



The Clam Calamity

A CASE SERIES OF BREVETOXIN POISONING FROM INGESTION OF CLAMS

Presenter: Emily Wheeler, MD¹; PGY2 Emergency Medicine Resident

Co-Authors: Jeremy Lund, PharmD²; Stephanie Murphy, MD¹, Casey Cheney, DO¹, Sagar Galwanker, MD¹

Florida State University Emergency Medicine Residency¹ Sarasota Memorial Healthcare System²

Brevetoxin and the Red Tide of Florida

- ▶ Brevetoxins are formed and released by *Karenia brevis* during Red Tide algal blooms
- ▶ Affects mammals via inhalation and ingestion
- ▶ Shellfish accumulate brevetoxins in their flesh
- ▶ Ingestion of contaminated shellfish can cause a wide range of GI and neurological symptoms



Before and after a red tide bloom in 2018

Photo by Cody Johnson

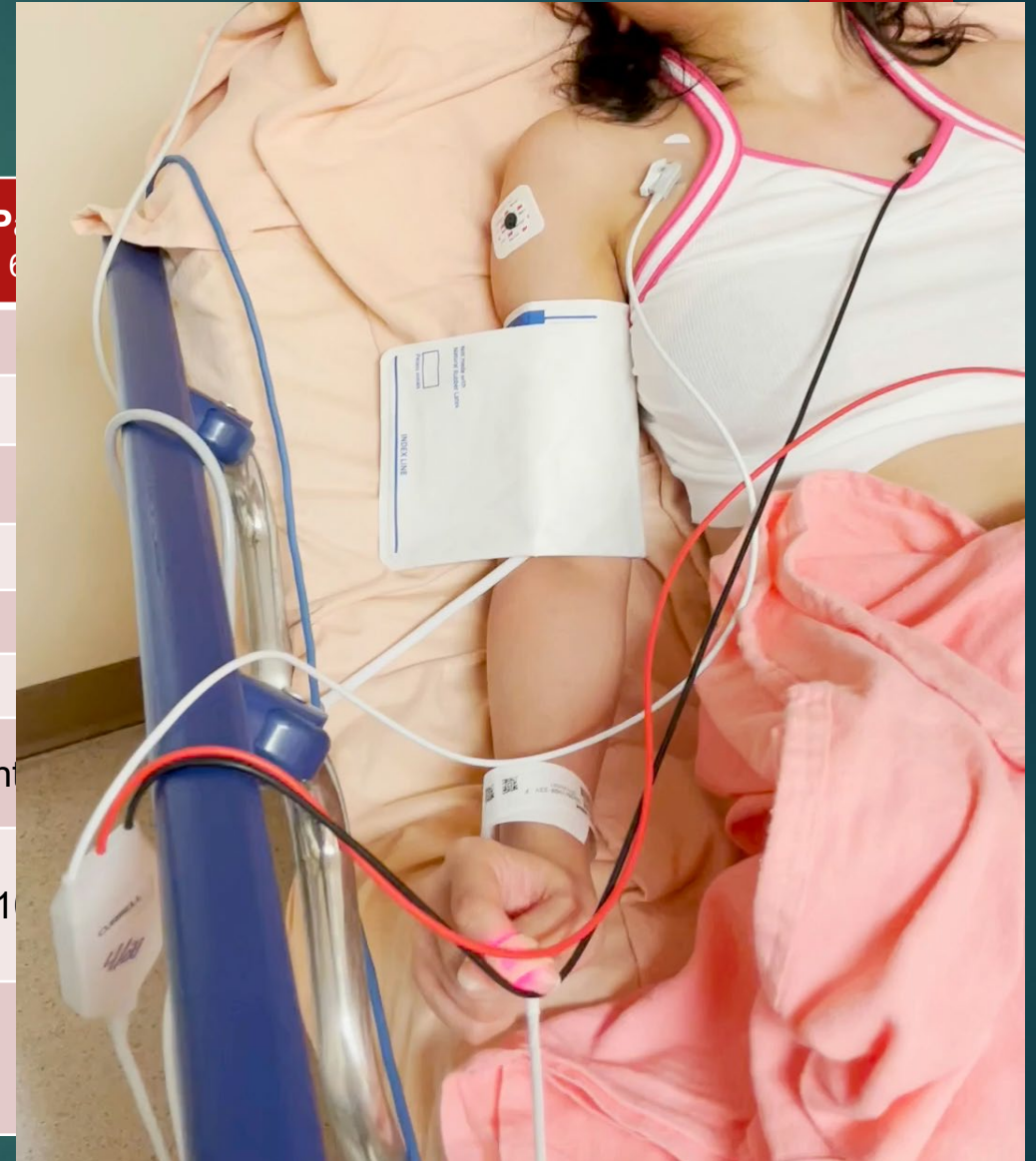
Case presentation

- Clams collected from the beach and consumed
- Onset of symptoms began approximately 1 hour later.
- 5 out of 6 friends present to the ER with varying severity of toxicity
- Symptoms include abdominal cramping, nausea, vomiting, diarrhea, whole body paresthesias and 1 suspected seizure



Case presentation:

	Patient 1 23 yo F	Patient 2 24 yo M	Patient 3 26 yo F
Patient weight	51.3 kg	47 kg	50 kg
Clams eaten (#)	9-11	10-11	10-11
Abdominal Pain	Yes	Yes	Yes
Nausea	No	Yes	Yes
Vomiting	No	Yes, 2 episodes	Yes
Diarrhea	No	No	No
Sites of Numbness, peak	Entire body	Entire body, hands > feet	Entire body
Approximate Duration of numbness	14 hours	12 hours	10 hours
Other Symptoms	Seizure like activity, anxiety, muscle cramps	Residual tingling in finger tips	Residual tingling in finger tips



Discussion

- Brevetoxins are tasteless, odorless, and heat and acid stable
- Brevetoxins bind to voltage-sensitive sodium channels
- Toxin effects vary depending on if it's inhaled or ingested
- Symptoms of NSP occurs within 0.5–3 h after consumption of shellfish
- Treatment includes rehydration, electrolyte replacement, seizure precautions and supportive care.
- Symptoms resolve within 12-24 hours