SUBSTANCE ABUSE DISORDERS IN THE ELDERLY

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EPIDEMIOLOGY

- There are different categories of alcohol use disorders- AUDs. Alcohol abuse, dependence, harmful and hazardous use and heavy drinking.

- The current definitions may be inadequate to detect AUDs in the elderly (occupational/social disability criteria), (physically hazardous situations/recurrent legal problem). Sensitivity to the effects of alcohol increases with age, so current thresholds for heavy drinking may be high.
EPIDEMIOLOGY

- Elderly constitute 13% of the population.
- They account for 33% prescription drug use.
- They account for 50% of over-the-counter drug purchase.
The focus on this talk will be largely upon Alcohol use disorders as most research has been in this area, though information on other substance abuse disorders will also be reviewed.

Alcohol & drug dependence in the elderly is underestimated, underidentified, underdiagnosed & undertreated.

Lifetime prevalence is 14% for men and 1.5% for women. In previous studies 2-10% (Maypole, 1988)
Epidemiology…

- The disparity between older adults’ definition of moderate drinking & Federal guidelines for low-risk drinking may contribute to the underrecognition of problem drinking by health care providers.

- The age of onset of Alcohol dependence is much later in geriatric population (31 for males, 40.6 for females).
Epidemiology…

- We can anticipate a larger increase in these problems over the next decades as the elderly population is increasing and the prevalence rates have been stable. Some researchers have alluded that a “silent epidemic” may be evolving.

- Most prevalence studies have been carried out in North America and the results may not be generalisable to other cultures.

- Rates of Alcohol use disorders vary depending on the restrictiveness of diagnostic criteria used.
Epidemiology...

- Prevalence is higher in elderly inpatients than patients in the community. 14% in ER, 18% in medical inpatients & 23-44% in psych inpatients. Acute care alcohol-related admission rates for older adults are equal to admission rates for M.I.

- Overall consumption declines, abstention rates increase and men drink more than women across all age categories.
Epidemiology...

- Most commonly prescribed drugs include diuretics, cardiac drugs & sedative-hypnotics.
- Most commonly purchased over-the-counter drugs are non-narcotic analgesics, vitamins and laxatives.
- Anti-depressants and sedatives are prescribed more often for elderly patients.
Epidemiology…

- Prescription drug use problems often develop later in life. In one study, one third of the patients developed dependence >60.
- In one study, prescription narcotic dependence was 1.4%
- Regardless of the cause (patient, clinician or both) any prescription medication use that results in physical, functional or psychosocial impairment should be considered a substance use disorder.
Epidemiology…

- Risk factors for prescription drug abuse include female gender, social isolation, chronic physical illness, polypharmacy, previous history of psych hospitalization or alcohol abuse.

- Another study (2000-VA) of 565 geriatric inpatients found that 4% were diagnosed with nonalcoholic substance disorders (3% with prescription & 1% with illegal drug abuse).

- Benzodiazepines were the most commonly abused.
Epidemiology…

- Older adults are 13% of U.S population-they account for 30% of prescription drugs & 40% of over-the-counter meds sold.

- Overall the misuse & abuse of prescription drugs in the U.S has diminished (Factors: safer drugs with fewer side effects, more federal & state regulations, newly developed guidelines & protocols, more physician training for geriatric population, greater physician awareness, better education of consumers about potential dangers).
PHENOMENOLOGY

- Reasons for under-detection & misdiagnosis.....
- One of the main reasons for the above is the presentation of elderly with alcohol/drug problem e.g. falls, confusion, depression.
- Symptoms may be masked by co-morbid physical or psychiatric illnesses.
- Sensible limits for weekly intake may not apply to the elderly because of changes in metabolism, ill health & increased sensitivity to the effects>.
Diagnostic criteria & screening tools tend to focus on current levels of alcohol intake.

Findings that suggest problem drinking in older adults: Cognitive decline, self-care deficits, non-adherence with medical appointments/treatments, recurrent accidents, injuries or falls, unstable HTN, frequent visits to the ER, GI problems, unexpected delirium during hospitalization, estrangement from family, constellation of Lab. Findings (MCV, GGT, ALT/AST, CDT).
Alcohol acts as a depressant that mimics the neurotransmitter dopamine.

Excessive dopamine release while drinking causes increased craving.

Changes in opioid receptor binding in CNS.

As disease progresses, drive to drink becomes automatic due to the effects on frontal cortex which becomes unable to process decisions to stop/consider consequences.

Biology & environment both play a major role.
Pathophysiology...

- Alcohol pharmacokinetics are altered with increasing age.
- Because of changes in body composition (loss of lean body mass & consequently decreased volume of distribution, coupled with decrease in alcohol dehydrogenase) produce higher BAC in the elderly.
- A standard 1-ounce drink generates a BAC that is 20% higher compared to a young adult.
- Excessive alcohol intake impairs the liver, which may enhance or inhibit medication metabolism.
Pathophysiology…

- Alcohol is uniformly distributed throughout the body tissues, including the CNS and the metabolism follows zero-order kinetics.
- 98% of alcohol is oxidized to acetaldehyde which is further oxidized by acetaldehyde dehydrogenase. 2% is excreted by the lungs & the kidneys.
- Capacity to metabolize may be significantly reduced with sedative/hypnotics.
Barbiturates produce more CNS effects in the elderly due to accumulation as the rate of absorption & elimination are decreased.

Geriatric patients may also experience paradoxical effects. (Increase effects plus paradoxical effects make them a poor choice for the elderly).

Benzodiazepines are bound to plasma albumin (99% with diazepam 5% with flurazepam).

Ones with longer half-lives tend to accumulate.
Pathophysiology…

- Metabolism occurs in the liver microsomal enzyme system mostly through oxidation.
- Those with active metabolites tend to have a longer duration of action than would be expected from their half-lives.
- Narcotics are distributed to all tissues. Higher brain levels are achieved by codeine, heroin & methadone due to their greater lipid solubility.
- Geriatric patients have slower absorption, longer duration of action due to depressed liver function—metabolized by conjugation.
DIAGNOSIS

- Obvious physical disease (withdrawal-less likely in the elderly, seizures, cirrhosis, DT’s, neuropathy) or Lab findings (urine toxicology)
- With the exception of above, diagnosis depends on skillful interviewing of patient & the family, proper physical & neurological exams & lab tests.
- An alcohol/drug use history should be a part of exam of all elderly patients.
- Diagnostic interviews have been developed for research purposes using DSM-1V criteria.
Diagnosis…

- They are not useful in clinical practice.
- Diagnostic criteria are met by asking few follow-up questions to positive CAGE.
- If there is a suspicion of alcohol/drug use disorders, the clinician (who is obviously very busy), has several options. (Advice in low risk cases e.g. a trial of abstinence for a month to clarify diagnosis, Referral to a specialist or an agency which should be tracked, concerns can be noted in the record for future attention).
CAGE is arguably the screening instrument of choice for the elderly.

A score of two or more constitutes a positive response to CAGE.

How much do you drink daily is a good follow up question.

Some people argue that MAST-G (sensitivity-95% & specificity-78%) is a better screening tool than CAGE.
MAST-G is a 24-item geriatric version of MAST & includes elderly specific questions.

Both instruments are comparable in sensitivity/specificity, both do not distinguish recent from remote drinking behaviors.

MAST-G’s length hinders routine use. A new version SMAST-G has 10 questions with a cutoff of two. (CHARM)
Diagnosis...

- **AUDIT** is a 10 item tool that focuses on consumption.
- **Standard cutoff is 8.** It is useful but less sensitive than the other two (VA-study 33% / 91%).
- **The combination of CAGE, MCV & GGT activity will detect about 75% of elderly with alcohol problems.**
SUBSTANCE ABUSE IN THE ELDERLY

DIAGNOSIS AND TREATMENT

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DIAGNOSTIC ISSUES

- The diagnostic limitations in the definitions given in DSM-1V result in deceptively low numbers of elderly with problems...
- A category of hazardous drinking has been included in ICD-10 to compensate for these diagnostic limitations.
- NIAAA considers one drink per day to be the maximum amount for moderate alcohol use for individuals 65 years of age or older.
Diagnostic Issues…

- Faulty assumptions and myths…
- Physicians and family members are often ignorant of treatment resources for the elderly and feel pessimistic about them.
- Shame and denial are more prevalent in the elderly—moral weakness.
- Fewer social warning signs are seen…occupational or legal problems etc.
- Pathology obscured by illnesses/meds.
DIAGNOSIS

- High index of suspicion (presentations).
- Detailed substance/alcohol intake history should be a part of every geriatric patient.
- Corroborative history from family/friends.
- Thorough physical examination.
- Laboratory tests (elevated MCV, GGT, ALT/AST, CDT, Low Ca, Mg, Phosphate and platelets). Low B12 & Folate.
DIAGNOSIS

- CAGE is the simplest and the best known screen specially if followed by three questions about frequency, quantity and binges.

- In difficult/suspicious cases direct confrontation is best delayed to the second or third visits and the whole effort should be focused on forming rapport....
One positive answer on CAGE has a 90% chance of detecting AUD.

AUDIT-10 items - Takes 2 minutes to administer. Less sensitive than CAGE or MAST-24 items - Sensitivity 95% Specificity 78%.

It has been suggested that age-specific criteria for problem drinking (housing problems, falls, poor nutrition, poor ADL’s, social isolation etc) should be added to screening instruments.
DIAGNOSIS

- Confrontational interviewing should be avoided.
- Supportive/Motivational interviewing.
- Structured behavioral interview very useful in predicting relapse. (Triggers/consequences)
TREATMENT
(Alcohol Withdrawal)

- Assessment of severity of present symptoms as well as past withdrawals is a priority.
- Choice of meds and treatment setting is influenced by co-morbid medical/psych disorders.
- In elderly, onset of withdrawals is often delayed, even by days after cessation.
- Confusion as opposed to tremor may be the predominant sign....
- If there is no h/o severe withdrawals and no co-morbid medical conditions, hospital setting may not be required.
TREATMENT

- Benzodiazepines remain the mainstay of pharmacological treatment.
- Long-acting benzos like Librium/Valium ensure smooth withdrawals but also increase sedation.
- Loading doses followed by tapering, continuous infusions and fixed-dose tapering are the usual protocols.
TREATMENT

- Symptom-triggered therapy uses less medications, shorter duration of treatment and less costs but requires training of the staff to ensure reliability among raters.
- Abuse potential is greater with Diazepam, Alprazolam and Lorazepam.
- Lorazepam, Oxazepam and Temazepam are conjugated and have no active metabolits.
TREATMENT

- Depakote and specially Tegretol are the favored meds for withdrawals in Europe and numerous double-blind studies confirm their comparable efficacy.
- Gabapentin and Tiagabin also are being used and are efficacious.
- Beta blockers, Clonidine and calcium channel blockers can be used as adjunctive agents specially in hypertensive patients.
TREATMENT
(Relapse prevention)
TREATMENT

- GROUP treatment is essential - same age vs mixed age.
- DISULFIRAM: This is the only FDA approved medication.
- The patient’s expectations to get sick and enforced compliance play a great beneficial role in the management of relapse.
- It has not demonstrated any benefit in the elderly.
TREATMENT
(Relapse prevention)

- It interferes with a number of enzymatic reactions…

- Side effects include fatigue & sleepiness (most common), transaminase elevation with hepatic damage and uncommonly peripheral neuropathies and cranial nerve palsies….

- Disulfiram treatment should be a part of a strongly structured psychosocial treatment program and patients monitored closely.
TREATMENT
(Relapse prevention)

- Pt’s whose motivation to remain abstinent is weak or questionable should not be prescribed Disulfiram.

- NALTREXONE: It is twice as effective as placebo in preventing relapse from alcohol.
  - It modifies the reinforcing effects of alcohol through its effects on endogenous opioids.

- Pt’s doing badly by 3 months of treatment are unlikely to improve with longer treatment.
TREATMENT
(Relapse prevention)

- ACOMPROSATE: Modest effect. Improves outcome by 15%. Mild side effects. Combination of Naltrexone and Acomprosate is more effective than either drug alone.