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Death rate due to horseshoe crab poisoning: summarization on Thai reports

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ABSTRACT

Horseshoe crab can be poisonous and intoxication due to intake of horseshoe crab is possible. Horseshoe crab intoxication can be seen in many countries with seacoasts including Thailand. Here, the authors summarized the death rate due to horseshoe crab poisoning in Thailand.

1. Introduction

Problem from eating poisonous seafood can be seen in marine medicine[1-3]. Several marine animals can be toxic. The good examples are fishes[4], mussels[5] and shellfishes[6,7]. Horseshoe crab (*Carcinoscorpius rotundicauda*) can be poisonous and intoxication due to intake is possible[8]. Horseshoe crab poisoning can be seen in many countries with seacoasts including China and Thailand. In animal model, it seems that adult horseshoe crab is more toxic than the younger one[9]. Liao and Li noted that “the major cause of the poisoning on eating horseshoe crab in south region along the seacoast of China was taking tetrodotoxin from *Carcinoscorpius rotundicauda* by mistake”[10]. Here, the authors

summarized the death rate due horseshoe crab poisoning in Thailand.

2. Materials and methods

The authors used standard search engines (PubMed and Thai Index Medicus) for searching the reports of horseshoe crab poisoning from Thailand. The summarization on all available literature was done in order to assess the death rate among the intoxicated cases. Descriptive statistical analysis was used where it was appropriate.

3. Results

According to this work, there are at least 6 reports on 457 cases of horseshoe crab poisoning[11-16]. Of overall cases, there are 8 death cases giving the death rate equal to 1.75%.

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4. Discussion

In Thailand, there are many cases of horseshoe crab poisoning. Also, there are some big outbreaks with many patients[14,15]. Interestingly, this problem is well-known for the local people, however, the problem occurs each year. The signs and symptoms of this problem are caused by the tetrodotoxin intoxication[17-22]. The clinical presentation is well described in the literature. However, the death rate is little mentioned. In fact, horseshoe crab intoxication can be fatal if there is not good management.

Thailand is classified as an endemic area of the problem. The local physicians in charge well recognize the problem. Nevertheless, the death can still be observed. According to this report, the death rate about 1.75% is considerable high. This is the first world report on the death rate due to horseshoe crab intoxication.

5. Conclusion

Horseshoe crab is a common sea animal seen in tropical ocean. The horseshoe crab can be poisonous and it sometimes causes the clinical problem of intoxication. The intake of horseshoe crab can be problematic and lead to intoxication. Horseshoe crab intoxication can be seen in many countries with seacoasts including Thailand. There are some reports on the problem of horseshoe crab intoxication from Thailand and the clinical problems are usually similar to neuromuscular disruption. Although the local Thai physicians can well recognize the problem, the fatality can still be observed. The fatality rate rate is high, about 1.75%. The present study shows the first world report on the death rate due to horseshoe crab intoxication.

Conflict of interest statement

We declare that we have no conflict of interest.

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