

# A rare cause of corrosive agent poisoning: Methyl Ethyl Ketone Peroxide

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**Background:** Methyl ethyl ketone peroxide (MEKP) is a very fatal substance used especially in the polyester industry as well as in the plastics and paint industry. MEKP poisoning cases encountered in the Emergency Departments (EDs) are less common than other industrial toxins. The literature often consists of accidental ingestion cases due to its colorless, oily liquid appearance.

**Case:** A 52-year-old male patient was admitted to the ED for drinking half a cup MEKP by assuming it was water one hour ago. The patient had vomited two times after MEKP ingestion and nausea was continuing at the time of admission. He was conscious, orientated and cooperated. His general appearance in the physical examination was moderate. His vitals detected as fever: 36.7 ° C, pulse: 89 beats/min, respiratory rate: 20/min, blood pressure: 166/107 mmHg, SatO<sub>2</sub>: 97% (in room air). An infusion of 0.9% isotonic fluid via venous vascular access and supplemental oxygen were started. Ondansetron 4 mg IV and Esomeprazole 40 mg IV were administered but no attempt for gastric decontamination was performed. The complete blood count, liver and kidney function tests, electrolytes were evaluated as normal in laboratory tests. The arterial blood gas showed pH:7.423, PaO<sub>2</sub>: 91.7 mmHg, PaCO<sub>2</sub>: 33.5 mmHg, HCO<sub>3</sub>:22.4 mmol/L, BE: -3.1. The recommendations of Gastroenterology, Anesthesia-Reanimation and National Poison Counseling Center were received and the patient was admitted to ICU for follow-up and treatment. The patient left the hospital at his own request on the second day of hospitalization without any complication.

**Discussion:** Although MEKP is a rare cause of poisoning compared to other industrial toxins; it should be remembered that this substance can lead to more fatal consequences. MEKP can be responsible for many complications like liver and/or renal failure, rhabdomyolysis, metabolic acidosis, larynx edema, pneumonia, sepsis, shock and multiple organ failure due to causing excessive increase in free oxygen radicals and lipid peroxidation as well as corrosive injuries on esophagus and stomach (such as stricture, bleeding, perforation). Despite no definitive toxic dose, it has been reported that over 50-100 ml in oral intake would lead the formation of fatal findings. Endoscopy and Computed Tomography (CT) can be used to evaluate patients. CT is especially used in the diagnosis and follow-up of corrosive complications (such as perforation, bleeding, necrosis). The supportive treatment should be at the forefront, N-acetyl cysteine and hemodialysis may be considered and gastric decontamination is not recommended as in other corrosive substances.

**Conclusion:** Although MEKP is a rare encountering chemical agent, clinicians should be aware of the corrosive and fatal side effects.