

## TRANSFORMING TOXICOLOGY LANDSCAPE FOR SAFER AND SUSTAINABLE TOMORROW **POSTER PRESENTATIONS**

## [ID-P#040] A case of coconut crab (Birgus latro) poisoning

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**Background**: In Okinawa, Japan, a man boiled frozen coconut crabs (*Birgus latro*) and consumed them for lunch and dinner. Later at night, he visited our emergency department complaining of vomiting, soft feces, and dizziness. At presentation, he had a body temperature of 36.3°C, blood pressure of 90/50, pulse rate of 45/min, respiratory rate of 18/min, SpO<sub>2</sub> of 99%, and hyperkalemia (5.8mEq/L). We promptly treated the patient with glucose/insulin (GI) and calcium gluconate hydrate (CALCICOL). The patient's blood digoxin level (measured using immunoassay) was 1.8ng/mL. Therefore, we suspected food poisoning caused by coconut crab consumption and attempted to identify the causative agent.

**Methods**: Because the cooked coconut crab that the patient reportedly ate was unavailable, we attempted to detect the causative substance in the patient's serum collected at the time of hospitalization. After solid-phase extraction, we performed liquid chromatography quadrupole time-of-flight mass spectrometry and liquid chromatography–tandem mass spectrometry to identify and quantify the causative agents.

**Results and conclusions**: Neriifolin, a cardiac glycoside, was detected in the patient's serum at a concentration of 12.8ng/mL. Plants containing neriifolin that grow in Okinawa include Mifukuragi (*Cerbera manghas*) and Kibana-kyochikuto (*Thevetia peruviana*). We hypothesize that the coconut crab consumed by the patient had accumulated neriifolin in its tissues by ingesting the fruits of these plants, which in turn caused him to develop food poisoning.