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Irukandji syndrome: A big thing from a little sting – the challenges for emergency services in regional south-east Queensland

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Abstract

Increased sea temperatures during the monsoonal months in Queensland Australia has seen a significant rise in *Carukia Barnesi* Irukandji jellyfish. Previously these marine stingers were only located as far south as central Queensland. However, warmer sea temperatures have driven them to the southern waters of Fraser Island and Hervey Bay. Fraser Island is the largest sand island in the world and attracts four and a half million visitors each year (Fraser Coast regional Council 2018).

Current challenges

The only way to access Fraser Island is by boat or sea plane and environmental conditions such as high winds, rough seas and high tides are causing interruptions in evacuation off of the island resulting is treatment delays for patients experiencing symptoms of Irukandji syndrome (IS). Signs of IS suggest an underlying catecholamine storm with research demonstrating that *Carukia barnesi* venom causes a significant rise in adrenaline/noradrenaline serum levels (Rathbone et al. 2017). Patients were reported to experience hypertensive crisis, severe muscle pain, chest and abdominal pain, vomiting, tachycardia and pulmonary oedema (Rathbone et al. 2017).

Treatment

Currently the Australian Resuscitation Council (2010) recommends dousing stings with vinegar followed by ice as first aid for jellyfish stings. At present there is little evidence to support this and first aid treatment of other marine stings is immersion of the affected body part in warm water (Little, Fitzpatrick & Seymore 2016). Magnesium Sulphate is being used in Queensland Hospitals to treat the severity of IS (Rathbone et al. 2017). Two studies found using magnesium sulphate alongside opiate analgesia was required as magnesium sulphate alone did not attribute for break through pain (Rathbone et al. 2017; Rathbone, Quinn & Rashford 2013). However, magnesium sulphate is not available as a treatment option whilst the patient remains on Fraser Island.

Pristine Fraser Island

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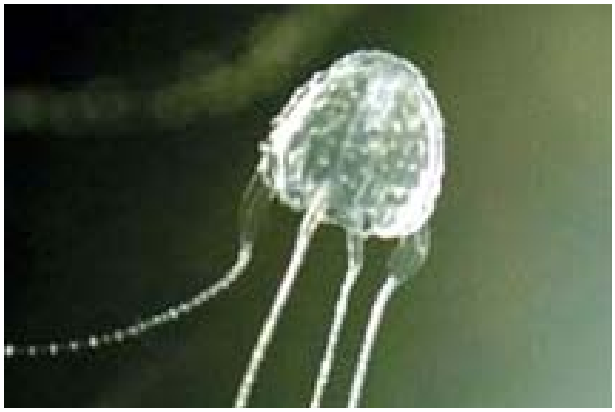

Irukandji Jellyfish
ABC News 2019

Conclusion

More research is required in this area as an extensive search of the literature found two current articles on treatment and management of IS and as Queensland begins it's warmer months, the Irukandji jellyfish begin the migration south for summer.

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