

CUTE BUT DEADLY: A Case of Pufferfish Poisoning in Sabah

¹ Tan Hong Yee, ¹ Azmi Ahmad, ¹ Breithner G Johniu

¹. Hospital Queen Elizabeth 1, Kota Kinabalu, Sabah, Malaysia



Introduction

Tetrodotoxin (TTX) is a highly potent neurotoxin that can be found in the viscera and skin of a pufferfish. In Malaysia, TTX poisoning has been reported in Terengganu and Sabah. Since no antidote exists, treatment remains supportive. Healthcare professionals must recognize the symptoms of TTX poisoning for early detection and management. We report a patient who initially presented with stroke-like symptoms but was later diagnosed with TTX poisoning.

Discussion

TTX poisoning can be fatal if not promptly recognized. Symptoms typically appear within 30 minutes to six hours. Severe cases may deteriorate within 15–20 minutes, depending on toxin concentration and parts consumed. Our patient consumed pufferfish roe, causing severe toxicity and prolonged recovery. Since TTX poisoning can mimic stroke or food poisoning, misdiagnosis may delay treatment. Death often results from respiratory failure and cardiovascular collapse, emphasizing the need for early supportive care.

Conclusion

Pufferfish poisoning awareness among Malaysian healthcare professionals remains low. This case highlights the importance of recognizing TTX poisoning early, particularly in regions where pufferfish is consumed. A high index of suspicion is necessary to prevent misdiagnosis and ensure timely supportive management to reduce complications and long-term disability.

References

1. Yong, Y. S., Quek, L. S., Lim, E. K., & Ngo, A. (2013). A Case Report of Puffer Fish Poisoning in Singapore. *Case Reports in Medicine*, 2013, 1–4.
2. Kotipoyina, H. R., & Warrington, S. J. (2019, February 4). *Tetrodotoxin Toxicity*. Nih.gov; StatPearls Publishing.

Keywords: Tetrodotoxin (TTX) poisoning, pufferfish poisoning, stroke mimics

Case Description

A 48-year-old man presented to the Emergency Department with dizziness and vomiting. He exhibited right-sided weakness, slurred speech, and a Glasgow Coma Scale (GCS) of E4V4M5. His blood pressure was 199/111 mmHg. Neurological examination showed generalized hypotonia, hyporeflexia, and Babinski's sign on the right side. A stroke alert was activated. However, after returning from CT imaging, he desaturated and experienced a cardiorespiratory arrest, requiring four cycles of resuscitation and synchronized cardioversion for unstable supraventricular tachycardia. CT and CTA of the brain showed no acute infarction or large vessel occlusion.

Further history revealed that he had consumed pufferfish roe earlier that day. He was admitted to the high-dependency unit, where he developed recurrent myoclonic jerks requiring multiple anti-epileptics. MRI showed no significant abnormalities, but EEG suggested Lance-Adams myoclonus due to hypoxic-ischaemic encephalopathy or TTX toxicity. His blood investigations remained normal. He was extubated after 13 days and hospitalized for 48 days. Upon discharge, he had coordination issues, dysarthria, and required a walking frame.



Figure A. Fish parts consumed by the patient

