

Thrombotic Microangiopathy and Hemolytic Uremic Syndrome following Hump-nosed Pit Viper (Genus: *Hypnale*) Bites

R. M. M. K. Namal Rathnayaka^{1,2*}, P. E. A. N. Ranathunga³, S. A. M. Kularatne⁴

¹*Intensive Care Unit, Teaching Hospital Ratnapura, Sri Lanka*

²*Department of Veterinary Pathobiology, Faculty of Veterinary Medicine and Animal Science, University of Peradeniya, Sri Lanka*

³*Medical Unit, Teaching Hospital Ratnapura, Sri Lanka*

⁴*Department of Medicine, Faculty of Medicine, University of Peradeniya, Sri Lanka*

* *namalrath10@yahoo.com*

Hump-nosed pit viper (Genus: *Hypnale*) bites are the commonest cause of venomous snakebites (22-77%) in Sri Lanka. These bites frequently cause local envenoming and 10% of patients develop acute kidney injury (AKI). Thrombotic microangiopathy (TMA) causes severe renal injury which needs hemodialysis and plasmapheresis. The aim of this study was to describe TMA including hemolytic uremic syndrome (HUS) following *Hypnale* bites in wet zone of Sri Lanka with their epidemiological features. An observational study of a series of 500 patients with hump-nosed viper bites admitted to Teaching Hospital, Ratnapura was conducted over 4 years, from July, 2015. Data were collected using an interviewer-administered questionnaire in which epidemiological data, clinical features and investigations were included. TMA was diagnosed with the triad of AKI, thrombocytopenia and microangiopathic hemolytic anaemia (MAHA). There were 500 patients with *Hypnale* bites of whom 34 (6.8%) developed TMA. Twenty eight (82%) were males and six (18%) were females. Age ranged from 23 to 74 years with the majority being in 32-51 year group. Most (n=21; 62%) were bitten during day time (6am-6pm) while 13 (38%) bites occurred at night (6pm-6am). Most bites occurred in tea estates (n=12; 35%) and home gardens (n=9; 26%). Common bite sites were feet (n=17; 50%), hands (n=8; 24%), toes (n=6; 18%) and fingers (n=6; 18%). All patients had local pain and swelling. Other local features included blistering (n=11; 32%), necrosis (n=9; 26%), lymphadenopathy (n=7; 21%) and local bleeding (n=4; 12%). Other systemic manifestations were HUS (n=32; 94%), coagulopathy (n=14; 41%), haematuria (n=11; 32%), chronic kidney disease (n=7; 21%), thrombotic thrombocytopenic purpura (n=2; 6%) and systemic bleeding (n=2; 6%). Hemodialysis was performed for 20 (59%) and plasmapheresis was done for 10 (29%) patients. In this cohort of TMA, 26 (76%) recovered and one patient (3%) died. Thus, significant proportion of patients develop systemic manifestations following *Hypnale* bites of which TMA accounts for 7%.

Key words: snakebites, hump-nosed viper, *Hypnale*, thrombotic microangiopathy, Sri Lanka