Human tapeworm from simalungun, Indonesia

Umar Zein, author

Abstrak

ABSTRACT
A 46-years-old man from Indonesia, resides in Nagori Dolok Village, Silau Kahaean Subdistrict, Simalungun District, Sumatra Utara Province, had of spontaneous discharge of tapeworm segments (proglottids) from anus almost every day for ten years. There were 1-5 segments which can move actively discharge per day. Although he feels embarrassed about the condition, no significant symptoms were found, and physical examination was within normal limits. Clinical diagnosis of Taeniasis was made on October 20, 2017, and subsequently received oral Praziquantel 600 mg tablet single dose and 5 mg of oral Bisacodyl. Four hours later, the patient was defecated. The stool was collected in plastic and filtered with a filter device to collect any tapeworm segments.
A full segment of tapeworm as long as 2.86 meters were found. Microscopic examination was done to identify the egg worms, proglottids, and scolex. Dye substance was injected into a mature gravid proglottid through the genital pore and pressed in two object-glasses to identify the reproductive organs. Microscopic examination (400x magnification) of this sample revealed that the number of uterine branches and testes in a proglottid were 16 pairs. The number of uterine branches in T. solium are 8-12 pairs and T. saginata are 18-32 pairs.
The filtered stool was moved into a container and carefully observed. A soft yellowish-white material of 1.5 mm in diameter was found, which turned out to be the head of the tapeworm called Scolex. Microscopic examination of scolex revealed that the rostellum was absent. A segment called snou was found at the apex. The functions were probably as a sense of smell and vacuum organ.
The patient was lived in Simalungun, North Sumatera, some tribe in that area has a long tradition of culinary called Hinasumba, consist of raw pork liver and meat, and Naiholat consist of poorly cooked pork.
Even though pig was determined as an intermediate host, the type of tapeworm was not consistent with T.solium. The patient had the long history of infection but never had sign or symptoms of neurocystecercosis. Based on etno-geographical condition, the patient was infected by T.asiatica. Microscopic examination of the uterus and scolex indicate that the tapeworm had most similarity to T.asiatica.
Amin et al.8 from Bangladesh in 2009 reported a case of T. asiatica in human with total strobila length was 1.5 meters. Macroscopic morphology (length:width) of gravid proglottid segment of T.saginata is 3:1, T. solium 1.5:1. The tapeworm that we discovered had 1-1.5:1 ratio (2.5 cm length and 2 cm width).
Some features of the tapeworm (no rostellum, present of the snout, and fix number of theuterus in every proglottid) were not found in three existing type of Taenia species. Further microscopic and molecular study should be done to determined type or subtype of the tapeworm.
A case of taeniasis asiatica who had completed treatment was reported. Macroscopic and microscopic was done to support the clinical diagnosis.