

The role of premedication in managing snakebite envenomation.

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Background: Snake envenomation remains a neglected public health issue affecting an estimated 1.8- 2.7 million individuals annually and leading to approximately 81000 – 138000 deaths. Various clinical manifestations including cytotoxicity, hemotoxicity, or neurotoxicity, may occur depending on the venom injected. Anti-venom serums remain the primary treatment option for envenomation patients; however, their use is marred by a high 40% incidence of adverse reactions ranging from localised reactions to rapid-onset anaphylaxis.

Objective: A systematic review and meta-analysis were conducted to assess premedication's effects on incidence rates of adverse reactions before the administration of snake anti-venom.

Methods: A search was conducted utilising databases OVID, MEDLINE, PubMed, Embase, Cochrane, and WMS Journal. Reference lists of identified papers were also hand searched, in addition to book chapters and peer-reviewed articles.

Results: Four randomised controlled trials were selected for inclusion. Seven subgroup comparisons were conducted (n= 1658 in the premedication group and n= 1637 in the placebo/no medication group). The review confirms the beneficial effects of prophylactic low dose adrenaline in reducing adverse reactions, the evidence for standalone hydrocortisone and antihistamine use is less compelling.

Conclusions: The potential benefit of combined premedication regimens lacks data, highlighting the need for further research. Additionally, increasing access to high quality anti-venom serums could potentially reduce incidence rates of adverse reactions. Continued research and development in adverse reaction management and anti-venom composition are crucial for optimising snake envenomation treatment and reducing associated morbidity and mortality.