

Opisthorchiasis and Hypophyseal Thyroid System Abnormality: Actual Problem or Coincidence

Viroj Wiwanitkit*

Suvannhabhumi Clinical Training, Research and Development Center, Surindra Rajabhat University, Thailand

*Corresponding author: Viroj Wiwanitkit, Suvannhabhumi Clinical Training, Research and Development Center, Institute of Natural Medicine Science Development and Establishment Project, Surindra Rajabhat University, Wiwanitkit House, Bangkokae, Bangkok, Surin Province, Thailand, Tel: 008689866893760; Fax: 008689866893760; E-mail: wviroj@yahoo.com

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Letter to Editor

Dear Editor, the liver fluke infestation caused by *Opisthorchis viverrini*, infection is very common in tropical Southeast Asia. This infection can cause chronic liver problem and can induced the carcinogenesis at hepatobiliary system. The long term chronic opisthorchiasis is proved as an important cause of the hepatobiliary cancer namely cholangiocarcinoma. The patient with cholangiocarcinoma usually has extremely severe disease and end up with death [1]. The high incidence of cholangiocarcinoma in Indochina is believed to due to high incidence of opisthorchiasis. The infection is related to consumption of raw fish, which is the common eating behavior of local people in Indochina. The contamination of the infective *metacercariae* in fresh water fish is common in Indochina and if there is no good cooking before ingestion, the parasite will still exist and can cause infection to anyone who ingests it. At present, the attempt to control the opisthorchiasis becomes the important local public health policies. Nevertheless, the continuous attempt is still necessary since there is still no favorable outcome of control campaign. Sripa and Echaubard noted that “despite extensive public health prevention campaigns led by the government, the prevalence of Ov infection is still high. High infection rates result from cultural and ecological complexities where wet-rice agrarian habitats, centuries-old raw-food culture, and the parasite's complex biology combine to create an ideal transmission arena [2].”

In addition to hepatobiliary abnormality, there are also some reports on the extrahepatic disorder due to opisthorchiasis. The effect on the neurological system is very interesting. Focusing on the brain pathology due to opisthorchiasis, there is still no official report on the direct problem. Nevertheless, there are is an interesting report on other liver fluke. Ying et al. recently reported a case of ectopic parasitism due to *Fasciola hepatica* [3]. In that case, the larvae burrow through a human brain and mimic cerebral aneurysm was reported [3]. Nevertheless, there are some reports on the neuroendocrine organ and the interrelationship with opisthorchiasis. Some Russian reports noted that the chronic opisthorchiasis can induce the abnormalities of the hypophyseal-thyroid system [3-5]. There is still no explanation for the observed relationship. Lepekhn et al. proposed that “The imbalance of thyroid hormones activity is likely to be associated with hepatobiliary

dysfunction [3].” According to the report by Lepekhn et al., “the decrease of T3 and T4 in the presence of normal TTG level was found [3].” An important question is whether there is any direct effect of opisthorchiasis on neuroendocrine organ. In Indochina, the high incidence of the thyroid dysfunction is also observable. It is an interesting question on the co-high-incidence of both opisthorchiasis and thyroid dysfunction. A systematic epidemiological study is required for clarification of the problem. At the same time, there should be an in-depth study to assess the exact neuroendocrine gland pathology in opisthorchiasis. The main question is the concurrent high incidence of thyroid dysfunction and opisthorchiasis is only an accidental finding due to different pathological pathways or not. Finally, in addition, there is also the report from Russia on the neuro-psychic disturbances in opisthorchiasis [6,7]. The pathophysiological process has never been proved and it might also relate to abnormality of the neuroendocrine system via hypothalamus-pituitary-thyroid axis due to opisthorchiasis.

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