

Tapeworm Infection in Perlis

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Introduction

HUMAN BEINGS are infected with tapeworms by consuming the larval stage of cysticerci present in infected meat and viscera of cattle (in the case of *Taenia saginata*) or of pigs (in the case of *Taenia solium*). In turn the cycle is perpetuated by the eggs in the human excreta which are the source of infection to the animals.

Very few reports of tapeworm infection have been made in the Malaysia/Singapore region in the last twenty years and various surveys on the incidence of intestinal parasites did not reveal the presence of tapeworms. Discussions with colleagues who had worked in hospitals in rural areas and with those working in the Institute of Medical Research confirmed the rarity of tapeworm infection in human beings in this country.

Three cases are reported from the border state of Perlis during the author's service there in 1972 and 1973.

Case Reports

1) A 23 year old Malay man from Kampong Tok Kayaman had been passing small segments of worms during the past year before seeking treatment at the Kangar General Hospital. He worked by leading cattle smuggled from Thailand to Perlis. He used to consume semi-cooked meat from these cattle. Stool examination showed the ova of the *Taenia* worms.

2) A 37 year old Malay man from Chuping district was seen in April 1973 with a history of passing flat worms. He worked in the sugar plantation as a

labourer. He was very fond of eating "kerbau mentah", a local delicacy, one of its ingredients being raw beef. The specimens of the tapeworm were brought for inspection.

3) A nine-year old Malay boy from Kampong Sempering was brought with a history of passing small pieces of worms for the past three weeks. The family worked in the padi fields. There was a history of consuming semi-cooked "pickled beef".

All three patients described were well and of average nutrition. No anemia was detected on blood examination. There were no abnormal findings physically or in routine investigations.

Diagnosis

One of the patients brought the typical proglottids of *Taenia* species while the other two were confirmed to have tapeworms by stool examination. The adult worms which were expelled after treatment were sent to the Institute of Medical Research in Kuala Lumpur which confirmed the diagnosis of *Taenia saginata*.

Treatment

Mepacrine (Quinacrine) was used to treat the patients reported. All three were hospitalised during the course of treatment. Each patient was given a liquid diet and 15 ml of castor oil the day before. The next morning, on an empty stomach, each patient was given one mepacrine tablet (100 mg) every five minutes till a total of 1 gram (or 800 mg in the child) was reached. This was then followed by another 15 ml of magnesium sulphate.

Nausea and vomiting are common side effects of mepacrine. Toxic doses can lead to convulsions, especially in children. No side-effects were noted in the three patients reported.

The patients were instructed to save all the worms passed. These were examined for the scolex and then they were sent to the Institute of Medical Research for further identification.

Discussion

Reviewing the literature showed the rarity of *Taenia saginata* infection in humans in Malaysia/Singapore even in the rural areas. Sandosham (1968) estimated that there were about a dozen cases identified per year and they were mainly found in immigrants from India and Indonesia. Local cattle were lightly infected. In a survey of 42,500 cattle slaughtered in local abattoirs the cysticercus bovis count was only 15 out of 390 found infected.

T. solium is equally rare. Before the war it was more common as pigs were imported from Indochina and Indonesia (Sandosham 1968). In a survey of 744,400 pigs slaughtered in 1937, 1235 carcasses had cysticercus cellulosae and out of this number, only nine were locally bred pigs. Since the war Malaysia had been self-sufficient in pigs. A more recent survey (Griffiths, 1968) also did not show any tapeworm. *T. solium* does not occur in Muslims as they do not eat pork. It is rare in Chinese as they always cook their meat well. (Sandosham, 1956)

Several surveys on the local intestinal helminth infections including rural communities have been undertaken but none of the published reports mentioned the discovery of tapeworm. (Desowitz, 1961, Kleevens (1967), Kan (1970) and Siak (1969) in urban and rural communities in Singapore; Heyneman (1967) in Pulau Tioman; Balasingam (1969) in

Pulau Perhentian and Bisseru (1971) in a survey on the rubber estate children. All these surveys did not isolate any case of tape-worm.

Similar surveys in other countries of South-east Asia failed to report tapeworm either: Colwell (1971) in Vietnam, Tantengco (1972) in Philippines, Clarke (1973) and Carney (1974) in Indonesia.

The likely source of infection in the three cases reported in this article is from smuggled cattle from across the border. This practice of smuggling cattle and beef from Southern Thailand is common in the border states of Perlis and Kedah. The villagers in Perlis like to prepare a sort of pickle called "kerabu mentah" in which is used raw or semi-cooked beef. Both these factors would explain the occurrence of *T. saginata* in Perlis.

References:

- Balasingam, E. et al (1969): Med. J. Malaya 23: 300
Bisseru, B. (1971): S.E.A. J. Trop. Med. & Pub. Health 2: 80
Carney, W.P. (1974): S.E.A. J. Trop. Med. & Pub. Health 5: 368
Clarke, M.D. et al (1973): S.E.A. J. Trop. Med. & Pub. Health 4: 32, 195
Colwell, E.Z. et al (1971): S.E.A. J. Trop. Med. & Pub. Health 1: 25
Desowitz, R.S. et al (1961): Singapore Med. J. 2: 91
Griffiths, R.B. (1968): Kerja Veterinaire 1: 240
Heyneman, D., Ramachandra, C.P., Balasingam, E. (1967): Med. J. Malaya 21: 265
Kan, S.P. (1970): Singapore Med. J. 11: 283
Kleevens, J.W.L. (1967): Singapore Med. J. 8: 265
Sandosham, A.A. (1956): Med. J. Malaya 11: 33
Sandosham, A.A. (1968): Med. J. Malaya 22: 16
Siak, C.L. (1969): Proc. 4th S'pore-Malaysia Congress of Med. 4: 143
Silverman, P.H. (1955): Ann. Trop. Med. & Parasit. 49: 429
Tantengco, V.O., et al (1972): S.E.A. J. Trop. Med. & Pub. Health 3: 580