

A Case of Neuroparalytic Snake Bite Mimicking Acute Abdomen

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Abstract: Snake bite is a commonly encountered medical emergency in rural areas of India and is a neglected tropical disease of global importance (1). The incidence possibly has been increasing due to urbanization. Armed forces personal, due to its deployment in remote and hilly areas are highly vulnerable to snake bite. Majority of the patient will come to the clinician with history of snake bite with or without features of envenomation. Krait is nocturnal in nature and notorious for biting people during sleep or without warning. Krait bite are usually painless and the bites on many occasions are not noticed by the patient. Krait bites usually do not produce any local symptoms (2). The features of envenomation vary according to the species. Envenomation may result in vasculotoxic, neurotoxic and myotoxic manifestations. However, it is not uncommon for a patient to develop delayed features of envenomation after many hours of bite. Sometimes patient can come to the physician with atypical symptoms without history of snake bite. The present case report is about a case encountered in a peripheral area of Jammu and Kashmir with initial presentation as pain abdomen and suspected to have acute abdomen, later developed features of delayed neuroparalysis and was managed as a suspected case of elapid bite (Krait) with ASV and ventilator support with an uneventful recovery.

Keywords: Neuroparalysis, acute abdomen, ventilatory support, ASV

1. Introduction

Snake bite is a common medical emergency encountered in almost all part of India. In India, more than 2,000,000 snake bites are reported annually, of which 35000 to 50000 die (3). The big four namely, Cobra, Common krait, Russel viper and Saw scaled viper are responsible for majority of the venomous bites. Some venomous snakes are commonly found in a specific region. The leventine viper which is found in Jammu and Kashmir region of India is the main culprit for majority of the cases of venomous bites and krait bite is though rare is not uncommon. In Armed Forces, due to the deployment of army personal in areas where snakes are commonly found, snake bites are commonly encountered and regarded as an important medical emergency. Patient usually comes with history of bite by a snake or history of unknown bite. Patient can have local symptoms of envenomation after the bite or develop systemic features requiring ASV. Krait bite can come with pain abdomen which is regarded as a cardinal feature and later developed neuro paralysis after many hours (4). Pain abdomen in krait bite is possibly due to gastric sub mucosal bleed and can very closely mimic acute abdomen(3). Krait bite commonly occurs in the early hours of the morning and people sleeping on the floor are at a greater risk (4). Early morning neuroparalytic syndrome has been attributed to krait bite.

The venom of Krait predominantly composed of Beta-Bungarotoxin, a neurotoxic phospholipase A2. It causes fast depletion of synaptic vesicles from motor nerve terminals and degeneration of motor nerve terminal and intramuscular axons(5). This case is about a young soldier who developed pain abdomen in the early hours of the day while doing sentry duty in an isolated border post in Jammu and Kashmir and was initially managed as suspected case acute appendicitis, but he later developed features of neuroparalysis after about 6 hours and was later managed as a case of suspected elapid bite.

2. Case Report

A 24 years old male soldier presented to the local medical inspection room situated near the line of control in Jammu and Kashmir at around 0430 hours with complaints of sudden onset pain abdomen while doing sentry guard duty in an isolated border post. The pain was mild, non colicky, non radiating in nature and felt all over the whole abdomen. He gave history of one episode of non projectile vomiting after 15 minutes of pain onset. On further examination, all his vital parameters were within normal limits but found to have diffused tenderness all over the abdominal. He was given intravascular Pantoprazole after which the pain subsided. However, the pain recurred again after 30 minutes which was more severe in nature. He was immediately evacuated to the nearby service hospital few kilometers away. He was examined by the surgeon on call and a provisional diagnosis of suspected acute appendicitis was made and after initial treatment, the patient was further referred to zonal hospital for further evaluation since facilities were not available in the peripheral hospital.

He was seen by the Surgeon on call and found to have mild tender all over the abdomen and was finally admitted for evaluation. Within an hour, in the surgical ward he was observed to have increased salivation followed by dropping of eyelids which was observed by the duty nursing staff. The Physician was immediately called and a thorough examination revealed that he was fully conscious but unable to communicate well because of excessive frothing and difficulty swallowing with mild respiratory distress suggestive of respiratory paralysis with bilateral ptosis (Fig : 1). Further examination revealed a weak arm abduction, absent gag reflex, poor single breath count, weak neck flexion. He was hemodynamically stable with a normal oxygen saturation and rest of the systemic examination was essentially normal. In view of the neuroparalytic features, he was immediately shifted to the ICU and was put on ventilator support. The history was reviewed again and

finally a diagnosis of possible neuroparalytic bite, likely Krait was made in view of the symptom onset absence of local signs and gradual onset and progressive features of neuroparalysis.



Figure 1: Showing ptosis in the patient who was fully conscious (Intubated)

The patient was evaluated further, the CBC was normal, his renal function and liver function test were normal. All his coagulation profile including serial 20 minute WBCT were within normal limits which ruled out vasculotoxic envenomation. He was immediately started on ASV infusion as per WHO recommendation. He received 100 ml of ASV in 4 hours followed by 50 ml in 6 hrs.

He was subsequently kept under continuous monitoring. There was no reaction to ASV and the patient showed good clinical recovery in the following 12 hours. His ptosis gradually improved, and overall neurological improvement was observed without any deterioration. He was extubated after 24 hours when his neurological condition improved dramatically. After extubation, he was fully conscious, oriented and his gag reflex showed a normal response and was kept under close observation for 24 hours. He had a complete neurological recovery within the next few days and was subsequently started orally on normal diet with chest physiotherapy. He was finally discharged in a stable state after 5 days.

3. Discussion

All snake bite cases may not come with features of envenomation and features of envenomation may appear gradually. Krait is nocturnal in nature and majority of the bite occurs at night or early morning. Krait bite usually are painless and may not have fang marks. They are notorious for biting human without provocation during sleep. In this case the most probable cause of neuroparalysis was due to krait bite while the patient was on sentry duty at an isolated border post early in the morning. Since the initial symptom was only pain abdomen with no history of any bite, he was managed as a suspected case of acute abdomen. There was no neurological feature for more than 6 hrs till he was observed to have drooping of eyelids and frothing in the hospital. The most common neurological features are ptosis(85.7%), Ophthalmoplegia (75%), Respiratory failure (17.9%), Palatal palsy (10.7%) and neck muscle weakness(7.1%). They usually developed within 6 hrs of bite. (6)

Once neuroparalysis sets in, ventilatory support forms the mainstay of treatment together with anti snake venom. Respiratory failure is the most common cause of mortality and morbidity. However, due to the non availability of ventilatory support at many periphery areas, ASV still remains the mainstay of management in peripheral areas.(7)

4. Conclusion

All cases of snake bite may not come with history of bite. Snake bite mainly Krait may come with pain abdomen as the initial symptoms which may mimic acute abdomen. Observation of a patient is of paramount importance. The medical officer in the peripheral areas should be able to recognize any neurological feature of envenomation. A case of neurotoxic envenomation should be considered in all cases with any neurologic feature and timely ASV should be administered along with ventilatory support if available and if not available then early and safe transfer of the patient should be planned as early as possible since ventilatory support may prove life saving for many such cases.

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