

Clinical profile and outcome of methanol poisoning in critical care unit of Bangladesh



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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 & 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 PaCO₂ 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.

Biography

Dr Ryhan has completed his Medical graduation from Institute of Applied Health Science in 1996, there after he completed his post-graduation, specialized in Internal Medicine in 2004. He has published more than 22 papers in reputed journals and has been serving as an editorial board member of reputed journals. He is member of Society of Medicine of Bangladesh, Bangladesh Society Critical Care Medicine; Bangladesh Society of Emergency Medicine; Indian Society of Critical Care Medicine, Asia Pacific Association of Critical Care Medicine. He is working as a Professor & Head of Internal Medicine of BGC Trust Medical College & Hospital, Bangladesh. Beyond the Medicine he has interest & specialist on Critical Care. He is also a course coordinator of Mechanical Ventilation in Medical Centre Training Academy, Bangladesh.