

Case Reports

Snake Bite: An Unusual Cause of Acute Abdominal Pain

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Pain abdomen is one of the most commonly encountered complaints in pediatric emergency room. We report a seven-year-old resident of Delhi, who presented with sudden onset abdominal pain for three hours, and later went on to develop neuro-muscular paralysis and respiratory failure. The cause was found to be snake-bite. The child had a stormy course and full recovery.

Key words: Pain abdomen, Snake bite.

Acute onset abdominal pain is one of the most commonly encountered symptoms in the pediatric emergency room. Krait bite is a rare but potentially lethal cause that should be kept in mind, while evaluating patients presenting with this symptom.

Case Report

We report a seven-year-old resident of Delhi, who presented to us with sudden onset abdominal pain for three hours. The patient was apparently well till 2:00 AM, when he developed constant, severe and poorly localized abdominal pain. The pain was not associated with vomiting, diarrhea, fever, dysuria or hematuria. There was no history of abdominal trauma or similar episodes in the past. All other family members were asymptomatic. The

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child also reported a sensation of itching and discomfort in the thenar region of the left hand. On examination, the child was afebrile, anicteric, pale, apprehensive but cooperative. His heart rate was 120/min, respiratory rate was 24/min and blood pressure (supine) was 110/70 mm Hg. There was a 2 mm by 2 mm erythematous papule on the left thenar eminence. Abdominal examination showed mild tenderness with normal bowel sounds. Chest, cardiovascular and neurological examination was normal.

The child was administered intravenous H₂ blocker (ranitidine), advised rest and samples for routine investigations were taken. Twenty minutes after presenting to us, the pain intensified and the patient was also noticed to have bilateral ptosis. Ten minutes later the patient became drowsy and, respiratory efforts became shallow, and he also developed complete external and internal ophthalmoplegia and pooling of secretions. The patient was immediately intubated and mechanically ventilated. Review of the history revealed that the family resided in a mud house and the boy was sleeping on the floor at the time of onset of pain. We thought of neurotoxic snake bite with severe envenomation as an important possibility and administered anti-snake venom (ASV) (SII polyvalent anti-snake venom serum, Serum Institute of India Ltd, Pune, India) to this patient (15 vials). Investigations revealed hemoglobin of 13 g/dL, total leucocyte count (TLC) of 13,000/ μ L, platelet count of 300,000/ μ L. Prothrombin time (15/13 sec), serum amylase, renal function tests and liver function tests were within normal limits. Respiratory failure was completely reversed after 30 hours of administration of ASV and he was extubated after another 6 hours. Post extubation neurological examination did not show any residual neurological deficit and he was discharged after 120 hrs of hospital stay.

Discussion

Although snake bite is a frequently encountered problem in rural India, it is seen infrequently in urban areas of Delhi. Common neurotoxic snakes in

India include Cobra (*Naja naja*) and Krait (*Bungarus caeruleus*). Pain abdomen, the cardinal symptom of krait bite, can precede neurological symptoms by several hours(1). Krait bites are commonly reported between 2-3 am, and those sleeping on the floor are at a greater risk(1). Paucity of local tissue reaction, as seen in our patient, is a typical feature of Krait bites(2).

Beta-bungarotoxin, a neurotoxic phospholipase A₂ is a major fraction of the venom of kraits. Prolonged and severe paralysis seen in victims of envenoming bites by kraits and other related snakes of the family Elapidae is caused by the depletion of synaptic vesicles from motor nerve terminals and the degeneration of the motor nerve terminal and intramuscular axons(3).

Common neurological symptoms in decreasing order of frequency include ptosis (85.7%), ophthalmoplegia (75%), limb weakness (26.8%), respiratory failure (17.9%), palatal weakness (10.7%) and neck muscle weakness (7.1%). These are experienced usually within 6 hours of the bite. Following administration of antivenom, the signs of recovery became evident within a few hours to several days and the duration for complete recovery ranges from four hours to two weeks(4). Our patient developed most of the neurological symptoms described above but showed complete recovery after 30 hrs of administration of high-dose ASV.

ASV is most effective when administered within a few hours of Krait bite, hence, a high degree of suspicion is required as the bite frequently not witnessed and initial symptoms can be non neurological (isolated abdominal pain). Our patient responded to high-dose ASV regimen but there is evidence to show that low-dose regimen can be as effective(5). Ventilatory support forms a cornerstone of krait envenomation therapy. There are reports that describe complete recovery from snake bite, over a period of time, with mechanical ventilation, in the absence of ASV therapy(6). Current evidence does not indicate a strong role of anti-cholinesterase drugs (Neostigmine) in patients with common krait envenomation(7).

Rapid venom antigen detection tests like ELISA, which is relatively inexpensive and easy to carry out,

can play an important role in establishing the diagnosis in doubtful cases by detecting tiny amounts of venom antigens in tissues and body fluids(8).

We wish to reemphasize the fact that isolated abdominal pain, in absence of local tissue reaction and neurological symptoms, is an early feature of krait bite. A high index of suspicion is required in non endemic areas, as timely administration of ASV is critical for a favorable outcome.

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