METHAMPHETAMINE INTOXICATION AND PSYCHOSIS
Emergency Management

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Methamphetamine is a type of amphetamine

- Injected (43% of those in treatment) or smoked
- Intense euphoria similar to cocaine
- Longer lasting than cocaine - t1/2 12 hours
- Used in combination with GBL, a sedative, in Chemsex
- Use is rare in the UK – 0.03% of the population report use in the past year
- But around 5% of London general hospital substance use caseload
- 90% men, median age 38
Methamphetamine directly affects dopamine transmission by increasing DA release and reducing DA uptake

Kish CMAJ 2008
Psychotic symptoms in methamphetamine use are dose-related

13% report psychotic symptoms (McKetin 2006 Addiction n = 306) and 23% sub-clinical unusual thoughts/experiences

OR of 3 if methamphetamine dependent

Relative to a month where no meth use:

• OR of 4 (2.5-6.5) if 1-15 days use
• OR of 11(5.9-21.0) if >15 days use
• OR of 2 – cannabis or alcohol use alongside
(McKetin et al JAMA Psychiatry 2013)

• Starts earlier in each binge
• Lasts longer each binge
• Most resolve within a couple of weeks
• 30% last longer than one month
It is difficult to distinguish clinically between methamphetamine psychosis and schizophrenia at first presentation

Patients who turned out to have primary psychosis vs stimulant related

One difference – primary psychosis more likely to have running commentary hallucinations – but this only in 20% of them

(McKetin et al 2016 Psych Res)
Patients in the ED who have taken methamphetamine and are displaying psychotic symptoms have psychiatric needs and need early liaison psych involvement

- May need advice regarding rapid tranquillisation and behavioural containment
- Rapid tranq is different for this group
- If psychotic – this needs to be assessed as potentially requires onward care
- May need specialist capacity assessment
- Psychosis may be subtle – requires specialist skills to elicit – A&E doctors and acute medics can be foxed by guarded patients once the agitation dies down
Initial assessment – signs of intoxication and physical complications?

Features of intoxication:
- History of recent use (<24 hours)
- Tachycardia, hypertension
- Dilated pupils
- Sweating
- Agitation
- Increased muscle tone, clenched jaw, teeth grinding, muscle spasms

Examination and investigation:
- Signs of dehydration
- Neuro exam - CVA
- ECG – ischaemia, arrhythmia
- Bloods: CK – rhabdomyolysis; U and Es – renal failure, ATN
Then – are they G dependent?

Do they take GBL/’G’/’Liquid ecstasy’?

If yes:

• For more than 5 days a week for two weeks?
• >15ml per day?
• Wake up at night to use?
• Use alcohol or benzos when they can’t get it?
• Do they report symptoms of withdrawal? (Tremor, sweating, agitation, craving, nausea)

If yes to these, at risk of G withdrawal.

G withdrawal and methamphetamine intoxication may look similar – sweating, agitation, hypertension and tachycardia. Comes on soon after use.

G withdrawal needs high doses of benzodiazepines given aggressively and may need ITU
Immediate management of agitation and psychotic symptoms in patient with working dx of intoxication

- Diazepam 5-10mg 6 hourly as needed
- Lorazepam as per rapid tranq if severe agitation
- Sleep
- MCA

Important differences in rapid tranq
- Aripiprazole NOT haloperidol because of risk of acute dystonic reaction high
Onward care

- Boundary between acute intoxication and drug-related psychosis not studied
- Pragmatic approach – when do we need to make a decision? Role of a CDU?
- Role of continued antipsychotic prescribing – low dose, frequent review
- Need for psychiatric follow up and review to prevent inappropriate antipsychotic prescribing
- Community drug and alcohol team
- Sexual health
# Ongoing antipsychotic prescribing for methamphetamine associated psychosis – limited evidence

<table>
<thead>
<tr>
<th>Study</th>
<th>n</th>
<th>Duration</th>
<th>Agents</th>
<th>Findings</th>
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</thead>
<tbody>
<tr>
<td>Leelanhanaj 2005</td>
<td>58</td>
<td>4 weeks</td>
<td>Haloperidol (5-20mg) Olanzapine (5-20mg)</td>
<td>Both ↓ symptoms Olanzapine better tolerated</td>
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<tr>
<td>Suleiman 2013</td>
<td>37</td>
<td>56 days</td>
<td>Aripiprazole (5-10mg) Placebo</td>
<td>Aripiprazole ↓ psychotic sx</td>
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<tr>
<td>Verachai 2014</td>
<td>80</td>
<td>27 days</td>
<td>Haloperidol (mean 2mg) Quetiapine (mean 112mg)</td>
<td>Both ↓ symptoms</td>
</tr>
<tr>
<td>Samuel 2016</td>
<td>44</td>
<td>4 weeks</td>
<td>Haloperidol (5-20mg) Risperidone (2-8mg)</td>
<td>Both ↓ symptoms</td>
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<tr>
<td>Wang 2016</td>
<td>42</td>
<td>25 days</td>
<td>Risperidone (2-4mg) Aripiprazole (5-10mg)</td>
<td>Poorly tolerated EPSEs ++ Aripiprazole – akathisia High rates dystonia</td>
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Live Q&A chaired by Dr Sarah Welch