Case Report

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A Rare Presentation of Krait Bite

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Abstract

Krait snake bite is a type of emergency which is encountered in emergencies in India especially rural India. Common krait (Bungaruscaeruleus) and cobra (Najanaja) are most commonly found in this part of India. Krait bites tend to cause severe muscle paralysis but if patient receive first aid like ventilatory support and antivenom timely they can recover fully. Autonomic dysfunction resulting in tachycardia at rest, unexpected or unexplained hypertension and sweating has been commonly seen in krait bites. We present a case where a 13 yrs old girl who came with symtpoms of progressive drooping of eyelids, diplopia, difficulty in talking, painful swallowing and severe pain abdomen here considering the clinical scenario of pain abdomen with descending paralysis a possibility of krait bite was considered and pt was given ASV. She started improving from 3rd day and was subsequently discharged on 6th day

Keywords: Krait; Rural India; Autonomic Dysfunction; Tachycardia; Diplopia; Pain Abdomen; ASV.

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Introduction

Krait bite is commonly encountered situation in emergency departments in tropical countries. In a case of Severe envenomation presentation may be like a brain death or a comatosed with absent reflexes and total ophthalmoplegia or features of descending muscle paralysis[1] Despite these varying presentations, patients who are given antivenom and supportive care in time may recover completely. In addition, some forms of envenomation may be associated with severe and unexpected or unexplained hypertension.

Case Report

A 13 yrs old girl presented to the ED of a tertiary care hospital from a nearby rural area with chief complaints of progressive drooping of eyelids, diplopia, difficulty in talking, painful swallowing and severe pain abdomen since 4 hrs from the day of admission.

Course in Emergency

Since there was a sudden history of these symptoms initially it was thought that may be the child was faking the symptoms. But on examination it was revealed that the pt had bilateral ptosis with extraocular muscle palsy (complete) with preserved pupillary reaction, bulbar weakness was present, single breath count was normal and there was generalized tenderness on deep palpation of abdomen. Pt was tachycardic with a BP of 130/90. She was a little bit agitated with oxygen saturation being 93% on Room air. She was put on O_2 at the rate of 6 lt/min.

Case was consulted with neurology team who suggested that it may be early myasthenia gravis,

acute intermittent porphyria or a possible common krait bite.

Course in ICU

Patient was shifted to ICU for further observation and management. Considering the clinical scenario of pain abdomen with descending paralysis a possibility of krait bite was considered and was given 10 vials of ASV stat, followed by 10 vials after 6 hrs as per the national snake bite protocol with no immediate adverse reactions.

Patient was also considered for IV DNS Infusion considering porphyria but Random urine porphyrin sample came out to be negative.

Patient started improving from the 3rd day with improvement in ptosis and extraocular muscle movements.

Gradually she was shifted out of the ICU on the 5th day and was discharged on the 6th day with complete symptomatic improvement.

Discussion

In India, the mortality from snake bite is very high ranging from 40000-50000 deaths per year.[2] Most of it occurring in rural parts where there is lack of proper health care facilities. Persistence of many myths and superstitions (BLACK MAGIC) resulting because of improper education among the rural population prevail in these areas further complicating emergency management. The venomous snakes most found are the Cobra, common krait, Russell's viper and the Saw scaled viper. Out of which the Cobra and krait bites shows neuroparalytic symptoms, whereas bites by *Viperidae* species are toxic to blood. Cobra and krait bites are associated with more deaths in rural areas as due to the rapid onset of respiratory paralysis the patients may not reach tertiary care centres like medical colleges and other contemporary centres on time and most of the time are brought dead to the hospital.[3] It was found that out of these pt's those who reach the tertiary centres on time the mortality rate in time varies from 3–4%.[4]

The physiology of Neuromuscular paralysis in krait bites is that the bungarotoxinswhich are present in krait venom act have a phospholipase A2 activity and hydrolyze phosphoglycerides thereby causing neuromuscular blockade by inhibiting the release of acetylcholine from the presynaptic membrane.[5,6] Cases have been reported in which patients presented with sudden onset of severe neuroparalytic symptomswhen such pt's were carefully examined snake fang marks were found and in some cases ASV was given keeping in mind a differential diagnosis of snake bite. Such pt's rapidly improved after giving ASV and thus diagnosis was established in such cases. In majority cases, generalized abdomen pain is a frequent early symptom of snake bite.[7,8]

Neuroparalysis gradually worsenes patients develop ptosis, ophthalmoplegia (manifesting as ocular cranial neuropathies), bulbar symptom (lower cranial nerves involvement)as was the presenting symptoms in our case which if left undiagnosed may lead toparalysis of respiratory muscles which was taken care of as ASV was given on time. The difference between cobra envenomation and krait envenomation are that the local signs are absent and neostigmine is ineffective in improving neuroparalytic features caused by krait envenomation.[9]

There are many recorded instances of autonomic dysfunction due to krait bite which is characterized by increase in blood pressure, heart rate and dilated pupils, such symptoms have been well described in the literature. In a study conducted in Sri Lanka more than half of krait bite were found to have Increased Blood Pressure.[10] Whereas in a study conducted on Malaysian krait (Bungarus candidus) bite patients marked sympathetic activity and decreased cholinergic activity the triad of hypertension, tachycardia and mydriasis was seen in all patients.[11] In another study from Vietnam, bites from Malayan and Chinese kraits (*Bungarus multicinctus*) autonomic disturbances were noticed in more than 33% of patients.[12] A Typical presentation of krait bites is that fang marks and localized symptoms were minimal or absent in all cases. The autonomic abnormalities may result both from the action of the bungarootoxins which reduce the parasympathetic activity, as well as by producing blockade of presynaptic-2 adrenoceptors, thus inhibiting the inhibition of neurally mediated release of norepinephrine which results in sympathetic hyper-reactivity.[11]

Management protocols should include early suspection and ASV administration followed by supportive treatment like ventilation. Overall adequate ventilation, general supportive care, Blood pressure control and controlling other autonomic manifestations is important in improving the mortality and morbidity. As the pathogenesis of hypertension is unique giving both an alpha and beta blocker is the best option in controlling the blood pressure.[13] Initially hypertension should be controlled by giving a nitroglycerin infusion as it

can be titrated to give the desired effect. Prolonged hypertension after krait bite was not reported in any of the cases and antihypertensive agents were tapered and stopped once blood pressure was normalized.

Conclusion

Progressive drooping of eyelids, diplopia, and difficulty in talking, painful swallowing and severe pain abdomen are most common symtpoms of krait bite. Due to Bulbar involvement and ophthalmoplegia krait bite patients can often be confused to be brain dead hence history taking and examination is very important. Whenever unexpected hypertension is encountered autonomic dysfunction should be considered.

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