

Department of Disease Control

Weekly Disease Forecast No.282_Tetrodotoxin Poisoning after Consumption of Poisonous Marine Animals (11 - 17 October 2020)

From the Department of Disease Control surveillance system during the past 5 years up to the present (2016 - 2020), there were 13 tetrodotoxin poisoning incidents occurring every year. The tetrodotoxin poisoning incidents were from horseshoe-crab (6) and pufferfish (7) with 37 patients and 11 (29.7%) died.

The latest incident occurred last week with 1 patient who ate horseshoe-crab and developed dizziness, numbness of the lips, tongue and extremities of hands and feet and finally had died.

According to this week disease forecast, there might be sporadic tetrodotoxin poisoning cases during the coming cold season while people in coastal villages are fond of searching for marine food animals.



Both horseshoe-crab and pufferfish contain tetrodotoxin (or saxitoxin). The toxin blocks voltage sodium channels and prevents neurons and myocytes from functioning leading to neurological, cardiac and gastrointestinal symptoms in poisoned patients. The patients develop symptoms 10 – 45 minutes to 3 hours after ingestion depending on types of poisonous marine animals, seasons and amount of the toxin. The eggs of horseshoe-crab cause more severe illness than its meat. Symptoms include dizziness, vomiting, numbness of the lips, tongue and extremities of hands and feet, profuse sweating, salivation, speech difficulties, blurred vision and sensations of lightness or floating. Severe illness is paralysis in the respiratory muscles result in difficulty breathing, respiratory arrest and even death within 6 – 24 hours.

There are 2 types of horseshoe-crab: 1) the poisonous *Carcinoscorpius rotundicauda* (Mangda-Touy). This horseshoe-crab is smaller with smooth round tail. It contains tetrodotoxin in its eggs and meat. 2) the non-poisonous *Tachypleus gigas* (Mangda-Jaan). This horseshoe-crab is bigger with serrated triangle tail and is edible. However, beware that it is very difficult to differentiate one from the other. The Department of Disease Control, therefore, strongly warns people to be highly cautious about consumption of horseshoe-crab, pufferfish and other poisonous marine animals. If not being definitely confident, consumption of these animals should be avoided.

In case of having suspicious symptoms of tetrodotoxin poisoning, a patient must visit the hospital immediately and inform the doctor of the history of marine animal consumption for prompt diagnosis and life saving medical care.

For queries or additional information, please call DDC hotline 1422 and Ramathibodi Poison Center hotline 1367.

