

placed to address the problem of retrospective cohorts of unvaccinated patients. This initiative in South Glamorgan has provoked similar action in other areas (D Periera Gray, personal communication).

This study has implications for surgeons, who should ensure that all patients are vaccinated and that discharge letters are accurate, and for general practitioners, who should ensure adequate follow up and be alert to the possibility of pneumococcal sepsis.

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Hyponatraemia and catatonic stupor after taking "ecstasy"

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The synthetic amphetamine derivative 3,4-methylenedioxymethamphetamine ("ecstasy") may have fatal complications.¹ We report on two patients who became mute and catatonic for 48 hours after taking this drug.

Case reports

CASE 1

A 17 year old woman became unwell about four hours after her first ingestion of one and a half tablets of 3,4-methylenedioxymethamphetamine; she had three epileptiform seizures over two hours and was left to "sleep it off." After nine hours she had not recovered and was taken to a local hospital, where she was found to be drowsy and rousable but uncommunicative, with a normal temperature, pulse rate, and blood pressure. She was observed for 12 hours; throughout this period she intermittently opened her eyes but did not respond to or recognise anyone. She was then taken home by her parents, but her condition remained unchanged; she was doubly incontinent and became dehydrated. After 30 hours she was referred for assessment. Her axillary temperature was 37.5°C. She responded appropriately to pain but not to commands. She seemed not to acknowledge or recognise her family. She would intermittently give a startle reaction. Her serum sodium concentration was 130 mmol/l (normal range 136-145 mmol/l) but the results of biochemical and haematological investigations were otherwise normal. Screening for psychoactive drugs detected 3,4-methylenedioxymethamphetamine and its metabolite 3,4-methylenedioxyamphetamine in urine but not plasma (limit of detection in plasma 0.01 mg/l). Twelve hours later (54 hours after ingestion) she began to respond to commands and recovered fully.

CASE 2

A 17 year old woman collapsed a few hours after taking one capsule of 3,4-methylenedioxymethamphetamine. She had taken this drug once before without adverse effects. During the evening she had danced continuously and drunk about five litres of water. After collapsing she slept until the following afternoon, when she became restless, uncommunicative, and incontinent. That evening she was taken to hospital, where she was apparently conscious but poorly responsive to commands. At times she sat up and moved about spontaneously with a "wild eyed" look. She did not speak. She was afebrile and had widely dilated reactive pupils but no other

abnormal signs. Her plasma sodium concentration was 118 mmol/l and magnesium concentration 0.64 mmol/l (0.7-1.0 mmol/l) and her plasma and urine osmolality were 247 mmol/kg (285-295) and 970 mmol/kg (38-1400) respectively. Other biochemical and haematological investigations gave normal results. An electrocardiogram showed a prolonged QT interval (0.46 s). Full toxicological screening showed only 3,4-methylenedioxymethamphetamine in plasma (0.05 mg/l) and 3,4-methylenedioxymethamphetamine and 3,4-methylenedioxyamphetamine in urine. Management was conservative. Eighteen hours after admission her pupil size was normal, as was an electrocardiogram. She began to communicate but remembered nothing of the previous 40 hours. Her subsequent recovery was uneventful.

Comment

Other than a brief report on a patient who became mute and semicatatonic for 72 hours after her regular monthly dose (130 mg) of 3,4-methylenedioxymethamphetamine,² we have found no other reports of catatonic stupor or of the syndrome of inappropriate antidiuretic hormone secretion after taking this drug. In our cases amounts reported to be ingested and the concentrations measured do not indicate large dosage and screening detected no other psychoactive drugs. Dilutional hyponatraemia may have been induced in the second case, by drinking five litres of water, but it does not explain why the kidneys did not respond by diuresis.

Transient psychological effects may follow ingestion of 3,4-methylenedioxymethamphetamine, and trained staff giving first aid at large "rave" parties encounter various medical and psychological problems.³ Our cases show that clinically important and unpredictable effects may occur.

Although tachycardia and hypertension induced by 3,4-methylenedioxymethamphetamine are fairly common, to our knowledge, a prolonged QTc interval has not been reported. It is a risk factor for ventricular tachycardia, ventricular fibrillation, and sudden death⁴ so might help to explain some of the reported deaths.⁵ Electrocardiographic monitoring is warranted in 3,4-methylenedioxymethamphetamine toxicity.

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