

Clinical and Paraclinical Findings of Dead Patients Due to Poisoning with Aluminium phosphide in Ardabil Province during 2009-2017

Abstract

Background and Objective: Aluminum phosphide or rice tablets are one of the most common pesticides and insecticides used in agriculture to protect crops, cereals and rice. This substance was introduced in Year 2 as an ideal pesticide. Research has shown that, in vitro, phosphine gas inhibits cytochrome oxidase C in mitochondria and induces cellular hypoxia and extensive tissue destruction. The dominant clinical feature was severe hypotension that was resistant to dopamine. Exposure to aluminum phosphide poisoning, rapid transfer to the treatment center, no gastric lavage with paraffin, rapid analysis of arterial blood gas, laboratory tests to evaluate sodium and potassium, calcium, magnesium, electrocardiography and such Antacid administration can be one of the main actions. The aim of this study was to evaluate the clinical and paraclinical findings of patients who died due to rice poisoning in Ardabil province.

Methods: In this study, the clinical records of all deceased patients (97 patients) from rice poisoning during 2009 to 2016 were studied and clinical and paraclinical findings of the deceased hospitalized records were studied. Data were analyzed using descriptive and analytical statistics in SPSS software version 19.

Results: The mean age of patients was 34.3 ± 15.8 . The mean age of men was 35.6 ± 16.2 and the mean age of women was $30.1 \pm 13.9\%$. 77.3% of patients were men and 22.7% women. The most important symptoms were nausea and vomiting seen in Males (92%) and females (100%). Patients had a mean recovery time of 5.89 hours, 22 patients received 2 tablets and 75 patients received 1 tablet, which increased the mortality rate with increasing dose. 92.7% of the patients had taken rice tablets orally. 67% of patients complained of nausea and vomiting. Clinical and laboratory findings, decreased GCS, systolic blood pressure, PHC, and increased heart rate, and white blood cell count, were associated with an increased mortality rate. The mean hospital stay was 49 hours. Women had significantly lower blood pressure. Women had significantly lower pH and higher Po_2 .

Conclusion: Increased heart rate, white blood cell count and GCS decrease, systolic blood pressure, and carbohydrate pH are associated with increased mortality in aluminum phosphide poisoning patients.

Keywords: Rice pill poisoning, Prognosis, Poisoning, Aluminum phosphide