NITROBENZENE POISONING – A RARE CASE REPORT

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ABSTRACT

Poisoning with nitrobenzene compound is rare. Usually it is an accidental poisoning occurring in certain industries. Suicidal ingestion is rare. We are here with reporting a case of mild suicidal nitrobenzene poisoning. Continuous monitoring to look for cyanosis and treatment with methylene blue is required if methaemoglobinemia develops.

Key words - nitrobenzene, poisoning, methaemoglobinemia.

Case report

A 40 year old male presented to the emergency department with history of consumption of 50ml of 20% nitrobenzene compound at his residence 4 hours back. On examination patient was drowsy, vitals were stable. No cyanosis. Systemic examination was normal. Patient was treated symptomatically with gastric lavage and admitted in ICU for observation. Routine investigations including peripheral smear, liver function test, ABG were normal. During the stay patient developed headache, later recovered completely and discharged after 3 days.

Discussion
Nitrobenzene is formed by the action of strong nitric acid on benzene. It's a yellow oil liquid with bitter almonds oil smell. It is also known as essence of miraben. It is largely used in the manufacture of aniline, explosives, perfumes and boot polish industry. The liquid and vapour are poisonous[1]. It is absorbed rapidly and even through inhalation producing toxic symptoms.

The symptoms are burning taste in mouth, numbness of the tongue, salivation, nausea, vomiting, diarrhoea, giddiness, throbbing headache, marked cyanosis, cold and moist skin, weak and rapid pulse, hurried breathing, drowsiness and coma. The pupils first constrict and then dilate. The urine is dark coloured and blood may show methaemoglobin[1]

The lethal dose is reported to range from 1 g to 10 g, by different authors[2]. A review of published reports does not provide any consistent reports regarding fatalities and dose of ingestion[2, 3]. Acute intoxication is usually asymptomatic up to the level of 10 – 15% of methemoglobin, showing only cyanosis. Beyond 20%, headache, dyspnea, chest pain, tachypnea, and tachycardia develop. At 40 – 50%, confusion, lethargy, and metabolic acidosis occurring to coma, seizures, bradycardia, ventricular dysrhythmia, and hypertension. Fractions around 70% are fatal. The toxic effects after ingestion are due to the rapid development of methaemoglobinemia A[2]. Methaemoglobinemia is a condition in which the iron within the haemoglobin is oxidized from theferrous (Fe2+) state to the ferric (Fe3+) state, resulting in the inability to transport oxygen and causes brownish discolouration of the blood[4]. Nitrobenzene is metabolized to p-nitrophenol and aminophenol and excreted in urine, up to 65%, and in stools up to 15%, after five days of ingestion. Liver, stomach, blood, and brain may act as stores and release it gradually. [5] Death usually occurs within six to seven hours may be delayed for two or three days. Treatment is gastric lavage with magnesium sulphate in water and emetics. 1% methylene blue IV and 5% glucose. Patient may also require vitamin C, plenty of fluid to cause diuresis. Our patient had mild symptoms and did not require any further management.

Conclusions

Clinicians should be aware of this poisoning. Further studies are required to determine the fatal doses to ease the management of the case.

REFERENCES