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Epidemiology of stings and bites in primary hospitals of Kurunegala district of Sri Lanka with emphasis on *Hymenoptera stings*

Seyed Shahmy [1], Kularatne SAM [1, 2], SanjayaRathnayake[1], Andrew Dawson [1,3]

[1]*South Asian Clinical Toxicology Research Collaboration*

Faculty of Medicine, University of Peradeniya, Peradeniya, Sri Lanka

[2]*Department of Medicine, Faculty of Medicine, University of Peradeniya, Sri Lanka*

[3] *Discipline of Clinical Pharmacology, University of Sydney, Australia*

Objective: Stinging and bites are common environmental hazards that result in hospital admissions. However, the medical importance of this problem has not been fully evaluated in Sri Lanka. This study aimed to study epidemiology and clinical outcome of stings in all peripheral hospitals in the Kurunegala district of Sri Lanka.

Methods: The district has 44 primary hospitals. As part of a prospective audit study we recorded all stings admissions and their outcomes in primary hospitals over one year.

Results: There were 623 stings and bites with population incidence of 38/100,000 (95% CI 27-52). Median age was 38 years (IQR: 19-53), and 351 (56%) were males. Most of the stings or bites (75%) occurred in the daytime between 06 am to 6pm. Median time to hospital arrival was 55 minutes (IQR: 30min to 120 min). The offending creatures were identified in 557 (89%) cases, of them 357 (57%) were Hymenoptera (hornet and bees), 99 centipedes, 61spiders and 40 scorpions. Of the entire group, on admission median SBP was 120 mmHg (IQR: 110-130), DBP 80 mmHg (IQR: 70-80) and PR was 80 beats/min (IQR: 78-86). Local pain occurred in 346 (56%) cases - Centipede 69 (70%), scorpion 24 (60%), spider 36 (59%) and Hymenoptera 187 (52%). Anaphylaxis developed in 173 (28%) patients including 110 Hymenoptera stings - mild 39, moderate 62 and severe 09; medications given were - prednisolone 84, IV hydrocortisone 159, oral/IV chlorpheniramine 98, promethazine 45 and IM adrenaline 10. Of the entire group, 53 (9%) cases were transferred to a tertiary care unit for further management. Of them, 41 cases were Hymenoptera stings and 24 (58 %) of them had mild, moderate to severe anaphylaxis.

Conclusion: The primary hospitals in Kurunegala district of Sri Lanka manage large numbers of stings caused by diverse group of creatures. Of them, Hymenoptera (hornet and bee) is leading and results in significant anaphylactic reactions. Most of the anaphylactic reactions were managed successfully in the primary hospitals using recommended medications. The issue of stinging needs the strong attention of public and policy makers.