

Survival after intoxication with inhaled methanol

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Dear Editor,

Methanol intoxication often runs a deathly course. In most cases the intoxication is due to oral ingestion of this substance, but other routes of administration (intravenously, transdermal) have been described as well. Recently, we saw a patient who survived with allegedly lethal blood levels of methanol after chronic air-borne exposure to this compound. The patient, a previously healthy 28-year old male, attended the emergency department with blurring of vision, somnolence, severe headache and nausea. On physical examination we saw a tachypnoeic, haemodynamically stable patient with a maximal EMV score. Arterial blood gas analysis showed a high anion gap metabolic acidosis (pH 7.10, bicarbonate 5 mmol/l) but the lactate level was normal. Because of the vision disturbances in combination with a high-anion gap acidosis we suspected methanol intoxication, which was confirmed by an elevated serum methanol of 1146 mg/l. The patient admitted that he had worked at a badly ventilated amphetamine laboratory for 12 hours, one and a half days before seeking medical assistance. He had not worn a gas mask or protective clothing. He

was immediately admitted to the intensive care unit where we started ethanol intravenously and, because the methanol blood concentration was higher than 200 mg/l, haemodialysis. During dialysis his sight deteriorated to complete blindness. The ophthalmologist was consulted and saw vital optic nerves. After dialysis the vision of the patient partially recovered. The next day the patient could be discharged. He still had minimal visual symptoms, which gradually disappeared over time. Recent data suggest that it is not so much the methanol level but rather the pH that determines outcome. In our patient the methanol level was in the lethal range but the pH was still above 7.0 which is taken as the lowest tolerable value. We suspect that desensitisation to methanol by frequent exposure, suggesting a chronic intoxication, explains why a patient can survive a severe intoxication with this ethanol-like gas. Possibly, this desensitisation is related to genetic make-up. Because of the popularity of recreational drug abuse and the production of these drugs, we should remain alert to other such cases of airborne methanol intoxication.