Case Report

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Naphthalene Toxicity-Winter Poison in Teenager

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Abstract

Introduction: Naphthalene is bicyclic aromatic hydrocarbon most commonly used as insect and moth repellent household product for storing clothes. The toxic manifestations have been proposedly due to increased free radical formation leading to lipid peroxidation and formation of epoxide and further ultimate DNA damage. Naphthalene toxicity manifests at doses ranging 5 to 15 gms to incidences as low as 2 gm have been reported in children.

Keywords: Toxicity; Non Bilious Vomiting; Headache; Cyanosis.

Case Report

A 13 year old female was referred to our ED with alleged history of: NAPHTHALENE BALL ingestion 2 days prior and had multiple episodes of non bilious, non blood stained vomiting on day of arrival. Associated complains were headache and passage of cola coloured urine. Vitals on arrival

Pulse-120/m

BP-130/70 MMHG

SPO2-98% IN RA

RR- 20/M

TEMP- AFEBRILE

ECG done had no ST-T changes.

Airway- Patent

Breathing- b/l vbs and no added sound and no creps or ronchi

Circulation- wnl, pulse and BP stable

Disability- GCS15/15, no FND

Exposure- wnl

HEENT- wnl and no jaundice and no pallor and no JVD

Chest- wnl

CVS-S1 s2 and no added sound

CNS-wnl

Extr-wnl and no rash and no petechiae

P/a- soft and no guarding and no rigidity and mild epigastric tenderness.

Investigations

Co-oximetry findings are as stated: Hb 6.3 gm%, SO_2 98.9%, FO2 Hb 87.3%, FCO Hb 2.9%, FMetHb 8.8%, FHHb 1%.

FBC had haemoglobin 6.7 gm/dl,

PCV 19%, TLC 15300/cumm,

platelets 2,27,000/cumm.

Reticulocyte count 6.5%,

haptoglobin 6 mg/dl, LDH 1710 IU/L .

Liver function tests:- with total bilirubin 5.80 mg/dl, direct 0.64 mg/dl, indirect 5.16 mg/dl.

Renal function was not deranged.

G-6-PD titres on follow up of the patient in ICU was 6.5 U/g haemoglobin. Peripheral blood smear with findings of normocytic normochromic

anisocytosis with few spherocytes and fragmented RBC's with polychromasia. Features suggestive of haemolytic anaemia.

In the ICU patient was kept on I.v. fluids to maintain good urine output. PRBC transfusions for persisting anaemia were done. In view of persisting hypoxia Inj. Methylene Blue was given with other symptomatic management. Patient was finally discharged as she remained hemodynamically stable for 24 hours and improved laboratory parameters.

Conclusions

Napthain toxicity chiefly presents as hemolysis especially in those with G-6-PD deficiency, hematuria with haemoglobinuria and hyperbilirubinemia. Co oximetry is very helpful in diagnosis and management. Methylene blue acts as miraculous agent in improving the outcome as it facilitates conversion of methaemoglobin to haemoglobin in presence of NADPH and reductase enzymes. With other modalities of treatment including N acetyl cysteine, blood transfusions, ascorbic acid, exchange transfusions veno-venous hemofiltration are useful.

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