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Clinical Profile And Outcome Of Methanol Poisoning In Critical Care Unit of Bangladesh

Uddin Ryhan Md Ahad Abdul[1], Farzana Alam[2], Das Swarup[3]

Abstract

Introduction: Methanol is a toxic alcohol that is used industrially as a solvent, pesticide, and alternative fuel source. Methanol poisoning (MP) remains a common problem in many parts of the developing world, especially among members of lower socioeconomic classes. This may be accidental or done purposefully in an attempt to die by suicide. When methanol is broken down by the body it results in formaldehyde, formic acid, and formate which cause much of the toxicity. High anion gap metabolic acidosis and base deficit are characteristic findings in MP patients. After a latent period which usually lasts 12 to 24 hours, metabolic acidosis, kidney failure, optic neuritis, retinal edema, respiratory or cardiac failure and coma may develop depending upon the methanol dose ingested. Many outbreaks of methyl alcohol poisoning have occurred in developing countries, such as Bangladesh.

Objectives: To evaluate the clinical profile and outcome of methanol poisoning in critical care unit.

Materials and Methods: This cross sectional, observational study was conducted among 32 patients of methanol poisoning admitted in ICU. Data collected included history, complete systemic examination, time to presentation, amount of alcohol ingested, and results of laboratory investigations, such as hemogram, glucose levels, hematocrit level, arterial pH, electrolyte status, as well as hepatic and renal function tests. Outcome measures included determining the complete recovery or development of any complication and death.

Result:A total of 32 patients were evaluated. Maximum number of patients 18(56.2%) were between 19-30 years, mean age of the patient was 28.9±3.8 years. Abdominal pain, Visual disturbances, respiratory manifestations, and loss of consciousness were the most common clinical manifestations on admission time, reported 81.2%, 78.1%, 59.3% & 56.2% respectively. Most patients 25(78.1%) had metabolic acidosis at presentation with median of pH was 7.15. The median of $PaCO_2$ was 21.38 mmHg. All patients received sodium bicarbonate. Ethanol as antidote and folic acid were given. Study shows that 84.3% of the patients recovered and 5(15.6%) expired.

Conclusions: Early treatment increases the chance of a good outcome. The degree of acidosis at presentation appears to determine final outcome; early presentation and treatment did not seem to significantly alter the outcome.

Key-words: Methanol poisoning, Clinical & biochemical profile, Outcome.

1. Prof & Head; Department of Medicine, BGC Trust Medical College & Hospital, Chattogram & Chief Consultant of Critical Care Unit, Medical Centre Pvt Hospital, Chattogram, Bangladesh.
2. Consultant, Department of Biochemistry; Medical Centre Pvt Hospital, Chattogram, Bangladesh.
3. Registrar in Critical Care Medicine; Imperial Hospital Limited, Chattogram. Bangladesh.

Presenting author details

Full name: Prof Dr Abdul Ahad Md Ryhan Uddin
Contact number: +8801817744297
Email id: ryhandr@yahoo.com
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