

Oral Abstracts

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A RANDOMIZED CONTROLLED TRIAL OF HOT WATER (45°C) IMMERSION VERSUS ICE PACKS FOR THE TREATMENT OF PAIN IN *CHIRONEXFLECKERI* STINGS

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Objective: Major box jellyfish (*Chironexfleckeri*) stings continue to be problematic in northern Australia. Although deaths are rare, severe pain remains a major issue. Hot water has been shown to be highly effective for the pain of *Physalia* spp. stings. We investigated the effect of hot water immersion on the pain of *C. fleckeri* stings.

Methods: We undertook an open-label randomised controlled trial at a tertiary hospital in northern Australia, in patients with *C. fleckeri* stings, comparing hot water immersion at 45°C to ice packs. Patients (>7yr) were recruited if they had a painful box jellyfish sting. Patients were allocated in a 1:1 randomisation. The primary outcome was a clinically significant reduction in pain severity 30min after enrolment using the visual analogue scale (VAS). Secondary outcomes included cross-over to the alternate treatment, use of opioid analgesia, emergency department length of stay (LOS), proportion with recurrent pain within 24h and proportion developing papular urticarial rashes subsequent to discharge. Analysis was intention to treat.

Results: There were 46 patients recruited to the study but pain scores and treatment allocation were not recorded in four patients. Of 41 patients (median age 19y; interquartile range[IQR]; 13-27y; 26 males), 25 were allocated to ice packs and 17 to hot water immersion. Both groups had similar demographics, baseline VAS and systemic effects. Thirty minutes after treatment commenced 14/25 (56%) of patients treated with ice packs had clinically improved pain compared to 11/17 (65%) treated with hot water immersion [absolute difference: 9%; 95%CI: -22 to 39%;p=0.75]. One patient in the ice pack arm was crossed over to hot water immersion. Two patients in each arm were given intravenous opioid analgesia. The medial emergency department LOS for patients treated with ice packs was 1.6h (IQR: 1 to 1.8h) compared to 2.1h (IQR: 1.6 to 2.8h;p=0.07). No patients represented with recurrent pain. Only seven patients were able to be followed up, and 5 of these developed delayed hypersensitivity rashes.

Conclusion: Hot water immersion was no better than ice packs in the treatment of acute pain in *Chironexfleckeri* envenoming. The use of hot water immersion increased the length of stay by about 30min.