

Anavip® vs Crofab®, the battle of the antivenoms

Recently, crotalidae immune F(ab')₂ fragments (Anavip®) had its indications expanded to match that of crotalidae immune Fab fragments (Crofab®) (Anavip® Package Insert). This matching of indication and difference in antivenom components sparks a discussion on what to use in patients presenting with snakebite envenomation.

Crofab® was the first Fab antivenom in the US for crotaline envenomation. It derives its antivenom from native US snakes: eastern/western diamondback (*C. adamanteus*, *atrox*), cottonmouth (*A. piscivorus*), and Mojave rattlesnake (*C. scutulatus*) (Crofab® package insert). Anavip® is a newer F(ab')₂ fragment which derived its antivenom from Mexican snakes: fer-de-lance (*B. asper*) and the Central American rattlesnake (*C. simus*). Notably, the state of Maryland predominantly has copperheads which are closely related to the cottonmouth. We also have some small areas (predominantly in the western part of the state) where the Timber rattlesnake (*C. horridus*) is present. Key differences between the antivenoms are the initial doses (4-6 vials of Crofab® (4 vials if copperhead envenomation) and 10 vials of Anavip®. Anavip® does not have a recommended maintenance dose. Most copperhead envenomation DO NOT need maintenance doses of Crofab® and most patients only need the initial 4 vials.

Regardless of which antivenom is used, initial therapy for snake envenomation has not changed. The best course of action is to get the patient to a healthcare facility. No pre-hospital treatment has been proven effective for the treatment of snake envenomation and it is important to stop/remove any pre-hospital measures that have been applied by the patient (ex. tourniquets, ice, etc.). Ensure that all constricting clothing and jewelry are removed from the affected limb, as the inevitable swelling may impair removal later in their clinical course and raise the extremity above the level of the heart. Other symptoms from snake bites include pain and bruising. Hematologic toxicity is rare in copperhead bites and is limited to some oozing of blood at the bite site. Timber rattlesnakes can have significant thrombocytopenia and coagulopathy which may be prolonged.

Although we have limited data with Anavip® for copperhead envenomation as the FDA approval was based on 13 cases and *in vitro* data, it will still likely be effective (*Clin Toxicol.* 53.1 (2015): 37-45). The advantages of Anavip® may be a lower cost without needing maintenance dosing and simplification of therapy. However, this needs to be weighed with the fact that copperhead envenomation generally only requires 4 vials of Crofab®, therefore, the cost difference is minimal since 10 vials of Anavip® are recommended at this time. Consider your formulary and buying plans when deciding on which antivenom to stock. While we do not have a preferred antivenom, we strongly recommend that you discuss the case with the poison center before ordering any doses.

Questions about antivenom choice and administration? Call 800-222-1222

Editor's note: Brand names are utilized for brevity and readability



Did you know?

Delta-8-THC has been in the news recently as a legal cannabis substitute.

Δ8-tetrahydrocannabinol (Δ8 or Delta-8 THC) is a newer form of cannabis that has emerged in recent months. Due to a loophole in the farm bill, Δ8 THC is legal to be sold around the United States. Δ8-THC is almost structurally identical to Δ9-THC (the psychoactive component of cannabis products). Effects of Δ8-THC are presumed to be similar to Δ9-THC but are still unknown with patients who use Δ8-THC reporting it as a "milder" Δ9-THC.

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