ORAL PRESENTATIONS

[ID-O#0012] Patterns of Merrem's hump- nosed viper (*Hypnale hypnale*) bites in rural Sri Lanka: Insights for the prevention

Asela Wijayasekara[a], Kosala Weerakoon[b], Subodha Waiddyanath[c], Geoffrey Isbister[d] and Anjana Silva[e]

[a]Department of Parasitology, Faculty of Medicine, Wayamba University of Sri Lanka; [b]Department of Parasitology, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka; [c]Department of Parasitology, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka; [d]Clinical Toxicology Research Group, University of Newcastle, Australia; [e]Department of Parasitology, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka

Background: Merrem's hump-nosed viper (*Hypnale hypnale*) bite is common in Sri Lanka and causes life-threatening envenoming. Objective: We aimed to describe *H. hypnale* bite patterns from the Anuradhapura snakebite cohort, which records snakebites presenting to a tertiary care hospital in rural Sri Lanka.

Methods: Demographics and snakebite circumstance data of authenticated *H. hypnale* bite victims from August 2013 to October 2014 and May 2017 to December 2022 were extracted from the database.

Results: Of 4708 snakebites, 988 [males, 583/983, 59.3%; median age, 45 years (interquartile range, 33- 56)] were authenticated H. hypnale bites. Most were farmers (371/926, 40.1%). The foot (559/977, 57.3%) and hand (338/977, 34.6%) were the commonest bite sites. Females had a higher risk of bites on the hand compared to males (odds ratio, 2.6; 95% confidence intervals, 2.0-3.4). Domestic gardens (528/965, 54.7%), indoors (176/965, 18.2%) and farmlands (131/965, 13.6%) were the commonest locations. Most bites occurred while walking (445/965, 46.1%) and engaged in cleaning (128/965, 13.3%). Bites occurred both during the day (0600-1800) (477/983, 49.5%) and night (1800-0600) (506/983, 51.5%), but
peaked from 1800-2100 (278/983, 28.3%). The hand was bitten in 234/472 (49.6%) daytime bites, while the foot was in 344/502 (68.5%) nighttime bites. The proportion of bites per month was not associated with monthly rainfall. The median number of bites per month had a unimodal pattern, peaking from October to February (monsoon rainy season). The median number of bites per month was inversely associated with the monthly average maximum temperature ($r=-0.488$, $p<0.001$) and positively associated with monthly average maximum relative humidity ($r=0.538$, $p<0.001$).

Conclusions: In Anuradhapura, the typical *H. hypnale* bite occurs in domestic gardens while walking and cleaning, during monsoon season. The hand is involved in half of daytime bites, while the foot is involved in two-thirds of nighttime bites. This information will help with planning prevention strategies.