ACUTE LETHAL POISONING BY ARSENIC INGESTION

INTRODUCTION: Arsenic, a metalloid, is mainly found in the trivalent and pentavalent forms, as organic or inorganic compounds. It is utilized across various sectors, including semiconductor and batteries manufacturing, pesticides, and pharmaceutical applications. Acute arsenic poisoning remains a challenge for clinical toxicologists due to its high toxicity and similarity with other conditions. Herein, we present a case report detailing the fatal ingestion of arsenic trioxide compound. **CASE REPORT:** An 80 kg, 34-year-old male presented to medical care reporting intentional ingestion of 100 g of arsenic trioxide taken 3 hours earlier, purchased in an online platform. Initial symptoms included vomiting, diarrhea, and severe abdominal pain, causing the patient to stay in an antalgic position. Within 24 hours, he developed decreased consciousness, hypotension, and metabolic acidosis, all unresponsive to supportive measures. The antidote 2,3-dimercaptosuccinic acid (DMSA) was administered 39 hours after admission. His condition progressed to acute renal failure, distributive and hypovolemic shock requiring high doses of vasopressors, coma, and refractory electrolyte imbalances despite replacement. He died within 48 hours of ingestion. **DISCUSSION:** Despite its prohibition in Brazil since 2005, arsenic poisoning cases continue to occur, often due to online purchases. Toxicity depends on the arsenic compound type, dose, frequency, and absorption. In this case, the patient ingested 100 g of arsenic trioxide, equivalent to a dose of 1,250 mg/kg, far exceeding the estimated lethal dose for humans (1 to 3 mg/kg). There is a report of another patient who ingested 75 g of arsenic trioxide and died within 16 hours, even with decontamination, vigorous resuscitation, and use of dimercaprol (BAL) antidote. In another case, a patient ingested 84g of arsenic trisulfide, a poorly soluble inorganic arsenic, and survived with mild symptoms, without needing antidote. Acute arsenic poisoning may have a variable presentation, ranging from gastrointestinal symptoms to multi-organ failure. When identified as a possible intoxication, it is mandatory that fluid resuscitation, electrolyte replacement and administration of chelating therapy start as soon as possible.