COMMENTARY

The antivenin is safe, but its future is uncertain

Many physicians believe it is dangerous to treat snakebites using polyvalent crotalid antivenin because of the high risk of anaphylaxis. The study by Offerman and colleagues, however, suggests that fears about the antivenin are unfounded. Their findings add to the literature suggesting that anaphylactic shock is extremely rare. Dart and colleagues summarized 8 studies designed to monitor acute and delayed reactions to the antivenin.[1] Of a total of 592 patients, 459 (78%) were treated with antivenin. Of the treatment group, 79 (17%) experienced acute reactions to the drug—mostly urticaria—and 13 of these 79 (16%) experienced hypotension. No deaths from anaphylaxis were reported. Even though the authors themselves were aware of 3 deaths from anaphylaxis, they noted that no such deaths had actually been published in the medical literature.

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Offerman and colleagues present data to suggest that because of high false-positive and false-negative rates, skin testing is highly unreliable. Of the 12 patients in the study who showed an immediate hypersensitivity response to the antivenin, 6 (50%) had documented skin testing. Of these 6 patients, 4 (67%) had no reaction and 2 (33%) reacted but were given the antivenin regardless.

The authors acknowledge that their study is limited by its retrospective nature, which raises the possibility of recording bias. Unfortunately, no prospective data are available regarding the safety and efficacy of the antivenin. Another limitation is the large number of different clinicians involved in treating the patients with snakebites over the 11-year study period. Different approaches to their care may have affected the outcomes. The decision to treat was only loosely defined. Finally, delivering antivenin too quickly is commonly blamed for hypotensive episodes,[2] yet this important variable of rate of delivery of antivenin was not determined.

Until recently, polyvalent crotalid antivenin was the only known treatment for crotalid envenomation in the United States. A new antivenin called CroFab (Savage Laboratories, Melville, NY) was recently approved by the Food and Drug Administration and is now available. The polyvalent antivenin contains whole IgG antibodies, whereas CroFab is manufactured by a different method of purification in which the antibody is cleaved and then purified. Initial prospective studies comparing polyvalent antivenin and CroFab suggest that acute reactions (urticaria, bronchospasm, hypotension) and delayed reactions (serum sickness) may occur less frequently with the newer agent.[1] The newer agent is more expensive per vial, but it is on average 5.2 times more potent than the polyvalent antivenin and its delivery protocol calls for fewer vials per regimen. Both products appear equally effective.[1]

After the Food and Drug Administration identified irregularities in the production of the polyvalent antivenin, Wyeth recently informed the public that supplies are limited and it is available on a case-by-case basis only. In addition, Wyeth has suggested that it will discontinue manufacturing the antivenin once an alternative is available.

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References

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2 Russell FE. *Snake Venom Poisoning*. Great Neck, NY: Scholium International, Inc; 1983:328-330.