

# Cerebellar infarct with neurogenic pulmonary edema following viper bite

This is a beautiful exposition of a survivor of one the world's neglected medical conditions, snakebite.<sup>[1]</sup> Venomous bites occur commonly in largely rural agrarian communities of Asia, South America, and sub-Saharan Africa with devastating morbidities and mortality because of increased human–snake encounters. In such communities, homemakers and others are at risk of bites if there are hiding places for snakes (overgrown vegetations, piles of woods, sand, refuse dumps, building blocks in construction sites, etc.), especially in the evenings and night times because of poor illuminations as was in the index patient. It is also common among hunters, herdsman, plantation workers, snake charmers, and zoo attendants. Vipers are generally very aggressive snakes.<sup>[2]</sup> Though 25% their bites could be dry (bites without venom discharge into victim's tissues),<sup>[3]</sup> most bites result in envenomation as in the index patient. Following these bites, some dangerous prehospital practices abound namely; application of tourniquet proximal to bite site, snakestone, incision on bite site, suction (oral or device), and application of native concoction with or without ingestion of such concoctions.<sup>[4]</sup> Though no prehospital care for the index patient was documented, studies have discouraged their use because they are associated with a longer time interval before presentation, longer hospital stay, increased antivenom requirement, increased risk of wound infection, a higher cost of hospitalization, and increased risk of death or disability.<sup>[4]</sup> There is a consensus for prehospital immobilization of the bitten limb and early transport to adequately equipped hospital where definitive immediate resuscitation and antivenom therapy by trained care providers would be accessed.<sup>[5]</sup> This was demonstrated in the index patient as she was in the local hospital within 2 h of bite probably as a result of effective community education.

Despite facility differences in treatment protocols, at admission it is expected that every suspected viper-bite victim should be evaluated for coagulopathy (using the bedside 20 min whole blood clotting test) before a more elaborate clotting profile is done, along with neurological assessment for ptosis, dysphagia, dyspnea, etc.<sup>[6]</sup> A non-clotted blood after 20 min is an evidence of coagulopathy even in the absence of spontaneous bleeding from bite site or mucous membranes and this is an indication for immediate commencement of antivenom.<sup>[6,7]</sup> Early administration (within 4 h of bite) of potent antivenom is known to improve outcome.<sup>[8]</sup>

Other adjunct therapies include tetanus prophylaxis for fang wound if indicated, observing for and treatment for antivenom reactions (i.e., anaphylaxis; serum sickness-like reaction especially after several doses are given), and recurrence phenomenon (i.e., return of any venom-related effect after that abnormality had resolved).<sup>[7]</sup>

Though central nervous system manifestation of viper envenomation has been documented, this report is unique in some ways, namely the presence of cerebellar infarction (rare), pulmonary edema, and most remarkably, the reportage of a survivor of severe viper envenomation resulting from rapid access to free tertiary medical care. In rural poor settings where most bites occur, delayed access to equipped care facilities, absence of effective affordable antivenom, and trained manpower for snakebite care has led to avoidable morbidities and mortality.<sup>[2]</sup>

Many lives will be saved if policy makers address the inadequate attention given to snake bite victims. The health insurance scheme as demonstrated here is another tool that can aid rapid access to care. The focus on malaria, HIV/AIDS, and tuberculosis has led to neglect of snakebite leaving families with death of or deformation of bread-winners resulting in poverty perpetration and suffering in those communities.

Michael C Godpower

Department of Family Medicine,  
Aminu Kano Teaching Hospital, Kano, Nigeria

Access this article online	
Quick Response Code:	Website: <a href="http://www.ruralneuropractice.com">www.ruralneuropractice.com</a>
	DOI: 10.4103/0976-3147.91921

**Address for correspondence:**  
Dr. Michael C. Godpower,  
Department of Family Medicine,  
Aminu Kano Teaching Hospital, Kano, Nigeria.  
E-mail: mikeydeb2003@yahoo.com

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**How to cite this article:** Godpower MC. Cerebellar infarct with neurogenic pulmonary edema following viper bite. *J Neurosci Rural Pract* 2012;3:4-5.

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