



The Medical **Bulletin**

In Toxicology

Aluminium phosphide poisoning has high mortality. No specific antidote is available and management is largely supportive. Using vegetable oils to reduce the phosphine gas release inside the stomach may help and is definitely harmless provided the airway is protected. Use of potassium permanganate solution is highly debatable due to its potency to cause mucosal injury. The high fatality is mainly attributed to the cardiac manifestations - myocarditis and arrhythmias. Patients land in multiorgan dysfunction syndrome due to direct mitochondrial toxicity causing cellular hypoxia, accumulation of reactive oxygen species and hypoperfusion secondary to low output state. So, the key in managing these patients successfully lies in restoring the organ perfusion. With the advent of ECMO (extra corporeal membrane oxygenation), this is very much possible.

Recently we saved a 60 year old female who presented with cardiogenic shock and metabolic acidosis with help of VA (veno-arterial) ECMO. She gave a history of intake 2 tablets of aluminium phosphide - a rodenticide, locally called as wheat/rice pill. Her heart improved after 84 hours of ECMO support, during which she had severe LV dysfunction with ejection fraction of as low as 10% and recurrent ventricular fibrillation. She was treated successfully and recovered without any other organ dysfunction. She was discharged with normal cardiac function.

ECMO support was initiated before the patient landed up in MODS which was the crucial factor in the good recovery of this patient. ECMO is definitely a tool to support heart and lungs where the disease process is reversible and as a bridge to organ transplant.

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