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Anisakiasis in Southeast Asia: A story of new tropical disease?

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ABSTRACT

Anisakiasis is an important worm infestation. It is seen in some non-tropical countries and becomes an important issue in coastal medicine. However, in the few recent years, there are some reports on occurrence of anisakiasis in tropical countries. In this specific short article, the authors review and present the situation of anisakiasis in Southeast Asia. It can be said that anisakiasis becomes a new focused interest in tropical coastal medicine at present.

1. Introduction

The problem of disease from seafood is very interesting [1,2]. It is considered as a big health problem in coastal medicine. Seafood allergy [3–5], intoxication [5] and contamination [6–8] are the well-known problems. However, the forgotten problem is parasitic zoonosis [8,9]. For the zoonosis due to sea fish intake, the well-known problem is diphyllobothriasis and anisakiasis. This is the topic on food safety in coastal medicine [10–12]. Anisakiasis is an important worm infestation. It is seen in some non-tropical countries and becomes an important issue in coastal medicine [13,14]. Anisakiasis is classified as a food borne zoonotic disease [15]. It is a fish borne infection caused by the ingestion of larval nematodes in raw seafood dishes such as sushi, sashimi, ceviche, and pickled herring [15]. The symptoms of anisakiasis are vague including abdominal pain, nausea, vomiting, and diarrhea [15]. However, in the few recent years, there are some reports on occurrence of anisakiasis in tropical countries. In this specific short article, the authors review and present the situation of anisakiasis in Southeast Asia.

2. Reports on anisakiasis in Southeast Asia

As note, there are many reports on anisakiasis in several areas around the world but there is limited information from tropical countries, especially for Southeast Asia. Here, the information from coastal countries in Southeast Asia is presented.

2.1. Anisakiasis in Indonesia

There are some reports on parasite study in fish in Indonesia. The parasite can be seen in several fish species [16–18]. The potential of the parasite to cause human disease is raised. Kusharyono and Sukartinah noted that "it is expected that other parasitic zoonoses, such as anisakiasis, fasciolopsiasis and echinostomiasis, will emerge as the popularity of exotic foods being served in Korean and Japanese restaurants spread throughout Indonesian cities [19]."

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2.2. Anisakiasis in Thailand

Similar to Indonesia, there are some reports on parasite study in fish in Thailand. The parasite can be seen in several fish species [18,20]. According to a recent study, "the intensity and prevalence of nematode infection in *Johnius carouna* were 2.4% and 31.7%, respectively, and in *Dendrophysa russelli* 3.9% and 87.5%, respectively [20]." Of interest, the human anisakiasis is already detected in Thailand [21]. The first case report was reported in 1993 [21]. Hemsrichart reported the first case presenting with the symptoms of acute abdominal obstruction [21]. In this case, Hemsrichart reported that "the diagnosis was obtained by identification of the parasite in the tissue sections of the resected segment of the small intestine [21]."

2.3. Anisakiasis in Malaysia and Brunei

There is still no report of human disease in Malayasia and Brunei and there is also no report on anisakiasis in Malaysia and Brunei but the research team from Malaysia joins with Indonesia team for study of the parasite in marine fish. The good example is the report by Anshary *et al*. [16].

2.4. Anisakiasis in the Philippines

Similar to Indonesia and Thailand, there are some reports on parasite study in fish in Thailand. The parasite can be seen in several fish species [22]. Nevertheless, there is still no report of human disease.

2.5. Anisakiasis in Myanmar, Cambodia and Vietnam

Although Myanmar, Cambodia and Vietnam are tropical countries in Southeast Asia with coastal area, there is no report on the parasite. This might be due to lack of study in these countries.

3. Conclusion

Based on the review, it is no doubt that the parasite already existed in marine fish species in Southeast Asia and the emerging human disease is possible. It can be said that anisakiasis becomes a new focused interest in tropical coastal medicine at present.

Conflict of interest statement

We declare that we have no conflict of interest.

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