
Veterinary Emergency and Critical Care Chapter Scientific Abstract
Surfers Paradise Room 1, July 6, 2019

The following scientific abstract has been subject to peer review. Where appropriate, studies have ethical approval by state/institutional Animal Ethics Committee review.

Red-bellied black snake (*Pseudechis porphyriacus*) envenomation in 17 dogs: diagnosis and treatment with a new tiger-brown snake antivenom

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This report describes the diagnosis and treatment of 17 cases of red-bellied black snake envenomation (RBBS; *Pseudechis porphyriacus*) in dogs in South Eastern Queensland. Cases were prospectively enrolled for treatment with Tiger-Brown Snake Antivenom 8000 units (Padula Serums Pty Ltd, Australia. APVMA Approval No. 83903/109217). Clinical diagnosis of RBBS envenomation was made by either SVDK, snake identification and owner observed dog-snake interaction. RBBS venom specific antigen ELISA was used to retrospectively quantify venom in frozen serum and urine¹.

Dogs received either 1 (47%; 8/17), 2 (41%; 7/17) or 3 (12%; 2/17) vials of antivenom. Mechanical ventilation was required in 6% (1/17) cases, whole blood transfusion in 12% (2/17), tissue swelling at the bite site occurred in 53% (9/17) and facial palsy in 12% (2/17). One dog was euthanised, overall 94% (16/17) survived to hospital discharge. Notable clinicopathological changes pre-antivenom included variable haemolysis, elevated CK, pigmenturia and mildly prolonged ACT 138 ± 10 s (range 93-206 s). FBE was performed in 5/17 cases at 24h post-envenomation and revealed spherocytosis (5/5) and anaemia (5/5) which resolved without the use of corticosteroids. Pre-antivenom, mean RBBS venom antigen concentration was 12 ng/mL (range 0.9 – 46) in serum and 80 ng/mL in urine (range 29 – 255); venom was undetectable in serum post-antivenom.



The antivenom was effective for treatment of RBBS envenomation and excellent prognosis obtained despite the stated specificity for tiger and brown snake. Some dogs may also require ventilatory support², blood transfusion³, additional antivenom³ and prolonged hospitalisation. Urine is a more reliable matrix for venom detection to confirm RBBS envenomation due to higher venom levels.

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References

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