

ASSOCIATION OF BLOOD LEVEL OF METHEMOGLOBIN WITH CLINICAL OUTCOME OF PATIENTS WITH ALUMINIUM PHOSPHIDE POISONING

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Abstract

Objectives: Although methemoglobinemia following aluminum phosphide (AIP) intoxication has been reported, probable effect of blood level of methemoglobin (Met-Hb) on outcome of AIP intoxicated patients has not yet been investigated. This study aimed to evaluate this probable association.

Methods: This prospective study was carried out at Loghman-Hakim poison hospital from April 2009 to August 2009. All patients aged >12 years who had ingested AIP and were admitted at the hospital were enrolled into the study. Using the co-oximetry, Met-Hb was measured at the time of admission and was repeated 24 hours later if the patient survived.

Results: 48 AIP intoxicated cases including 24 males were enrolled into the study. Mean age of the patients was 25.5 ± 9.5 years. There was significant association between Met-Hb blood level which measured at the time of admission and mortality ($2.4\% \pm 7.1\%$ in survivors versus $15.2\% \pm 13.5\%$ in non-survivors, $P < 0.001$). The same association was found at the 2nd day of admission ($2.9\% \pm 8.2\%$ in survivors versus $26.5\% \pm 19.9\%$ in non-survivors, $P = 0.02$).

Conclusions: The present study found an association between blood level of Met-Hb and mortality in AIP intoxicated cases. Whether prophylactic administration of vitamin C and methylene blue can improve outcome of AIP-intoxicated cases should be investigated in future investigations.

Key words: Methemoglobinemia, Aluminum phosphide, Poisoning, Mortality