

Potassium permanganate toxicity: A rare case with difficult airway management and hepatic damage

Sir,

We read case report "potassium permanganate (KMnO₄) toxicity: A rare case with difficult airway management and hepatic damage" by Agrawal *et al.*^[1] with great interest. We would like to discuss some points regarding the management of the patient.

Potassium permanganate is a powerful oxidizing agent. Free radicals generated due to absorbed permanganate ion overwhelm reduced tissue glutathione stores and causes liver injury. Its clinical course closely resembles that of paracetamol poisoning.^[2] Hepatic injury due to a similar mechanism is also seen in toxicities due to carbon tetrachloride, chloroform, clove oil and amanita mushroom.

N-acetylcysteine (NAC) acts as an antioxidant, both directly as a glutathione substitute and indirectly as a precursor for glutathione. It also causes vasodilatation by increasing cyclic guanosine monophosphate level, inhibits platelet aggregation, acts as a sulfhydryl donor to regenerate endothelial derived relaxing factor and reduce interleukin-8 and tumor necrosis factor-alpha production.^[3]

It improves transplant free survival in early stage nonacetaminophen acute liver failure^[4] and also of great benefit in centers without facility for liver

transplantation.^[5] Use of NAC has shown good outcome in above mentioned toxicities, which are oxidizing agents like KMnO₄.

Hence, we suggest an early use of NAC in KMnO₄ poisoning to prevent or reduce hepatic injury as also suggested by Young *et al.*^[2]

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DOI: 10.4103/0972-5229.151027