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Rebecca J. Beyth, MD, MSc
Associate Professor
GRECC, NF/SGVHS
UF COM, Dept of Aging & Geriatrics

Case

- 82 year old man with history of DJD, and HTN admitted for right total hip replacement.
- Routine post-op medications for pain, and DVT prophylaxis
- One day after surgery he begins to hallucinate
- What do we do?

Case

- Usually drinks 3- 4 mixed drinks daily

Background

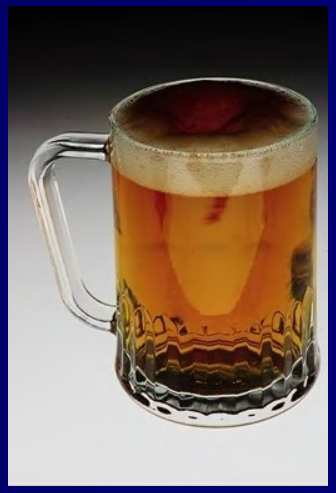
- Alcohol abuse affects 9% population
- 11-15 million Americans report “heavy alcohol intake”
- Costs of associated medical complications $100 billion/year

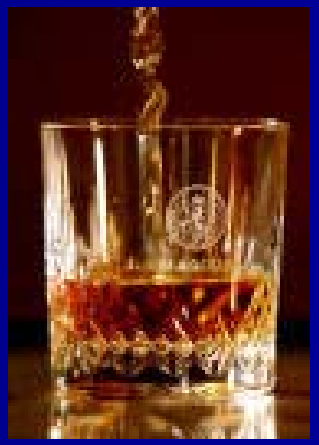
Background

- National Institute on Alcohol Abuse and Alcoholism (NIAAA):
  - Heavy use (at risk for withdrawl)
    - Women: > 4 drinks/day
    - Men: >5 drinks/day
  - At risk for alcoholism
    - Women: > 1 drink/day
    - Men: > 2 drinks/day

Background

- Standard Drink
  - 12 oz. beer
  - 5 oz. wine
  - 1.5 oz. liquor





Prevalence

- 20-25% of hospitalized general medicine
- 25-47% of trauma patients
- More than half of those > 65 don't drink at all
- 6-9% are "at risk" drinkers
- ~17% of those > 60 years misuse alcohol or prescription drugs

Prevalence

- 1/3 men, 20% women in retirement communities report > 3 drinks/day
- 3-25% are “heavy use”
- 15% men/12% women are “alcohol abuse”- drinking in excess of recommended limits/guidelines, rapid progression to alcohol-related illness/complications

Background

- Incidence of alcohol withdrawal syndrome
  - ~ 2 million/year
  - ~ 500,000/year require pharmacologic tx

Background

- Alcohol use disorders in elderly
  - 2/3 early onset (< 60 years)
    - Greater financial, legal and social problems
    - Heaver drinkers
  - 1/3 late onset (> 60 years)
    - Aging social drinker
      - More intoxicated with same dose
      - Increase in drinking after “loss”
    - Cognitive disorder

Background

Increased blood alcohol concentration in elderly

- Decreased lean body mass
- Decreased total body water
- Decreased gastric alcohol dehydrogenase

Medical Complications of Alcohol Use Disorder

- Cirrhosis
  - 1 year death rate: 60% for those > age 60 compared to 7% in younger patients
- Cardiovascular Effects
  - Women: 4-fold cardiac risk CAD
  - Increased risk of AF (holiday heart)
  - Increased stroke risk
- Cancer
  - Increased incidence of liver, esophageal, head/neck and colon cancers

Medical Complications of Alcohol Use Disorder

- Heme
  - Thrombocytopenia, bleeding, macrocytosis
- Neuro Psych
  - Increased dementia, Wernicke's encephalopathy, Korsakoff's psychosis
  - Mood disorders, pseudodementia
  - suicide

DSM-IV Criteria for Substance Dependence

Maladaptive pattern and 1 of the following in 12 months:

- Failure to fulfill obligations at work, school, or home
- Recurrent use when physically hazardous
- Recurrent related legal problems
- Continued use despite recurrent social or legal problems

DSM-IV Criteria for Substance Dependence

Maladaptive pattern and 3 or more of the following in 12 months:

- Tolerance (often reduced in elderly)
- Withdrawal (often delayed, with mental status changes in elderly)
- Greater amount of use or longer duration than expected
- Unsuccessful efforts to reduce use
- Important activities reduced or given up
- Continued use despite its aggravation or physical or psychological problems

Biomarkers

- Elevated Gamma-glutamyl transferase (GGT): Sensitivity of 70-80% if 6-8 drinks/day
- Mean corpuscular volume (MCV) > 90 consistent with alcohol dependence
- Carbohydrate deficient transferrin (CDT): > 14 units/L consistent with social drinker; > 20-30 units/liter consistent with alcohol dependence

Questionnaires

- MAST-G is specific to geriatric alcohol use disorders
- AUDIT most comprehensive
- CAGE and TWEAK are quick, limited sensitivty and sensitivity

CAGE

- Have you ever felt the need to Cut down on drinking?
- Have your ever felt Annoyed by criticism of your drinking?
- Have you ever felt Guilty about your drinking?
- Have you ever taken a morning Eye opener?

CAGE

- Overall sensitivity of 85%, specificity of 89%; with three positives it is 100% sensitive
- Does not distinguish between past and present alcohol use, not helpful in acute withdrawl

Questionnaires

- Clinical Institute Withdrawal Assessment for Alcohol, revised (CIWA-r)
  - Reliable, validated tool
  - Brief, easy to use
  - Score correlates with severity of withdrawal
  - Not diagnostic, used in conjunction with clinical context

CIWA-r

- Mild, score 8-15
- Moderate, score 16-25
- Severe, score > 25
- Score < 10 can observe patient
- Score > 10 should admit
- Score > 15 will need treatment

Appendix. Clinical Institute Withdrawal Assessment for Alcohol.*

Category	Range of Scores	Examples
Agitation	0–7	0=normal activity 7=constantly thrashes about
Anxiety	0–7	0=no anxiety, at ease 7=acute panic states
Auditory disturbances	0–7	0=not present 7=continuous hallucinations
Clouding of sensorium	0–4	0=oriented, can do serial additions 4=disoriented as to place, person, or both
Headache	0–7	0=not present 7=extremely severe
Nausea or vomiting	0–7	0=no nausea, no vomiting 7=constant nausea, frequent dry heaves and vomiting
Paroxysmal sweats	0–7	0=no sweat visible 7=drenching sweats
Tactile disturbances	0–7	0=none 7=continuous hallucinations
Tremor	0–7	0=no tremor 7=severe, even with arms not extended
Visual disturbances	0–7	0=not present 7=continuous hallucinations

* The Clinical Institute Withdrawal Assessment for Alcohol measures 10 categories of symptoms, with a range of scores in each. The maximal score is 67. Minimal-to-mild withdrawal symptoms result in a total score below 8; moderate withdrawal symptoms (marked autonomic arousal), in a total score of 8 to 15; and severe withdrawal symptoms, in a total score of more than 15. High scores are predictive of seizures and delirium.

Alcohol Withdrawal Syndrome

- 3 distinct phases
  - Autonomic instability
  - Alcohol withdrawal seizures
  - Delirium Tremens
- Continuous or sporadic presentation
- Inpatient or outpatient

Autonomic Instability

- Starts soon, last 48-72 hours
- Clinically:
  - Tremulousness, anorexia, tachycardia
  - Irritability, nausea, hypertension, hallucinations
- Remember:
  - Quiet, well lit room
  - Thiamine, MVI with folate
  - Diet, social support (family/friends)

Alcohol Withdrawal Seizures

- 12-72 hours after stop/ cut back
- Generalized tonic-clonic seizures, last minutes
- Exclude other causes of seizures
- Treat underlying cause
- Keep patient safe

Delirium Tremens

- 72-96 hours after stop/ cut back
- Usually resolves 3-5d ays after starting
- Complicates 5-10% of withdrawls
- 15% mortality
- Clinically:
  - Tremulousness, agitation, disorientation,
  - Hallucinations, confusions, fever
- Remember: Fluids and electrolytes

Treat Withdrawal

- Inpatient vs outpatient
- Benzodiazepines remain cornerstone
  - Short acting: lorazepam
    - Peaks and valleys
    - Ideal for elderly/impaired drug clearance
  - Medium/long acting: diazepam/chlordiazepoxide
    - Long slow tapers
    - Ideal for outpatients
  - Severe hepatic dysfunction: oxazepam
- No efficacy:
  - MgSO4, clonidine, atenolol, neuroleptics, anti-pyschotics, anti-emetics

Treat Withdrawal

- Scheduled dosing
  - Chlordiazepoxide 100mg q 6 hours
    - Convenient, adapt to outpatient
    - Higher medication use, less nurse interaction
- Load and Taper
  - Diazepam 10mg every 2 hours until asleep
    - Patient comfort, easy for physician
    - Unnecessary medication, over sedation
- Individualized treatment (sx triggered)
  - Lorazepam 2 mg q 1- 2 hrs for “agitation”
    - Less medication used, shorter hospital stays
    - Higher nursing involvement, ? Seizure

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