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159. Most rattlesnake envenomation patients receive multiple doses of antivenom

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Background and Objectives: No previous research has reported the quantity and timing of antivenom dosing in the treatment of crotaline snake envenomation patients under real world conditions. This study describes the dose and timing of both ovine Fab and equine F(ab')2 antivenom administration for rattlesnake victims.

Methods: We performed a post hoc analysis of prospectively collected observational data. Rattlesnake envenomation cases in the American College of Medical Toxicology (ACMT) Toxicology Investigators' Consortium (ToxIC) North American Snakebite Registry (NASBR) treated in 2019 were stratified by antivenom administered. Patients receiving both antivenoms were excluded from this analysis. Descriptive statistics and visual presentation were used to understand total antivenom dosing.

Results: Among 114 rattlesnake envenomation patients receiving antivenom, 53 patients (46.5%) received Fab antivenom, 27 (23.7%) received F(ab')2 antivenom, and 34 (29.8%) received both products. Among patients receiving only Fab antivenom, the median total antivenom dose was 10 vials (IQR: 6 - 16), and 42 patients (79.2%) received more than one antivenom dose. The median interval between Fab doses was 6.0 (4.0–10.0) hours. The F(ab')2 only group received a median of 15 (10–22) vials of antivenom, and 17 patients (63.0%) received multiple doses. The median interval between F(ab')2 doses was 5.0 (3.0–6.0) hours. The mean (SEM) total antivenom dose administered was 11.4 (5.5) vials of Fab and 17.0 (7.6) vials of F(ab')2 (ratio: 0.67; 95% CI 0.54–0.84).

Conclusion: Regardless of the antivenom used, most rattlesnake patients in the NASBR receive multiple antivenom doses. These data could not consistently distinguish doses given for initial control (either antivenom), scheduled maintenance (Fab), or to treat recurrent venom effects (either antivenom), and do not account for pretreatment severity.