

Unusual complications of Aluminium Phosphide Poisoning

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Objective: To elucidate unusual complications of aluminium phosphide poisoning. **Case Series:** Six patients presented with aluminium phosphide ingestion.¹ The age range was 23-30 years and there were 4 males and 2 females. The mean dose ingested was 3.3 gms (range=1.5 - 6 gms approximately). All cases presented with hypotension mean SBP=70 mmHg (SBP range= unrecordable - 80 mmHg) and tachycardia (range=110-140/mt). On investigations, 1 patient had leucocytosis, all had acidosis mean pH=7.2 (range=7.13-7.30), the mean serum bicarbonate was 11.2 mEq/L (range=3-15 mEq/L) and one case had renal failure (blood urea=136 mg/dL, serum creatinine=8.2 mg/dL) with acute hepatitis (serum bilirubin=4.8 mg/dL & AST/ALT=1150/1310 U/L). Appropriate fluid therapy and inotropic support (for a mean period of 2.4 days) corrected the hypotension in all. On day 3, three patients developed adult respiratory distress syndrome with bilateral transudative pleural effusion and ascites² whereas two cases developed this complication on day 5 (1 case developed generalized body swelling and pericardial effusion). The remaining case developed massive bilateral transudative pleural effusion (that required repeated paracentesis), acute hepatitis, acute renal failure, ARDS and disseminated intravascular coagulation. An echocardiography was done in all cases and showed LV systolic dysfunction with ejection fraction ranging from 40-50%. Electrocardiographic abnormalities that were noted were sinus tachycardia in all, ST depression in one, atrial fibrillation in one and one case had accelerated idioventricular rhythm and nonsustained ventricular tachycardia. There were 2 deaths of case 3 and 6. In all other patients, pleural effusion and ascites resolved within 3 days with salt and water restriction and diuretic therapy. **Conclusion:** Aluminium phosphide poisoning can develop a delayed complication of pleural effusion and ascites with or without pericardial effusion and ARDS. The secondary form of capillary leak syndrome caused by phosphene is an attractive hypothesis to explain this complication.³

References: (1) Bogle RG, Theron P, Brooks P, Dargan PI, Redhead J. Aluminium phosphide poisoning. *Emerg Med J.* 2006 Jan;23(1):e3. (2) Suman RL, Savani M. Pleural effusion-a rare complication of aluminium phosphide poisoning. *Indian Paediatr;*36:1161-3. (3) Vigneau C, Haymann JP, Khoury N, Sraer JD and Rondeau E. An unusual evolution of the systemic capillary leak syndrome. *Nephrol Dial Transplant* 2002; 17: 492-4.