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Randomized Controlled Trial of Intravenous Antivenom versus Placebo for Latrodectism: The Second Redback Antivenom Evaluation (RAVE- II) study

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Abstract

Objectives: Latrodectism is the most important spider envenomation syndrome worldwide. There remains considerable controversy over antivenom treatment. We aimed to investigate whether antivenom resulted in resolution of pain and systemic effects in patients with latrodectism given standardized analgesia.

Method: In a multicentre randomized placebo-controlled trial of redback spider antivenom for latrodectism, 224 patients (>7yr) with a redback spider-bite and severe pain with or without systemic effects were randomized to receive normal saline (placebo) or antivenom, after receiving standardized analgesia. The primary outcome was a clinically significant reduction in pain 2 hours after trial medication compared to baseline. A second primary outcome for the subgroup with systemic features of envenomation was resolution of systemic features at 2 hours. Secondary outcomes were improved pain at 4 and 24 hours, resolution of systemic features at 4 hours, administration of opioid analgesics or unblinded antivenom after 2 hours and adverse reactions.

Results: Two hours after treatment, 26/112 patients (23%) from the placebo arm had a clinically significant improvement in pain versus 38/112 (34%) from the antivenom arm (difference in favor of antivenom 10.7%; 95%CI:-1.1% to +22.6%; p=0.10). Systemic effects resolved after two hours in 9/41 patients (22%) in the placebo arm and 9/35 (26%) in the antivenom arm (difference 3.8%; 95%CI:-15% to +23%; p=0.79). There was no significant difference in any secondary outcome between antivenom and placebo. Acute systemic hypersensitivity reactions occurred in 4/112 (3.6%) patients given antivenom.

Conclusions: The addition of antivenom to standardized analgesia in patients with latrodectism did not significantly improve pain or systemic effects.