

The Epidemiologic and Clinical Characteristics of Snakebites in the North American Snakebite Registry

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Background: ACMT established the North American Snakebite Registry (NASBR) in 2013 to enhance knowledge of snake envenomation in humans.

Research Question: What are the epidemiologic and clinical characteristics of snakebites in the NASBR?

Methods: All cases prospectively reported to the NASBR between 1/2013 and 12/2015 were reviewed. Descriptive statistics were used.

Results: Fourteen sites from 10 states contributed 450 cases. 99% were due to native species and >99% of these pit vipers. Rattlesnakes accounted for 58%, copperheads 29%, cottonmouths 3%, and 9% unidentified pit vipers. 69% of bites occurred in men and 42% in children ≤18 years. Lower extremities were affected in 54%, but the most common site was a finger (32%). Intentional interactions led to 19% of bites.

Native pit viper - related (n=442) local tissue effects included swelling in 96%, ecchymosis in 62% and erythema in 39%. Systemic effects were vomiting (before opioids) in 7.2%, minor bleeding in 6.3%, and neurotoxicity in 5.2%. Hypotension occurred in 15 patients (3.4%) and 2 were intubated. Hematologic effects included thrombocytopenia (10.6%), hypofibrinogenemia (11.8%) and coagulopathy (14.0%).

Treatment included CroFab[®] antivenom in 84.7% of patients with a pit viper bite. Maintenance doses were used in 30.3% of these. ≥1 dose of antibiotics was given to 34 patients (7.7%), with 2 reported confirmed infections. Debridement of bullae accounted for 69% of procedures. There were 6 fasciotomies, with 2 having elevated intracompartmental pressure documented. Length of stay was <48 hours in 78.3%. 14 patients were readmitted after discharge, with 8 reporting late hematologic toxicity (1 with late bleeding). 6 were retreated with antivenom.

See Tables for more details.

Discussion:

The NASBR is a national registry of detailed case information regarding snakebite. 450 cases were amassed in three years. General demographics were similar to those reported in national poison and injury databases. However, more detailed and informative clinical information that may guide public health interventions and management of this condition was gained. The NASBR is a powerful tool for the study of snake envenomation.