

Investigating Ketamine for Red-back Spider Envenoming (KuRED)



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Background: Red-back spider envenoming causes severe pain that can last for several days and a recent clinical trial has demonstrated that antivenom is no more effective than simple analgesia. We investigated the use of ketamine for the treatment of pain in red-back spider envenoming.

This project investigated ketamine as an alternate analgesic for the pain that occurs with red-back spider envenoming.

Methods:

- Adults with moderate to severe red-back spider envenoming presenting within 36 hours
- Pain significant enough that the treating clinician would normally treat with standard analgesia
- Patients administered paracetamol (1000mg) and oxycodone (5-10mg)
- Baseline verbal numerical ratings score (VNRS) for pain recorded
- Parenteral 15mg IV bolus of ketamine administered
- VNRS taken at 1h, 2h, and 4h post IV ketamine, prior to discharge, 24h and 48h
- Oral 25mg ketamine lozenge given 2h, 8h, 14h & 20h post ketamine bolus.
- Primary outcome was a clinically significant improvement in the VNRS 30 minutes post IV ketamine

Results:

Four patients have been recruited into the study.

- Three of the four patients responded to the parenteral 15mg IV ketamine with a clinically significant reduction in pain at the primary outcome measurement.
- Three of the patients reported no further significant pain relief from the oral ketamine lozenges.
- Patient four did report that the lozenges were effective in providing pain relief (This was clinically significant for one time point - see Figure 1).

Table 1. Reported adverse effects and satisfaction with ketamine treatment

	Patient 1	Patient 2	Patient 3	Patient 4
IV Ketamine bolus satisfaction	Moderately satisfied	Moderately satisfied	Very satisfied	Not at all satisfied
Any side effects from IV Ketamine bolus? Yes/No	Yes	Yes	No	Yes
If yes, worst effect	hallucinations	dissociative	N/A	dissociative
Prefer Ketamine again for pain relief from RBS bite? Yes/No	No	undecided	Yes	Yes, but as an IV infusion not bolus
Ketamine lozenge satisfaction	Yes	Okay	Yes	Yes
Overall Rx Satisfaction, Yes/No	Yes	No	Yes	Yes

Discussion:

Low-dose parenteral ketamine appears to provide initial analgesia for the treatment of pain from red-back spider envenoming. Subsequent oral ketamine doses of 25mg did not result in a clinically significant reduction in pain for three of the four patients. This may be due to the 25mg oral dose being an insufficient dose based on the bioavailability of oral ketamine which is about 20-25% of parenteral ketamine. An increased dose of oral ketamine will be trialled.

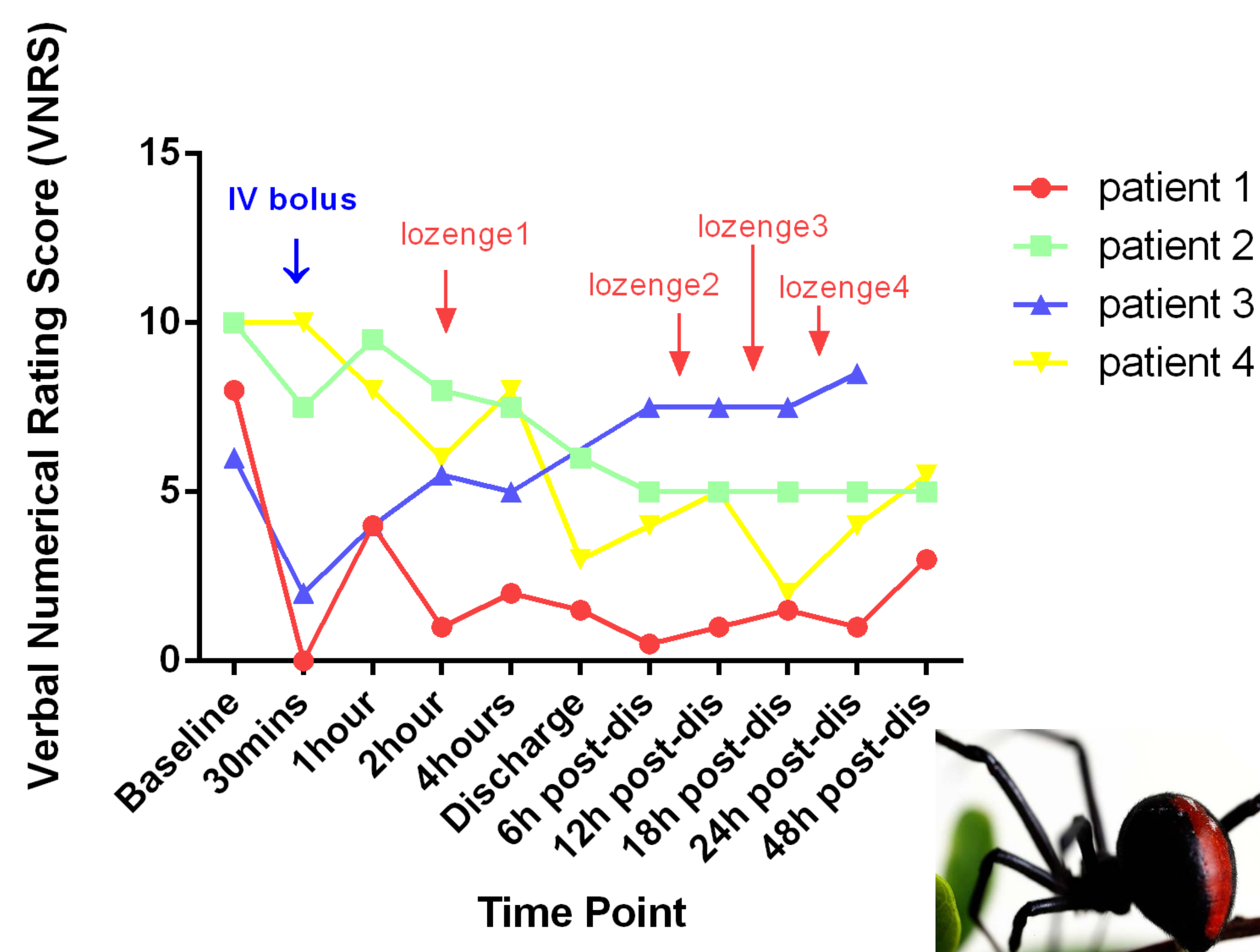


Figure 1. Patient verbal numerical pain rating score pre and post ketamine treatment



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