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008. Efficacy of Fab vs. Fab2 for Patient-Centered Outcomes After Rattlesnake Envenomation in the North American Snakebite Registry

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Background: Superior efficacy of Fab vs Fab, antivenom for prevention of tissue toxicity after North American snakebite is debated. 'Time to control', often used to assess antivenom efficacy, may not reflect ultimate outcomes. Patient-centered outcome data is needed.

Hypothesis or Research Question: There is no difference in functional deficit or permanent tissue loss after Fab vs. Fab, for treatment of rattlesnake envenomation in the North American Snakebite Registry (NASBR).

Methods: This analysis is based on Toxicology Investigators Consortium's NASBR data 2013-2024 comparing patient-centered outcomes after Fab vs Fab, following rattlesnake envenomations. Cases with delayed antivenom >12 hours or administration of both antivenoms were excluded. Primary outcomes were functional deficits or tissue loss on follow-up. Secondary outcomes included compartment syndrome, surgical procedures, or suspicion of compartment syndrome. Fab and Fab, groups were compared using Chi square Fisher's exact test for categorical variables and Mann-Whitney U test for continuous variables. Logistic regression was used to compute adjusted associations between Fab vs. Fab, for outcomes with sufficient sample size. Permanent tissue loss was reported in 30 (4.7% Fab) cases and 4/213 (1.9%) Fab, cases (p=0.4845). Tissue loss included three skin grafts and one fingertip deformity after Fab and two skin grafts and two digit amputations after Fab,. Necrosis was more common after Fab; (50/559, 8.9% Fab vs. 34/226, 15.0% Fab,; p=0.0123). Procedures including dermaplasty, fasciotomy, and debridement were similar in both groups (Fab 6.98%, Fab, 4.87%; p=0.2732). See Table 1. After adjustment for bite location, time to antivenom, use of tourniquet or suction, and antivenom type, presence of a digit bite was significant for functional deficit (Odds Ratio [OR]: 2.51; 95% CI: 1.55–4.11). Digit bite (OR: 6.98; 95% CI: 4.11, 12.42) was associated with increased odds of necro- sis, Fab was associated with reduced odds of necrosis (OR: 0.56; 95% CI: 0.34, 0.93).

Conclusion: There was no difference in functional deficit or permanent tissue loss after Fab vs Fab, for rattlesnake envenomations in NASBR. Fab compared to Fab, was associated with a reduced odd of necrosis.

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