



Rare complication of snake bite - ADEM

Paediatrics

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ABSTRACT

Introduction: Snake bites are very common problem in India especially in rural health setup. Although most of the snake bites are non-venomous, poisonous snake bites can result in local, vasculotoxic, neurotoxic and musculotoxic symptoms. Timely administration of antsnake venom and supportive treatment usually leads to uncomplicated outcome; however, unusual complications have been reported. We are reporting here a case with different type of complication.

KEYWORDS:

The Case

A two year old male child was brought to us with history of snake bite over right foot before two hours with having primary treatment at community health center and private hospital before reaching to our hospital. Past history was negative for major hospitalizations, history of allergy to any substance or anaphylactic reactions. His birth, family, immunization (last DPT booster before 2.5 months) and development history were not contributing to the diagnosis. There was no history of ingestion of any toxic substance.

On examination the child was unconscious, peripheries were cold, heart rate was 200/min, systolic blood pressure was 60mm Hg and respiration was feeble and irregular with gasping. On admission, resuscitation was done as per pediatric advanced life support guidelines [1] including immediate intubation and was put on ventilator. There was no bleeding from any orifices, no rashes. Child was well nourished and anthropometry was normal. On local examination right foot was gangrenous and fang marks were visible. Neurological examination revealed an unconscious child with Glasgow coma scale: 5/15, generalized hypotonia, sluggish tendon reflexes, pupils were normal size and reacting to light and had no obvious cranial nerve palsy. Examination of respiratory system revealed equal air entry with conducted sounds. Alimentary system was normal. At this stage, we considered snake bite as possible diagnosis.

Investigations:

Day of admission	1 st	2 nd	3 rd	4 th
Investigations				
HB(gm/dl)	9.3	10	7.4	12.6
TLC(/cubic mm)	3500	21400	19000	8400
Platelet(lakh/cubic mm)	4.76	3.8	2.54	2.78
PT(Sec)	18.3	15.4		
APTT(Sec)	28.1	28.1		
CSF	Normal			

Rest relevant investigations were normal.

Child was treated with intravenous fluids, appropriate dose of anti

snake venom, intra venous antibiotics, vasopressors, atropine, neostigmine, ventilation and other symptomatic treatment. Surgical debridement on was done on Right foot. He required mechanical ventilation for 4 days and was weaned off the ventilator support on 5th day. However, his GCS was 8/15. As he had developed convulsion on 4th day, MRI-Brain was done which was suggestive of acute demyelination of bilateral fronto parietal region. So possibly ADEM considered and intravenous Methyl Prednisolone 30mg/kg for five days with improvement after 3 days.

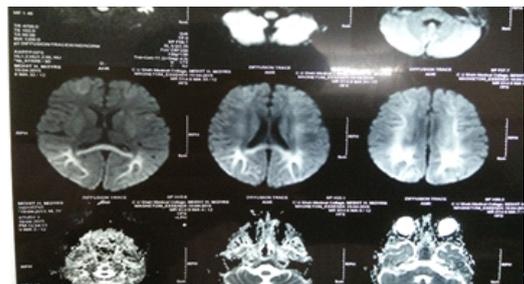


Fig 1:

Discussion

We also considered possibility of hypoxic brain injury but MRI findings did not support it. As cerebrospinal fluid examination was normal infective vasculitis also unlikely. Dramatic response to intravenous methylprednisolone further supports the diagnosis of ADEM. Hence we considered that the child had developed ADEM as complication of snake bite. ADEM is an acute widespread demyelinating condition characterized by the rapid development of focal or multifocal neurological dysfunction. It usually follows 4 - 21 days after an infection or vaccination, and results from a transient autoimmune response against myelin or other auto antigens either by molecular mimicry or non-specific activation of an auto reactive T cell clone. [2] The neurological consequences of snake bite are predominantly the result of inhibition of neuromuscular transmission. [3] There have been case reports for unusual complication in snake bite. [4] [5] ADEM as a complication of snake

bite is rare. Similar cases in adults have been reported in India. [6] We suggest that patients with snake bite who develop unexplained encephalopathy should be screened for ADEM. Even though this is rare complication if CT/MRI scans of the brain are ordered more often in patients with snake bite, this complication may be recognized more often and appropriate therapy instituted. Up to two thirds of patients with ADEM treated with corticosteroids benefit clinically, especially those who are treated early [7] while intravenous immunoglobulin and plasmapheresis have been shown to produce dramatic improvement in steroid non-responsive cases.[8] [9]

Conclusion

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