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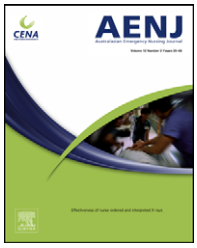

CASE STUDY

Clinical management of acute behavioural disturbance associated with volatile solvent intoxication

Nicholas J. Gaynor, Bachelor Nursing, Master of Nursing*

Nurse Practitioner Candidate (Mental Health)/La Trobe University, Emergency Department, Austin Health, Level 1 Mental Health Precinct, Burgundy Street, Heidelberg, Victoria 3084, Australia

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Summary This case study reports on the management of a 20-year old girl who presented to an Emergency Department (ED) in a combative and drug affected state. Her acute care management is described. Salient learning tips are presented in respect to some of the dangers associated with substance abuse, the use of physical restraint and pharmacological interventions in managing such patients. The importance of maintaining patient dignity in the physical environment of ED and issues in managing people with 'challenging behaviours' in EDs are explored. The positive role that appropriately trained mental health nurses can have in these situations is highlighted.

Introduction

This case study highlights important implications for clinical practice in the Emergency Department (ED) for the management of a young woman presenting in a combative state as a result of volatile solvent intoxication. The features of inhalant abuse will be described, along with the associated management of her 'challenging behaviour' using mechanical and chemical restraint. The benefits of employing experienced mental health clinicians in ED and the use of a specifically designed Behavioural Assessment Room will also be discussed.

ED's are frequently the primary providers of care for people who present with a range of 'challenging behaviours'. Since 'mainstreaming' was introduced in the 1990s, increasingly people arrive in the ED who require emergency mental health treatment along with those who present in situational crisis and/or have drug and alcohol intoxication.[1] A study of 3702 'mental health' presentations to five Victorian emergency departments over a six-month period found 39.1% were intoxicated, which included alcohol and/or other substances of abuse.[2]

While alcohol is more commonly abused than other drugs, inhalants are frequently abused as well. Inhalants are classified under four categories:

- volatile solvents (including petrol, glue and paint thinners);

* Tel.: +61 417126861; fax: +61 39 4962179.
E-mail address: nick.gaynor@austin.org.au.

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- aerosols (propellent gases contained in spray cans such as deodorants);
- gases (butane and propane, nitrous oxide, ether, and chloroform);
- nitrates (such as, amyl nitrate, which is primarily used for its vasodilation effects and for sexual enhancement).[3]

Inhalants are common in household products, are relatively inexpensive and therefore readily accessible. Inhalant abuse in the form of petrol sniffing has come to the Australian general public's attention via media reporting of its prevalence mainly in poor and indigenous communities. Inhalant abuse among the general population is of concern too. A number of surveys cited in the Victorian Department of Human Services guidelines for the management response to inhalant use for community care and drug and alcohol services (2003) highlight the following rates of inhalant use:

- 3.9% of the general population have used inhalants,
- 26% of students have tried,
- 16.4% of young people in residential care currently use inhalants,
- 38% of adolescents admitted to secure welfare were admitted because of their inhalant use.[4]

The essential feature of Inhalant Intoxication is the presence of clinically significant maladaptive behavioural or psychological changes (e.g., confusion, belligerence, combativeness, apathy, impaired judgment, impaired social or occupational functioning) that develop during, or shortly after, the intentional use of, or short-term, high-dose exposure to, volatile inhalants.[5]

Case study

Amy (not her real name), a 20-year old woman was brought, mechanically restrained, to the ED by ambulance who were called by the staff of a youth residential service where she lived. At the hostel, she was found to be in a drug-affected state, smelling of petrol and 'becoming aggressive'. Police were first on the scene, followed shortly after by an ambulance. The ambulance running sheet/report indicated the person required ''all available resources'' to restrain her due to her combativeness.

When she was initially contained in the police van, her behaviour escalated to the point where she was head butting the van's walls. She was transferred to the ambulance stretcher and mechanically restrained for transportation. En route she required her head to be supported by the paramedic to stop further head butting. The paramedics were only able to take the following observations, Glasgow Coma Scale — 15, Respirations — 26 per minute.

On arrival to ED at 18.17 hours she was triaged as a category 1, using the Victorian Emergency Department Mental Health Triage Tool[6] as she was aggressive, violent, abusive, spitting and writhing and required seven person (including two ambulance staff, three security staff, and two nurses) to safely transfer her from the ambulance stretcher to the Behavioural Assessment Room (BAR), where mechanical restraints were reapplied. At this stage Amy was not engaging or responding to verbal communication and attempts to reassure her were ignored. Because of uncertainty over her toxicological status and her combativeness, Amy was detained under the Hospital's mechanical restraint procedures.

She was physically examined, cannulated and blood was taken for haematological and toxicological screening at 18.55 hours. Olanzapine 10 mg Intra Muscular Injection (IMI) was given with no immediate effect. Shortly after Midazolam 1 mg Intra Venous Injection (IVI) was administered at 25-minute intervals. After four doses, sedation was achieved, with Amy sleeping and settled. A psychiatric report that accompanied her written by her interstate psychiatrist diagnosed her with borderline personality disorder and co-morbid polysubstance abuse. The report indicated she tolerated and responded to Olanzapine 10 mg PRN hence its first line use on her arrival. Amy's vital signs were taken every fifteen minutes by the electronic cubicle monitor and she was on continuous visual observations whilst restrained.

The restraints were removed and replaced one at a time to ensure tissue perfusion (this occurred three times during the night). At 01.10 hours she was walked to the toilet. On returning to bed she became agitated. She was verbally abusive and wanting to leave, leg and wrist restraints were re-applied due to her impaired impulse control and 1 mg of IVI midazolam was administered with minimal effect. Droperidol 2.5 mg IVI was then given. She soon settled and slept. At 08.30 hours her arm restraints were removed and she sat up and ate breakfast.

All restraints were removed after this. She remained calm, apologetic and cooperated with a mental state examination and risk assessment. The assessment found her asymptomatic with no features of a major psychiatric disorder or immediate risks that would prevent her leaving the ED. Of note she had limited recall of the events that occurred overnight.

Amy's personal and psychiatric history

Speaking with Amy, I established she was on a waiting list for residential rehabilitation at a youth substance abuse service. She arrived from interstate approximately three months earlier. She had a five-year history of polysubstance abuse requiring admissions for detoxification and subsequent residential rehabilitation placements. This was on a background of severe childhood deprivation and abuse. She had five psychiatric admissions in the preceding 12 months — (three interstate and two since arriving in Victoria) — all were in the context of substance abuse, suicidal ideation, self-harm and threatening behaviour or acts of violence to people or property. Each admission was less than one week in duration. The trigger for this presentation to the ED appears to be related to a disturbing and threatening phone call she received a few hours prior to her admission from her mother and her subsequent use of a solvent.

Amy's presentation to ED did not result in what would have been a sixth psychiatric admission in 12 months. Following stabilisation and phone contact with staff at the