Alcohol and head injury in small rural hospitals

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Centre for Rural Emergency Medicine
“Your patient from the pub wants to leave...”
“Your patient from the pub wants to leave…”

And he said you can #@$% off!
Learning objectives

- When do intoxicated patients need imaging?
- When is a patient competent to decide?
- How do we keep a patient against his or her will?
The case

- 35 year old man drinking at a rugby club evening, then at a BBQ the next day

- Several “bumps”
  - tripped on patio
  - from bar stool
  - during playfight
“Crackers”

- Lying on floor “grinning”
- Pulled to feet and sat on chair
- Blood from left ear
- Taken to hospital by ambulance
“Chookie”

- 7:30 PM “very busy”
- 20 bed hospital
- GP anaesthetist
- Tachycardic, orientated, no blood in ear (wax)
- Intoxicated and “aggro”
Does he need imaging?
Intoxication and brain injury go together

About a third to a half of all seriously head injured patients are intoxicated.

It is definitely possible to be both intoxicated and have a serious head injury.
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Intoxication is the main reason serious brain injury is missed

Before CT, 1 in 5 brain injured patients died without a diagnosis made.

Intoxication was the main cause of missed or delayed diagnosis

Even now there are lots of coroner’s reports
Who needs a CT - rules

Table 1. Findings used by 7 clinical decision rules for CT scanning in mild traumatic brain injury.

<table>
<thead>
<tr>
<th>Clinical Finding</th>
<th>Canadian</th>
<th>NCWFNS</th>
<th>New Orleans</th>
<th>NEXUS-II</th>
<th>NICE</th>
<th>Scandinavian</th>
</tr>
</thead>
<tbody>
<tr>
<td>GCS score</td>
<td>≤15 At 2 h</td>
<td>≤15</td>
<td>≤15</td>
<td>Abnormal alertness, behavior</td>
<td>≤15 At 2 h</td>
<td>≤15</td>
</tr>
<tr>
<td>Amnesia</td>
<td>Retrograde &gt;30 min*</td>
<td>Any</td>
<td>Antegraded</td>
<td></td>
<td>Retrograde &gt;30 min</td>
<td>Any</td>
</tr>
<tr>
<td>Suspected fracture</td>
<td>Open, depressed, basal</td>
<td>Any</td>
<td>Any injury above clavicles</td>
<td>Any</td>
<td>Open, depressed, basal</td>
<td>Basal, depressed, confirmed</td>
</tr>
<tr>
<td>Vomiting</td>
<td>Recurrent</td>
<td>Any</td>
<td>Any</td>
<td>Recurrent</td>
<td>Recurrent</td>
<td>—</td>
</tr>
<tr>
<td>Age, y</td>
<td>≥65</td>
<td>Any ≥60</td>
<td></td>
<td></td>
<td></td>
<td>≥65&gt;</td>
</tr>
<tr>
<td>Coagulopathy</td>
<td></td>
<td>Any</td>
<td></td>
<td>Any</td>
<td></td>
<td>Any</td>
</tr>
<tr>
<td>Focal deficit</td>
<td></td>
<td>Any</td>
<td></td>
<td>Any</td>
<td></td>
<td>Any</td>
</tr>
<tr>
<td>Seizure</td>
<td></td>
<td>History</td>
<td></td>
<td>Any</td>
<td></td>
<td>Any</td>
</tr>
<tr>
<td>LOC</td>
<td>If GCS=14</td>
<td>Any</td>
<td>Above clavicles</td>
<td>Scalp hematoma</td>
<td></td>
<td>Multiple injuries</td>
</tr>
<tr>
<td>Visible trauma</td>
<td></td>
<td>Any</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td></td>
<td>Any Severe</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Injury mechanism</td>
<td>Dangerous*</td>
<td>Any</td>
<td></td>
<td></td>
<td>Dangerous**</td>
<td></td>
</tr>
<tr>
<td>Intoxication</td>
<td></td>
<td>Abuse history</td>
<td>Drug, alcohol</td>
<td></td>
<td></td>
<td>Shunt</td>
</tr>
<tr>
<td>Previous neurosurgery</td>
<td></td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</table>
Who needs a CT?

- Bleeding problem
- Emesis persistent/forceful
- Age ≥ 65y
- Neurological deficit
  - Behaviour abnormal
  - Altered level of consciousness
  - Skull fracture signs
  - Haematoma of scalp
Observation in intoxication?

- NEXUS II found that intoxicated patients without abnormal behaviour or conscious state were not at increased risk of injury.
- This is only one study - not widely accepted.
- GCS will improve quicker if intoxicated only.
- Requires excellent observation and
Advice for this case

- If there is blood in the ear or abnormal behaviour, then transfer for CT
- If blood from ear is excluded, and behaviour is considered near normal, then observe closely until behaviour returns to normal
“Crackers”

- Vital signs returned to normal
- No CT arranged (would need transfer)
- Brain injury thought to be unlikely
- Advised to stay
Is he competent to decide to go home?
Alcohol level is not helpful

- 0.44  “minor effects”
- 0.54  “quite sober”
- 0.897 “articulate”
- 1.121 “confused but alert”
- 1.510 “confused but alert”
Alcohol level is not helpful

- Can have a high blood alcohol and be normal due to practice
- Can have a low blood alcohol and be abnormal due to injury

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Alcohol levels are seldom important for emergency patients
This is the deal...

- We want to help the patient (duty of care)
- The patient wants to be in control of his own body (autonomy)
- Autonomy always overrules duty of care IF the patient is competent
Legally incompetent

- Under 16 years old and at home
- 14 or older and living independently
- Involuntary psychiatric patient
- Guardian or full power of attorney appointed
Assessing competence to refuse medical treatment


- Based on Re C ruling and Grisso-Applebaum correlates
- Compares ability to understand with actual understanding of the current problem
- For co-operative patients test actual understanding
- For impatient patients, consider ability to understand
Three stage rule for co-operative patients

Comprehension / (understanding)
- Clearly express reasons for choice and can repeat all potential risks (recall / paraphrase)

Belief / (appreciation)
- Believe medical info or show reason why not

Weighing / (reasoning)
- How was decision reached
Give patients a chance to show they understand this situation
For impatient patients

If a patient refuses to be assessed, are they likely to have the ability to understand if they have

- normal speech and cognition
- no significant physiological derangement
- not unduly under the influence of drugs or alcohol
- not unduly influenced by pain, emotional shock, fatigue, panic, fear

(Re MB case - not competent to refuse caesarean as scared of needles)
Advice for this case

- Try to get the patient to repeat dangers of going home, and reasons he wants to leave.
- If he won’t co-operate, his bizarre behaviour is probably enough to say he is incompetent.
Chookie

Thought “not competent to sign” the discharge against medical advice form

Head injury leaflet given

Discharged with friend about 7:30
“Chookie”

- Returned to BBQ
- Found behaving bizarrely on neighbour’s lawn
- Friends though serious illness had been ruled out
- Dead in garden the next morning
“Chookie”

- Autopsy findings
  - skull fracture
  - multiple brain contusions and lacerations
  - cerebral swelling
  - midline shift
- BAC 0.197% (14 hours after last
How could we keep him against his will?
De-escalation

- Respect the Patient’s and Your Personal Space
- Do not be provocative
  - calm demeanor
  - hands visible and not clenched
  - avoid prolonged eye contact
- Establish verbal contact
  - only one person interacts verbally with the patient
  - introduce yourself and provide orientation reassurance
De-escalation

- Be concise, simple, and repetitive
- Listen closely to identify wants and feelings
- Agree or agree to disagree
- Set clear limits and coach the patient how to meet them
- Be optimistic, but realistic
Restraint

- Physical restraint can be used as a bridge to chemical restraint
- KEEP YOURSELF SAFE
- Use police
Intubate if GCS < 10

- Use narcotic to control behaviour (100mcg fentanyl)
- Don’t forget c-spine
- Rapid sequence induction
Consider sedation if GCS 10-14

- Midazolam
  - age > 60 and/or SBP < 100
    0.05 mg IM/IV (max 5 mg x 4 doses)
    If IM repeat in 10/60
    If IV repeat in 5/60 (max 10mg x 4 doses)
  
  - age < 60 and SBP > 100
    0.1 mg IM/IV (max 4 doses)
    If IM repeat in 10/60
    If IV repeat in 5/60

- Ask for help

- May need to intubate for transfer anyway
Advice for this case

- If de-escalation fails, consider sedation
- Call police
- Will probably need to intubate
Summary

- It is definitely possible to be both intoxicated and have a serious head injury.
- Alcohol levels are seldom important for emergency patients.
- Give patients a chance to show they understand this situation.
- Intubate if GCS < 10.
Questions