



### Clinico-epidemiology of Russell's Viper (*Daboia russelii*) bite in wet zone of Sri Lanka: A high incidence of thrombotic microangiopathy

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**Objective:** To describe key clinical and epidemiological features and complications of Russell's viper (*Daboia russelii*) bites in a tertiary care hospital in the wet zone, Sri Lanka.

**Methods:** This is a prospective observational study of a series of 56 patients with Russell's viper bite admitted to Provincial General Hospital, Ratnapura where the study was conducted over 21 months commencing from December 2015. Peripheral blood smear was used to detect microangiopathic haemolytic anaemia (MAHA).

**Results:** There were 36 males (64.2%) and 20 females (35.7%) in age range of 16 to 77 years. The offending snakes were brought by 31(55%) patients (25 dead and 6 live specimens). The bitten sites were feet (41; 73.2%), ankles (7; 12.5%), hands (6; 10.7%) and legs above the ankle region (2; 3.5%). Nine (16%) were dry bites and 16 (84%) were envenomed. Eight patients (14.28%) died including 3 deaths on admission to hospital. Twenty one (37.5%) patients had only coagulopathy and 6 patients (10.7%) had only neuromy paralysis whilst 16 (28.5%) had both features. Fourteen (25%) showed cardiac manifestations as sinus bradycardia-6 (10.7%), ischaemic changes in ECG 4 (7.14%), ST elevation myocardial infarction 2 (3.57%) and one each (1.78%) sinus tachycardia and atrial fibrillation. Cerebral complications (infarcts and intracranial haemorrhages) were observed in 3 (5.3%) patients. Acute kidney injury (AKI) manifested in 14 (25%) patients and of them, 11 (19.6%) developed thrombotic microangiopathy (TMA). Fourteen (25%) patients had features of MAHA. Three (5.3%) had only AKI without MAHA whilst MAHA was observed in 3 (5.3%) patients without AKI.

**Conclusion:** Russell's viper bite in wet zone shows two extremes of manifestations - high dry bite rate and high death rate. The incidence of TMA with the triad of AKI, MAHA and thrombocytopenia is very high whilst AKI and MAHA also occurred in isolation. Cardiac manifestations are also high in this region.