CASE REPORT

Krait bite: A Diagnostic Dilemma

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ABSTRACT

In Nepal, fatalities resulting from snakebites are alarmingly common, yet the issue remains inadequately addressed, prompting experts to characterize it as an imminent but overlooked crisis. Among the venomous snakes, the Common Krait stands out for its exceptionally lethal venom, rich in neurotoxins that induce muscle paralysis. Particularly in rural areas, snakebites pose a significant threat to public health. However, the diagnostic challenge posed by patients with obscure medical histories devoid of known snakebite incidents is seldom documented in medical literature. In this context, we present the case of a 22-year-old male patient presenting with nonspecific symptoms and an indistinct medical background.

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INTRODUCTION

In Nepal, snakebites represent a significant public health concern. In Nepal, documented incidence rates reveal 1,162 snakebites per 100,000 individuals annually, with 604 cases of envenomation per 100,000 people each year.[1] The manifestation of symptoms following a venomous snakebite can vary widely. Failure by healthcare professionals to promptly identify a toxic snakebite, particularly from a Krait, can lead to delays in administering appropriate antivenom, resulting in adverse outcomes. Notably, Krait bites often lack visible signs of injury and pain at the bite site. Venom from poisonous snakes may exhibit myotoxic, neurotoxic, or vasculotoxic effects. Neurotoxic snakebites can precipitate descending cranial nerve paralysis, potentially culminating in respiratory failure and fatality.[2] Clinical diagnosis of Krait bites is further complicated by the absence of local indicators and pain, with these snakes typically biting during nocturnal foraging activities.[3]

Case Report

A 22-year-old male patient presented with sudden onset stomach pain and dysphagia, initially attempting self-management with over-the-counter remedies. Following evaluation at the surgical outpatient department, he was promptly referred to the emergency room for further assessment and consultation with the medicine department, as no surgical cause for his abdominal pain was identified. Lacking a precise medical history, the patient's symptoms served as the primary basis for evaluation. Continuous monitoring of vital signs was instituted in the emergency ward.

Upon consultation with an ENT team regarding worsening dysphagia symptoms and the presence of a "broken neck sign" on physical examination, a soft tissue neck X-ray was performed. The patient's level of consciousness progressively declined, necessitating endotracheal intubation.

Subsequent inquiry into the patient's background revealed that he had slept on the floor inside an open hut situated in an agricultural area. Although the patient could not recall any details of a snakebite, the geographical location and symptomatology suggested a probable Krait snake envenomation, given that Kraits typically forage at night. Laboratory investigations indicated normal total blood count and renal function; however, hepatosplenomegaly was suspected based on abdominal and pelvic ultrasonography findings. The patient received primary therapeutic

interventions, including intravenous anti-snake venom serum, antibiotics, and multivitamins during hospitalization. Supportive care and antivenom therapy constituted the cornerstone of treatment for venomous snakebites. Given the prolonged neuromuscular effects of Krait venom, mechanical ventilation was maintained until receptor regeneration occurred.

Upon detection of the snakebite, the patient received 10 vials of anti-snake venom serum intravenously, in addition to doses of glycopyrrolate, proton pump inhibitor, adrenaline, atropine, and hydrocortisone. Prompt access to medical care and adherence to a standard treatment protocol contributed to a favorable prognosis, with the patient displaying stable vital signs and orientation to time, place, and person upon recovery.

DISCUSSION

Diagnosing Krait snakebites presents a challenge due to the subtle local symptoms and signs often associated with such incidents. The difficulty is compounded when patients are unaware of being bitten. Proficiency in snake identification is crucial for optimal clinical management, as it guides healthcare providers in selecting appropriate treatment strategies. In this case, the patient's lack of awareness regarding the bite led to delayed diagnosis, compromising management. Fortunately, timely diagnosis ultimately contributed to his survival.

Addressing such complex emergencies with potentially grave consequences necessitates raising awareness among rural populations regarding the risks posed by venomous snakes. Vulnerability in the context of snakebite envenomation refers to the conditions resulting from physical, socioeconomic, and environmental factors that render individuals or communities more susceptible to adverse outcomes. This understanding underpins efforts to assess vulnerability to snakebite envenomation (SBE) systematically.

In the Terai region, where snakebite incidents are prevalent, two primary categories of life-threatening SBE systemic syndromes neurotoxic and hemotoxic predominate. Rapid recognition and treatment of neurotoxic envenomation are imperative, as severe symptoms may manifest within an hour post-bite.[4,5]

Across South Asian nations, comprehensive strategies for snake population management and bite prevention are lacking. Educating individuals at risk is paramount for preventing many incidents. In Nepal, nocturnal biting risks can be mitigated by employing cots instead of sleeping on the ground and using bed nets.[6,7]

Environmental modifications, such as clearing garbage, termite mounds, and firewood from human settlement areas, help deter snakes from congregating. Additionally, efforts to control rodent populations reduce the likelihood of attracting snakes. Regular inspection of mud walls and thatched roofs-common snake hiding spots can further minimize encounters.[8]

Simple precautions, such as wearing boots and long pants when engaging in agricultural activities and using torches or lanterns while traversing trails at night, significantly reduce the incidence of snakebites. By implementing these measures, communities can effectively mitigate the risk of snakebite incidents and their associated consequences.

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