is excellent without any untoward effect.

**Introduction**

*Trichuris trichiura* infection is one of the most common soil-transmitted helminthiasis in the warm, moist regions of the world. However, today the incidence of this parasite is low in Japan. Recently, there has been such enhanced interest among the Japanese clinicians in parasitic infection, including *T. trichiura*, as an "imported" infectious disease, due to the strikingly increasing amounts of Japanese’s overseas trip and foreigners’ travellers. Mebendazole is an effective anthelmintic against *T. trichiura*. Though Tanabe and Tanaka has shown in detail the clinical evaluation of mebendazole in the treatment of trichuriasis, there have been a few case studies published in this country (Nishiyama et al.). Our study offers additional case reports on the effectiveness of mebendazole for treating this intestinal infection.

**Cases**

Case-1. A 5-year-old Filipino girl became febrile on Apr 1, 1988 and was admitted to a hospital on Apr 6 for high grade fever and vomiting. *Salmonella typhi* was identified from her blood drawn on Apr 7 and she was diagnosed as typhoid fever. From Apr 7 to Apr. 11, 2.0 g/day of chloramphenicol (CP), 2.0 g/day of carbenicillin (CBPC) and 100 mg/day of gentamicin (GM) were administered intravenously. On Apr 12, she was transferred to the Department of Infectious Disease, Tokyo Metropolitan Bokuto Hospital. Physical examination revealed hepatosplenomegaly and meteorism. Abnormalities in laboratory data examined on Apr 14 were as follows: S-GOT, 600 IU/l (normal, 0–40); S-GPT, 59 IU/l (normal, 0–40); LDH, 996 IU/l
<table>
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<tr>
<th>Case</th>
<th>Pre-treatment EPG</th>
<th>Post-treatment EPG</th>
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<tr>
<td>Case 1</td>
<td>3,300</td>
<td>0 (6 days p.t.)</td>
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<tr>
<td>Case 2</td>
<td>30</td>
<td>0 (10 days p.t.)</td>
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(p.t. = post-treatment)

(normal, 140–480); CRP, 2.1 mg/dl (normal, <0.3). After oral administration of CP 1.0 g/day (Apr 12–15) and 0.5 g/day (Apr 16–26), the patient improved remarkably and the laboratory data appeared within normal limits. The eggs of *T. trichiura* were detected from her stool on Apr 15. Mebendazole, in the dose of 100 mg twice daily for three consecutive days, was given orally from Apr 30 to May 2. Careful physical examinations, symptomatic inquiries and sets of laboratory work-up were repeated. No adverse reaction was detectable either during the course or in the post-treatment follow-up. Counts of eggs per gram (EPG) of fecal material obtained before and after treatment are depicted in Table.

Case-2. A 29-year-old Indonesian man was admitted to the Department of Infectious Disease, Tokyo Metropolitan Bokuto Hospital with the chief complaints of low grade fever and epigastralgia on May 14, 1988. Physical examination revealed upper abdominal tenderness and splenomegaly. List of remarkable laboratory data on May 16 were as follows: S-AMY, 865 IU/1 (normal, 55–220); CRP, 4.4 mg/dl (normal, <0.3); IgG, 2802 mg/dl (normal, 800–1800); IgM, 359 mg/dl (normal, 72–250); CEA, 12.6 ng/ml (normal, <5.0); Elastase-1, 6260 ng/ml (normal, 72–432). Abdominal ultrasonography (May 16) and abdominal CT scan (May 20) disclosed the swelling of pancreas, enlarged paraaortic lymphonodi and splenomegaly. Stool specimen on May 17 was positive for eggs of *T. trichiura*. He undertook the treatment with mebendazole, 100 mg twice daily for three consecutive days, from May 20 to 23. The counts of EPG are given in Table. Tuberculosis of paraaortic lymphonodi and chronic pancreatitis were found by laparotomy on July 11, 1988.

**Discussion**

Many workers reported various cure rates or egg reduction rates of *T. trichiura* infection by mebendazole therapy. Scragg and Proctor) reported the cure rates of this parasite infection were 43% by a single course of mebendazole in the dose of 100 mg twice daily for 3 days, 74% by repeated courses of therapy and egg reduction rates were 82–99%. Nagalingam et al) showed that non-cure rates were 93.3% by one course of the drug in the dose of 100 mg twice daily for 3 days and 6.7% by 2 courses. However, Chavarria et al) reported that egg reduction rates of *T. trichiura* following 100 mg of mebendazole twice daily for 3 days was 99.3% and cure rate was 75.0%. In our study, the number of eggs per gram feces were 3,300 and 30, the patients being asymptomatic due probably to the mild degree of *T. trichiura* infection. With identical recommended doses we have experienced the egg reduction rates of 100%. According to the results of previous workers and ours, it is thought that mebendazole is not a perfect drug against *T. trichiura* infection but it is worth using for *T. trichiura* infection for its efficacy. Cases of severe neutropenia have been reported in high-dose mebendazole therapy for hydatid disease (Levin et al.) Such a high dose for hydatid disease exceeds overwhelmingly the usual dose recommended for treating the infection by *T. trichiura*. To our knowledge, no clinical side effect of mebendazole against *T. trichiura* infection has been reported. In our cases, neither undesirable subjective symptoms nor untoward change of data attributale to mebendazole was identified. It can be safely stated that for mild infections of *T. trichiura* mebendazole is the drug of choice and it is recommended that stools be examined of patients who...
travelled or had travelled in tropical or subtropical area, parasitologically.

Acknowledgement

We thank Dr. Wichai Ekataaksin, Laboratory of Histology, Department of Anatomy Division 1, School of Medicine, Tokyo Medical & Dental University, for his linguistic assistance and proofreading.

References


5歳のフィリピン女性と29歳のインドネシア人男性がそれぞれ別の疾患で入院したが、2人ともに虫卵検査で鞭虫卵が認められた。2例ともに鞭虫感染によると考えられる症状は認めなかったが、メベンダゾール100mg/回を1日2回の割合で3日間投与した。治療前糞便1g中の虫卵数数はそれぞれ3,300と30であったが、駆虫剤投与後はいずれも0となった。駆虫剤による副作用および臨床検査値異常は認められなかった。メベンダゾールは鞭虫感染に対し有効な治療薬であり、投与する価値のある薬剤と考えられる。又、熱帯および亜熱帯地方に旅行歴のある患者は日本人、外国人をとわず虫卵検査を行うべきであろう。