

**West African Bush Viper (*Atheris chlorechis*) Coagulopathy Treated Successfully with Polyvalent Antivenom.**

Eric Malone<sup>1</sup>, Bram Dolcourt<sup>1</sup>, Cynthia Aaron<sup>1</sup>, Bryan Judge<sup>2</sup>

<sup>1</sup>Wayne State University / Children's Hospital of Michigan Regional Poison Control Center, Detroit, USA, <sup>2</sup>Grand Rapids Medical Education Partners / Michigan State University Emergency Medicine Residency Program, Grand Rapids, USA

**Background:** *Atheris chlorechis* is an arboreal species of bush viper endemic to portions of West Africa. The genus *Atheris* is phylogenetically diverse due to unique regional biogeographic characteristics. Cases of envenomation and successful treatment of coagulopathy have been inadequately described. We present a case of envenomation by *A. chlorechis* with successful antivenom therapy.

**Hypothesis:** Polyvalent Echis antivenom is effective for the treatment of coagulopathy following envenomation by *A. chlorechis*.

**Methods:** A previously healthy 32-year-old male amateur snake keeper experienced two bites in rapid succession from a pet West African Bush Viper to the right hand dorsal web space between the first and second digits. At presentation, there was pain and swelling at the envenomation sites. Laboratory values included INR of 1.0, Hgb of 13.4, and platelet count of 127,000. Over eight hours, the patient developed coagulopathy and progressive swelling of his right upper extremity. Platelet count and Hgb remained stable, but INR increased to 6.7 with fibrinogen of 341 mg/dL. Antivenom was not immediately available, so he was treated with fresh frozen plasma. His coagulopathy continued to worsen with INR increasing to >12 and PTT >120 at approximately 18 hours post-envenomation. He remained hemodynamically stable but experienced bleeding from his gums and puncture wounds.

Following treatment with polyvalent Echis antivenom, obtained from an out-of-state reptile house, there was improvement in the patient's coagulopathy. INR decreased to 2.4 and PTT decreased to 28. Fibrin monomers remained elevated and platelet count decreased to 66,000. Creatinine increased from a baseline of 0.8 to 3.1 mg/dL. Following symptomatic improvement, the patient left against medical advice on hospital day two.

**Discussion:** Envenomations by *A. chlorechis* are poorly described. We present a case of coagulopathy treated successfully with polyvalent Echis antivenom.

**Conclusion:** Polyvalent Echis antivenom may be effective in ameliorating coagulopathy from envenomation by *A. chlorechis*.