VENOM IN SHADOWS

By Dr.Mohammed Arif (JR2)

Under the guidance of Dr Varsha Shinde (Prof)

Emergency Medicine

PRESENTING COMPLAINTS

- 19 year old male presented to the emergency department with complaints of vomiting and abdominal pain since morning followed by drowsiness

INITIAL ASSESMENT

- Patient appeared lethargic
- Airway –patent
- Breathing : Sp02 98% on room air

  Respiratory rate : 16/min

Circulation : Blood pressure :110/80 mmHg

Pulse: 80/min

Disability : GCS 14 /15 E3V5M6 , pupils 3mm sluggish reactive

HISTORY OF PRESENTING ILLNESS

- 19 yr old patient was alright till the night before sleeping on the floor
- On waking up he developed diffuse abdominal pain and 3-4 episodes of non bilious, non blood stained vomiting which mostly contained food particles
- Following which he felt drowsy and was sleeping on the floor as per his mother.
- No history of fever , cough, loose stool, obstipation ,constipation, breathlessness
- No history of fall ,seizures, trauma, altered sensorium

PAST HISTORY

- No prior comorbidities
- No addictions
- No relevant family history

SYSTEMIC EXAMINATION

Per abdomen

- soft non tender.
- no guarding
- no rigidity
- Bowel sounds heard

CNS

- Patient conscious and oriented
- had slurring of speech
- Power 4/5 in all limbs
- Reflexes : 1+ in all limbs
- Pupils 3mm sluggish reactive
- Ptosis noted, ocular movements normal
- Neck holding normal
- Single breath count : 34

- Respiratory System

bilateral air entry equal with normal vesicular breath sounds

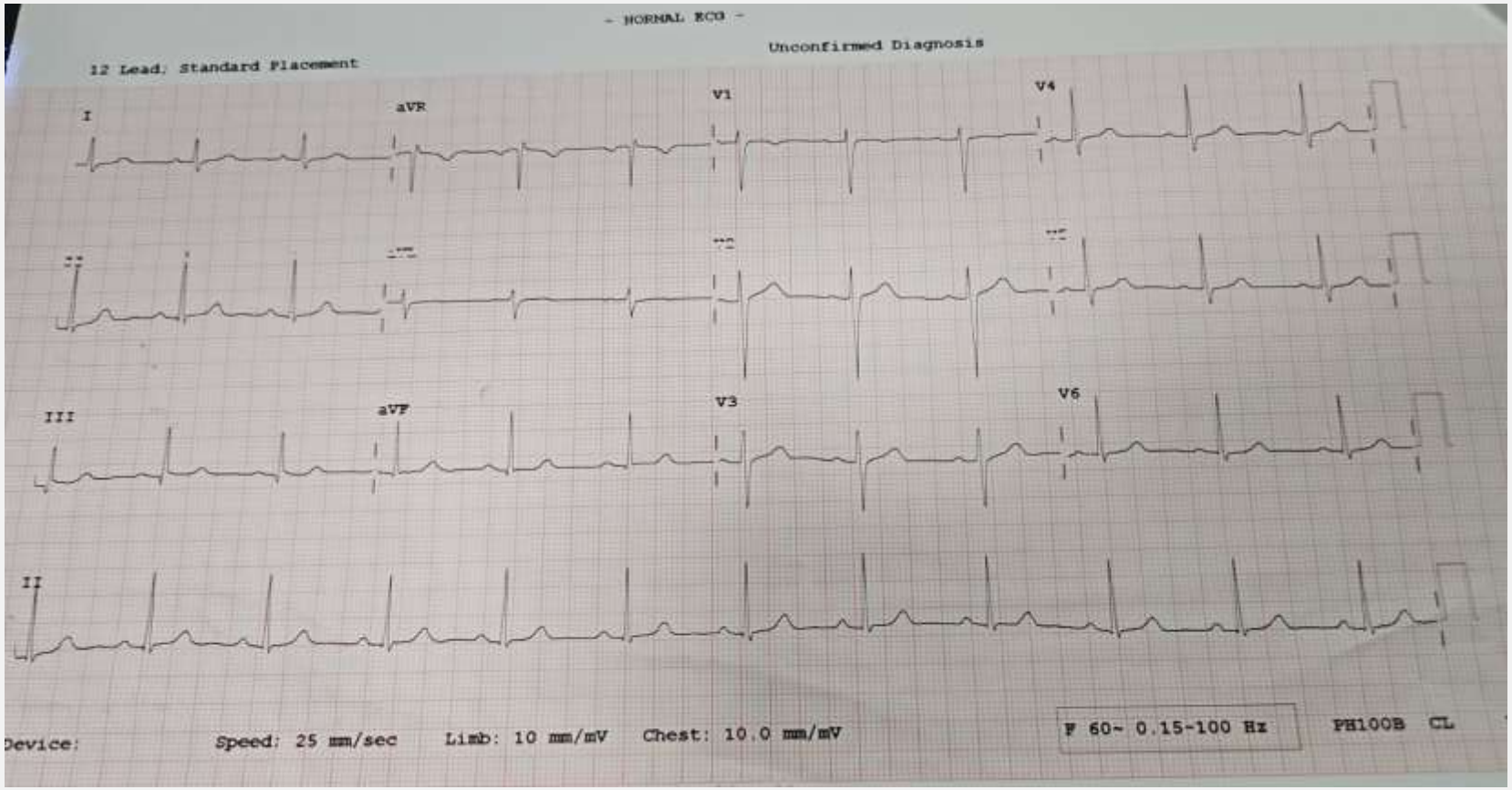
- Cardiovascular system

S1S2 heard ,no murmurs

ADJUNCTS

- ECG

Normal sinus rhythm



- Pocus 2D Echo :

Ejection fraction – 60%

Chamber sizes normal

No RWMA, no vegetations

No effusion

IVC : 16mm more than 50 % collapsible

DIFFERENTIALS

- Gastroenteritis
- Hyponatremia
- Myasthenia gravis
- Neuroparalytic snake bite
- Cerebrovascular accident

CASE PROGRESSION

- Patient was shifted to the emergency ICU
- Routine lab investigations including electrolytes appeared normal
- Neurology consult was sought and an MRI Brain was done which appeared normal
- USG abdomen and pelvis : normal study

RE-EVALUATION THE PATIENT

2-3 hours post admission

- Ptosis worsened
- Dysarthria
- Dysphonia
- Dysphagia

CASE PROGRESSION

- In high suspicion of snake bite , decision to give ASV was made

CASE PROGRESSION

- 10 vials of ASV given over 30minutes
- Atropine neostigmine trial was given which showed no response
- Inj calcium gluconate stat dose given and repeated 6 hrly
- Ptosis , dysarthria , dysphagia mildly improves in about 4 hrs

CASE PROGRESSION

- A repeat dose of ASV was given which showed significant improvement in another 4 hrs and a diagnosis of snake bite was confirmed
- Patient was shifted to CCM after 2 days for neuro observation and was discharged a week later from the ward with no residual complaints

DISCUSSION

- Snakebite envenomation is a global concern now recognized as “neglected tropical disease” by the World Health Organization
- In **India** , 2.8 million people are **bitten** by **snakes**, and 46 900 people die from **snakebite** every year
- About 94% of snakebite deaths occurred in rural areas, and 77% occurred out of hospital
  - Russell’s viper-43%
  - Krait-18%
  - Cobra-12%
  - Unknown species- 21%

COMMON PRESENTATIONS

Neurotoxic Manifestation	Vasculotoxic Manifestation	Myotoxic manifestation
Ptosis	Bleeding	Muscle ache
Diplopia	Local necrosis	Muscle swelling
Dysarthia	Blistering	Involuntary contractions of muscle
Dysphonia	Painful swelling	Compartment syndrome
Dyspnoea	Ecchymosis	
Dysphagia	Compartment syndrome	
Paralysis	Acute kidney injury	
	DIC, Shock	

TREATMENT

- For neuroparalytic snakebite – ASV 10 vials stat as infusion over 30 minutes followed by 2nd dose of 10 vials after 1 hour if no improvement within 1st hour

- In all cases of neurotoxic envenomation the 'AN challenge Test' will be administered, Atropine 0.6 mg followed by neostigmine (1.5mg) to be given IV stat and repeat dose of neostigmine 0.5 mg with atropine every 30 minutes for 5 doses
- It is particularly effective for post synaptic neurotoxins such as those of the Cobra

- If there is no improvement after 3 doses of atropine neostigmine (within 1 h), this indicates probable Krait bite. Krait affects pre-synaptic fibres where calcium ion acts as neurotransmitter. Inj. Calcium gluconate 10ml IV slowly over 5-10 min every 6 hourly and continue till neuroparalysis recovers which may last for 5-7 days.

- For vasculotoxic snakebite

Low Dose infusion therapy – 10 vials for Russel's viper or 6 vials for Saw scaled viper as stat as infusion over 30 minutes followed by 2 vials every 6 hours as infusion in 100 ml of normal saline till clotting time normalizes or for 3 days whichever is earlier.

High dose intermittent bolus therapy - 10 vials of polyvalent ASV stat over 30 minutes as infusion, followed by 6 vials 6 hourly as bolus therapy till clotting time normalizes .

- No ASV for Sea snakebite or pit viper bite as available ASV does not contain antibodies against them

Brain Dead Presentation of Snake Bite

Sonika Agarwal, Nidhi Kaeley[1], Sushant Khanduri, Nand Kishore

Departments of Critical Care Medicine and [1]Medicine, HIMS, SRHU, Dehradun, Uttarakhand, India

Abstract

Snakebite is considered as a significant public health problem contributing considerably to morbidity and mortality. A neurotoxic snake bite can present from mild ptosis to complete paralysis with external and internal ophthalmoplegia. Three patients presented in emergency intubated outside with deeply comatose, fixed dilated pupil, and absent doll's eye reflex mimicking as brain dead.

Keywords: Braindead, snake envenomation, supportive care

TAKE HOME POINTS

- Suspect snake bite especially when there are unexplained neurological symptoms like the 5 Ds and 2 Ps of a neuroparalytic snake bite (Dysarthria , Dysphagia, Dysphonia ,Dyspnea, Diplopia , Ptosis and Paralysis)
- Occult bite with early morning symptoms are more common with krait bites
- ASV dosage is the same for adults and infants
- Brain dead ? Think again could be snake bite

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Thankyou