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Methemoglobinemia and intravascular hemolysis: Unusual presentations of metal phosphides poisoning

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Metal phosphides are highly effective insecticides and rodenticide. They are used as a cheap rodenticide in developing countries. The aim of this study was to detect the incidence of methemoglobinemia and intravascular hemolysis in some cases of acute phosphide poisoning. This is a cross sectional study which was conducted on 50 cases suffering from acute metal phosphide poisoning admitted to Tanta toxicology unit, from October 2014 till March 2015. For each case, the following were done: history taking, physical examination and laboratory investigations (including measurement of methemoglobin (Met-Hb) level, arterial blood gas analysis, routine investigations, lactate dehydrogenase enzyme and complete blood picture with reticulocytic count). Eight cases (16%) had combined methemoglobinemia and hemolysis. Aluminum phosphide was the toxic agent in seven of them and zinc phosphide in only one. Three cases (6%) had methemoglobinemia alone; one of them was poisoned by aluminum phosphide and the other two by zinc phosphide. Another three cases had hemolysis alone; one of them was due to aluminum phosphide and the other two were due to zinc phosphide. So the present study included a total of eleven cases (22%) of methemoglobinemia. The mean Met-Hb level was $14.45 \pm 9.32\%$ and $1.63 \pm 0.45\%$ in cases with high and normal Met-Hb level respectively, with a significant statistical difference between both. Furthermore, the mean oxygen saturation showed a significant statistical difference between both. A total of eleven cases (22%) of hemolysis were also included. It was concluded that methemoglobinemia and hemolysis can complicate the course of acute phosphide poisoning.

Biography

Amira Amin Wahdan has completed her Doctorate degree from Tanta University. She is a Lecturer in Forensic Medicine and Clinical Toxicology department, Faculty of Medicine, Tanta University. She is a reviewer of reputed journal.

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