Alcohol related brain disease: treatment and prevention

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Faster, higher, stronger
What’s different about Newham?

- In excess of 340,000 residents (officially)
- Most culturally diverse London borough
- Young borough with high transient population
- Over 1/2 of population beneath poverty line
- 50% of Newham do NOT drink alcohol
- Highest number of alcohol-related general hospital admissions in London
- Secret, solitary drinking: rarely in pubs
- Later, poorer, sicker... (6 anonymised cases)
“Things” can only get “better”

- 1997: New Labour inherited rising alcohol consumption rates: ↑delivery (alcopops) ↓cost
- Did nothing to reverse this trend: alcohol became 40% MORE affordable, consumption increased by 40% and alc-rel deaths by 14%
- Paper response: AHRSE... “safe, sensible drinking”
- Actual response: 24 hour drinking, regular meetings with drinks & supermarket industry

### Table 2.7 Household consumption of alcoholic drinks, 1992 to 2010

<table>
<thead>
<tr>
<th>Year</th>
<th>All alcoholic drinks</th>
<th>Beer</th>
<th>Cider and perry</th>
<th>Wine</th>
<th>Spirits</th>
<th>Alcopops</th>
<th>Other</th>
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<td>49</td>
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<td>252</td>
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#### Consumption outside the home \(^8\)

<table>
<thead>
<tr>
<th>Year</th>
<th>All alcoholic drinks</th>
<th>Beer</th>
<th>Cider and perry</th>
<th>Wine</th>
<th>Spirits</th>
<th>Alcopops</th>
<th>Other</th>
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<tr>
<td>2005/06</td>
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<td>22</td>
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<td>25</td>
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<td>29</td>
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<td>16</td>
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</tbody>
</table>

**Source:** The Information Centre, NHS
Alcohol and physical morbidity

- **“A&E”:** falls, assaults, accidents, hypothermia
- **Sexual health:** ↑STIs, unplanned preg, foetal abn
- **GI:** dyspepsia, gastritis, haematemesis, OBESITY, liver & pancreas diseases, malabsorption, oesophageal varices, Mallory Weiss sy, colon and liver cancer
- **Cardioresp:** chest pain in an intoxicated patient, arrhythmias, c’myop, ↑BP, stroke, aspiration, TB
- **Haem/Oncol:** bleeding disorders, ↓plats, ↓WCC, cancers of mouth, lip, larynx, oesophagus, breast
- **Skin/MS:** acne rosacea, discoid eczema, psoriasis, gout, myopathy, osteoporosis, signs of liver probs
Neuropsychiatric sequelae

- Amnesias (e.g. blackouts)
- Withdrawal seizures
- Confusion (acute / chronic)
- Head injury / subdural
- Cerebellar damage
- Peripheral neuropathy
- **Depression & anxiety**
- ↑self-harm, ↑suicide
- Hallucinosis, psychosis
- Impotence / libido probs
Delirium tremens (DTs)

- Consequence of **physical dependence** on alcohol
- Alc Dep Sy = craving, neglect of other activities, tolerance, withdrawal (tremor, sweating, ↓ sleep) that is relieved by alcohol or similar drug (BNZs)

< CAGE only screens for problem drinking >

- Withdrawals: mild (shakes, nausea), moderate (agitation, fearful) to DTs (confusion, halluc, fits)

- Visual misperceptions +/- halluc with fearful affect
- DTs: autonomic + electrolyte abn, dehydration
- BNZs →GABA receptors, not Glutamate XS (cell death)
NICE Guidance: alcohol withdrawal

• (local protocols): CDPX 20mg QID, reducing
• PLUS as required (“PRN”) CDPX
• Withdraw over 6-10 days
• Carbamazepine off licence; Chlormethiazole
• NICE still approves Haloperidol PO or IM
• NICE rec lorazepam (off licence) acute DTs
• NICE describes an expectant / PRN detox as safe provided nursing experience & CIWA
55 y.o. retired Irish pub landlord

- Presenting with acute confusion X 1/52: disorientated by day, month, year, location
- Collateral (daughter) recent > 1 stone wt loss
- L U/L lesion (CXR): old TB, cigs, alcohol+
- Received parenteral B vitamins in A&E NUH
- MSE: fleeting delusions; normal registration but 0/3 object recall; confabulation ++
- At one week, no improvement in his confusion
Collateral history: partner

- (separated man: his children have minimal contact with his “new” female partner)
- Patient physically well: high executive function
- Recent holiday in SE England: no ↑ alcohol
- Diarrhoea X 2/52: stopped food, not alcohol
- Sudden difficulties standing + dizziness
- Partner could not recall any double vision

Δ Wernicke-Korsakoff (thiamine deficiency)
| Incipient Wernicke’s Encephalopathy (characterised by confusion +/- the classical symptoms of ataxia, memory disturbance and ophthalmoplegia) | 2 pairs of Pabrinex IV HP iv tds for 3 days  
Followed by 1 pair of Pabrinex IVHP iv od for 3-5 days  
Then as for low risk |
|---|---|
| At risk patients  
Significant weight loss, poor diet, signs of malnutrition | 1 pair of Pabrinex IV HP iv od for 3-5 days  
Then as for low risk |
| Low risk patients | Thiamine 100mg po tds and Vitamin B Co Strong 2 tabs po od  
Thiamine should be discontinued on completion of the chlordiazepoxide regimen unless there is still evidence of cognitive impairment |
| All patients on discharge | Continue Vitamin B Co Strong 2 tabs po od if there are concerns over the patient’s diet  
Thiamine 100mg po tds should be continued if there is still evidence of cognitive impairment |

Box 5. A recommended regime for vitamin prophylaxis in patients admitted who are at risk of alcohol related harm

- Measure $K^+$, $PO_4^-$, $Ca^{2+}$ and $Mg^{2+}$ levels daily
- Replace electrolytes via oral/enteral route or intravenously (may need cardiac monitor)
- Use reduced rate of oral supplementation, NG or TPN regimes
- Refer to the ward dietician the next working day
Outcome: Korsakoff’s syndrome

• Preventable condition**, not treatable
• Mech: thiamine deficiency + “refeeding” = ↓↓ Krebb’s cycle: thalamus damage
• Less commonly, nicotinic acid deficiency
• 20% make a substantial recovery
• 20% become progressively more confused
• Majority remain the same: failure of new learning. Both patients = institutional care

** i/v Pabrinex then oral thiamine + BNZ detox
Prevention of Wernicke-Korsakoff

Think **vulnerable** drinkers:
- Not eating: food replaced with alcohol, cannot afford to eat
- Vomiting, diarrhoea
- Physical illness
- Weight loss
- Confused patients who cannot give History

- Do **not** wait for triad of confusion, ataxia and ophthalmoplegia
- +/- BNZ detox too
- 2 pairs of Pabrinex ampoules i/v every 8 hours X 3 days. **Then:**
- Oral thiamine + B vits
- Consult re aftercare
44 y.o. UK white male

- Transferred to ITU with aspiration pneumonia
- Old notes: alcoholism + bipolar disorder
- Previous DTs, seizures, cerebellar damage
- o/e (Day 9): no gag reflex, polyneuropathy
- MSE: mood normal, cognition intact
- Central pontine myelinolysis* / St Elsewhere
- Outcome: PEG tube inserted (warned re alcohol), some mobility, d/c home + care
*caused by correction of ↓Na by hypertonic saline
January 2011: 3 new referrals

<table>
<thead>
<tr>
<th>45 y.o. U/E man</th>
<th>64 y.o. retired chef</th>
<th>57 y.o. homeless man</th>
</tr>
</thead>
<tbody>
<tr>
<td>Known alcohol misuse</td>
<td>Alcohol dependent</td>
<td>Denied alcohol misuse</td>
</tr>
<tr>
<td>↑↑confusion: saw rats on skateboards on admission</td>
<td>Parkinsonian features, falls, memory problems X 1 year</td>
<td>No direct or collateral history; glad to be here</td>
</tr>
<tr>
<td>ACE 53 / 99</td>
<td>ACE 55 / 99</td>
<td>ACE 50 / 100</td>
</tr>
<tr>
<td>Memory / fluency probs</td>
<td>Memory / fluency probs</td>
<td>Confabulation ++</td>
</tr>
<tr>
<td>Impaired attention</td>
<td>Moderate depression</td>
<td>Grandiose / fatuous</td>
</tr>
<tr>
<td>No reversible component identified</td>
<td>No reversible component identified</td>
<td>Possible B12 deficiency; Probable W-K syndrome</td>
</tr>
</tbody>
</table>

Diagnosis: Alcohol related dementia
All three required nursing home placements
NUH inpatient: July-Sept 2012

- Established alcohol related brain disease
- Two prev admissions: ACE scores 76% → 62 (7 mts later)
- Capacity +: aware his drinking was causing global cognitive impairments but chose to keep drinking
- CMHT △ Dissocial PD (>90 convictions for assault)
- RTA as intoxicated pedestrian: intracer haem + SDH
- Right hemiparesis, assaultive with L arm and leg
- Deemed to have “zero neurorehab potential”
- Finally achieved neurorehab with a view to N Home
Role of Dept Psychological Medicine

- Early intervention: nidotherapy, use of i/m etc
- Rehab (tertiary prevention)
- Part of MDT: advice on signposting (comm alcohol services) & safe discharge
- Bedside tests: clinical exam, ACE (MMSE)

Advice on withdrawals, Capacity Act

Depression & anxiety / self-harm; SMI

Neuropsychiatric assessments during admission (ACE)

Psychiatric assessment (MSE) & risk management
3 Levels of Prevention

• Tertiary (rehab): evaluation of neuropsychiatric damage, rule out psychiatric Δ, family meetings + MDTs (OT) to determine safest placement

• Secondary: treatment of established problem early (EI). IBA (intervention and brief advice) → integration of addiction nurse skills into liaison.

✓ Guidelines on DTs, incl prevention of Korsakoff’s

• Primary = true prevention. Community alcohol matron, education projects, local police liaison
Intensive service users (frequent fliers) → most have alcohol dependence

- Alcohol detox as per hospital protocol treats DTs only
- Gentle reminders to ED about use of IV B vitamins
- Psychiatry advises on detox, setting, nursing levels, psychiatric comorbidities and cognitive abilities
- Balance between no neuropsychiatric assessment and a 3/12 review our patients unlikely to attend, or, worse again, unlikely to be abstinent X 3/12 to prepare
- Opinion on capacity: decision to live longer and better
Wirral & Cheshire’s unique service
Prof Kenneth Wilson and handful of staff
Phased assessment, slow rehabilitation and proven reintegration (of some) to community
ARBD: break adm cycle & buy time (5 years)
Cox (2004): 25% full & 25% partial recovery
Service reduced bed occupancy by 80%
Secondary Prevention: at first ED signs of the disorder

• IBA for A&E visits; primary care notification
• Teachable moment: no liver damage (yet) but good evidence (blackouts, decline in function, observations by others) that ARBD is a more likely outcome
• Make link with low mood, anxiety probs, poor coping
• Alcohol & suicide: Andreasson, 1988; Rossow, 2001
• Primary prevention of vascular dementia: cigs, BP...
• Indirect links to other disorders – diabetes, cancer, TB
Beyond the general hospital

- Early intervention to problem drinkers: 75% of ED attenders after midnight are alcohol-related
- Emergency Dept (ED): intervention and brief advice (IBA), based on screening test – PAT or mSASQ
- Integration of mental health & alcohol workers
- Community detoxes: comm matrons & alc services
- Coupling alcohol detox with talking treatments
- Public health measures: local collaborations useless without clear national policy (min pricing!)
Evidence based measures: 7

Babor et al, 2010: Alcohol - no ordinary commodity

- Pricing: alcohol taxes
- Regulate availability: minimum age, licencing hours, no. of outlets
- Modify drinking environ: server liability, enforce on premises laws, train staff
- Drink driving: best evidence - some behaviours can & need to be stigmatised
- Early intervention: self-help, mutual help, IBA, medical detox IF linked with talking therapies, weak evid for pharmacol
- Restrict marketing: laws work, less so vol codes
- Educ & Persuasion: labels, classroom, mass media – less strong evidence