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005. Number of Vials of Anti-Venom to Achieve Control in Rattlesnake Envenomations

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Background: In recent years, both Crotalidae polyvalent immune Fab (ovine) (CroFab) and Crotalidae Immune Fab'(2) equine (Anavip) is approved for treatment of North American pit vipers. There is limited post-marketing data on the number of vials of anti-venom needed to achieve clinical control after rattlesnake envenomation.

Hypothesis or Research Question: Both Fab and F(ab')₂ will be equally effective in achieving control.

Methods: The North American Snakebite Registry, a prospective sub-registry of the ToxIC Core Registry, collects detailed clinical information on snake envenomations that receive a medical toxicology consultation. This analysis evaluates the number of anti-venom vials required to achieve clinical control following a rattlesnake envenomation. An additional question on clinical control after each anti-venom administration was added in January 2021. Therefore, cases entered before 2021, as well as those cases who did not achieve control, those where the number of vials administered before control achieved was not documented, and those who received both antivenoms were excluded. Clinical control was defined based on the treating toxicologist's recorded assessment. Multivariable regression was performed. The number of vials were converted in a 2:1 ratio to facilitate comparison (2 vials Anavip equivalent to one vial CroFab).

Results: A total of 250 cases met eligibility, including 60 patients (24%) who received CroFab alone and 190 (76%) who received Anavip alone. The median and interquartile range (IQR) adjusted number of vials of Anavip and CroFab were 8 (IQR 5-12) and 6 (IQR 6-10). After adjusting for age, sex, bite location, and pre-envenomation use of anticoagulants and anti-platelet agents, CroFab was associated with less number of vials to achieve clinical control (-2.46; 95% CI: -1.78, -1.14).

Conclusion: CroFab required significantly fewer vials to achieve clinical control than Anavip, suggesting potential differences in dosing requirements between the two antivenoms.

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