OPC POISONING CHILDHOOD RESILIENCE

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HISTORY

- Sakthivel 8yrs old, 2nd born of non consanguineous marriage was brought to casualty, along with his father 40yrs old with alleged H/O of consumption of unknown poison, mixed with food at home 3hrs back.

- Father was declared dead on reaching casualty

INITIAL PRESENTATION

- UNCONSIOUS
- RIGIDITY, POSTURING, FASCICULATION.
- PIN POINT PUPIL, NOT REACTING TO LIGHT
- INCREASED SALIVATION
- CYANOSIS
- BRADYCARDIA
- IRREGULAR SHALLOW BREATHING, BASAL CREPTS.

VITALS

- HR: 57/min
- RR: bradypnea.
- PULSE: +++/++
- SPO_2: 73% with out O_2
- BP: 90/60 mm Hg

INTERVENTION

- Clothes removed. Body cleaned thoroughly
- Stomach wash given in casualty. Surrounding and NG aspirate smell- suspicion of OPC
- IV fluids.
- Life support management.
- Child was intubated immediately on arrival, connected to ventilator with appropriate settings.

- Symptoms suggestive of OPC poisoning, child started on
- Inj.Atropine 0.05mg/kg IV every 10 min till atropinisation.
- Inj.Pralidoxime 50mg/kg loading dose given, followed by 10mg/kg/hr infusion

INVESTIGATIONS

- All baseline investigations were within normal limits.
- Serum Pseudocholineesterase- 4910U/l

Day 2

- Child on mechanical ventilator.
- Agitated, Fasciculation all over body,
- Pupils 2mm reacting to light.
- Inj Atropine and Pralidoxime continued.

DAY 3

- Minimal Fasciculation,
- Secretions reduced.
- Child delirious
- Inj. Atropine tapered to 0.02mg/kg/hr. Inj.Pralidoxime infusion continued.

DAY 4

- Child responding to verbal commands, secretions reduced, tone improving.
- Child was extubated, on O_2 through CPAP.
- Inj. Dexamethasone, Adrenalin nebulisation given.
- No signs of intermediate syndrome.
- Inj Atropine (SOS), Pralidoxime infusion continued
- Chest physiotherapy and nebulisation every 4^{th} hourly

DAY 5

- Started on oral feeds by day 5.
- Inj Atropine and Pralidoxime stopped.
- Neurology opinion, ENT opinion, psychiatry opinion obtained.
- Child started walking by day 6.
- Neurological examination normal, no residual weakness.

- Discharged on day 10 .
- No residual weakness.
- Came for follow up 1 month later. found to completely normal on examination. No distal neuropathy. No neuropsychiatric disturbances.
- Sent for psychiatry review.

OPC

- OPC commonly used pesticides.
- Examples: parathion, dichlorvos, diazion,malathion
- Absorbed through skin, mucus membrane, GIT, inhalation etc

MECHANISM OF ACTION

- Inhibition of acetylcholinesterase.
- Leading to accumulation of acetylcholine in the synapses.
- With time becomes irreversible after 72hrs.

CLINICAL FEATURES

- Severe toxicity manifests within 6hrs.
- MUSCURANIC SYMPTOMS
  - D- DIARRHOEA
  - U- URINARY FREQUENCY
  - M- MIOSIS
  - B- BRONCHORRHEA, BRADYCARDIA,
  - E- EMESIS
  - L- LACRIMATION
  - S- SALIVATION

NICOTINIC SYMPTOMS

- Fasciculation
- Muscle weakness
- Paralysis
- Respiratory failure

CNS:

- Agitation, tremors, altered level of consciousness, seizures.

INTERMEDIATE SYNDROME

- Manifest 48-96hrs.
- Disorder of neuromuscular junction
- Characterized by weakness of neck muscles, proximal limb muscles, respiratory muscles, muscle innervated by cranial nerves.
- Inadequate treatment of acute episodes.

OPIDP

- Occurs 1-3 weeks after acute phase.
- Predominantly a motor dysfunction.
- Starts with leg cramps, followed by weakness.
- Inhibition of neuropathy targeted esterase (NET)enzyme.

INVESTIGATIONS

- CBC
- RFT
- LFT
- SERUM PSEUDO CHOLINESTERASE
- RBC CHOLINESTERASE
- ECG

MANAGEMENT

- AIRWAY
- BREATHING
- CIRCULATION
- SKIN DECONTAMINATION
- GASTRIC DECONTAMINATION

ATROPINE

- Reverses muscarinic activity in CNS & PNS
- DOSE: 0.05mg/kg I.V ever 5-10 min.
- Continued till aropinisation achieved.
- Atropine infusion is started and rate set at 10%-20% of total atropine required to load the patient, or as short boluses.

OXIMES

- WHO recommends oximes for all patients who need atropine.
- To reverse neuromuscular blockade.
- DOSE:

➢ Bolus : 25-50mg/kg in 100ml saline over 30min.

➢ Maintenance: 10mg/kg/hr as 1% concentrate.


Thank You!