

GERIATRIC SUBSTANCE ABUSE

OVERVIEW

Substance abuse in the elderly is a common problem that is frequently under- diagnosed by primary care doctors and families. Alcohol abuse is present in 10% to 15% of elderly individuals who seek medical attention. Older patients can abuse prescription medications or over-the-counter preparations, such as alcohol, sedatives, etc. Health problems related to substance abuse cost Medicare two hundred thirty three million dollars (\$233,000,000) per year in 1989, and probably account for much larger expenditures today. Although 60% of substance abuse is recognized by primary care providers in patients under the age of 60, only 37% is recognized in patients over age 60. Physicians often fail to recognize geriatric substance abuse for several reasons: (1) lack of awareness, (2) embarrassment over screening for substance abuse, (3) failure to perceive the significance of substance abuse related medical problems, and (4) therapeutic nihilism about the elderly, i.e., “he is old, let him have his small pleasure.” Geriatric substance abuse is divided into prescription or non-prescription drugs. Elderly patients take a lot of medications. Although, the elderly population accounts for 13% to 14% of American citizens, they consume 25% of prescription medications. Many drugs are inappropriately prescribed for older people and 25% of prescriptions lack appropriate indications for the patient. Benzodiazepine and narcotics are two of the most commonly prescribed drugs of abuse in the elderly. Alcohol and over-the-counter sleeping preparations are the two of the most common non-prescription drugs of abuse in patients over age 65. Marijuana is a commonly abused illegal “street drug” in the older patient, while cocaine and heroin usage diminishes after age 60. Like younger patients, elderly substance abusers have high rates of psychiatric comorbidity. Unlike younger substance abusers, the elderly patient is more likely to have physical or neurological complications.

SUBSTANCE ABUSE SCREENING

The diagnosis of substance abuse in older individuals requires an appropriate awareness of its prevalence and appropriate screening of elderly patients. Most older individuals with substance abuse problems will deny symptoms, and usage. Surveys of elderly community based individuals indicate from 17 to 20% are receiving psychotropic medications. Almost half (44%) indicate use beyond the prescribed levels. Over use of prescription, psychotropic medication increases with advancing age. Screening for alcohol abuse may include use of the CAGE (**Table 6, see page 7**) as a brief screening instrument that can be followed by utilization of the MAST-G (**Table 7, see page 8**) for individuals with positive responses to the CAGE. Inappropriate use of other psychotropic medications requires careful clinical assessment and questioning of spouse or family caregiver.

Patients may hide inappropriate prescription drug usage by visiting multiple physicians and obtaining numerous prescriptions for benzodiazepines or narcotics. The basic assessment of an elderly patient's medications requires a shopping bag sign, i.e., a shopping bag filled with bottles. Caregivers should be advised to bring every prescription for every drug and every over-the-counter preparation that a patient has consumed. Redundant prescriptions for narcotics, benzodiazepines, or sedative hypnotics should suggest that the patient is abusing medications. The assessment of a geriatric substance abuse patient involves a bio-medical psychosocial approach. The clinician determines whether the patient has a biological disease, such as depression that is producing the abuse or whether the substance usage has produced a biochemical brain disorder such as dementia or delirium. The treatment team must examine the medical complications from the abuse and medical problems exacerbated by drug dependence. Psychological distress can induce addictive behavior and psychological treatments are necessary to correct the problem. Elderly patients have a complex mixture of functional and social dependencies that exacerbate addictive behavior and complicate treatment planning. The management team must elicit basic bio-medical psychosocial information during the diagnostic phase and then utilize this data to construct an appropriate management strategy.

BENZODIAZEPINES

Benzodiazepine abuse is a common problem in the elderly. Primary care physicians write most prescriptions for benzodiazepines or sub-specialists like gynecologists who rarely understand the addictive quality of these medications and the numerous potential complications in older individuals. Benzo's are prescribed for a variety of psychiatric maladies including chronic anxiety, insomnia, and muscle spasm. Benzodiazepines are rarely effective in the long-term treatment of anxiety, depression, or sleep disturbance, and long-term use of these medications produces significant physical dependence or addiction. Elderly patients frequently receive benzodiazepine prescriptions from several doctors who may not realize that other physicians are prescribing the same medicines. Patients may develop a benzo-abstinence syndrome due to the unavailability of the medication or hospitalization for other medical problems. Patients with chronic anxiety should be assessed for depression, and appropriate anti-depressant medication prescribes with slow discontinuation of benzodiazepines. Chronic insomnia is a common problem in the elderly that rarely improves with long-term sedative hypnotic administration. Nightly use of benzodiazepines, such as Halcion, Ativan, etc., lose effectiveness after approximately 3 to 6 months and requires steadily increasing doses to initiate sleep.

Sustained benzodiazepine usage in the elderly may exacerbate chronic medical problems such as C.O.P.D. or gastroesophageal reflux disease. Benzodiazepine usage in hospitalized patients increases length of stay and morbidity. Chronic benzodiazepine use is associated with higher rates of motor vehicle accidents and falls in the elderly. Benzodiazepines have a significant additive effect when consumed with narcotics or

alcohol and their prolonged half-life predisposes older patients to easy intoxication. Acute cessation of benzo's, especially Xanax can produce delirium. Some elderly patients admitted for medical problems, e.g., surgery may have medications stopped and develop a withdrawal syndrome similar to alcohol. Treatment of Benzodiazepine abuse includes (1) detoxification and withdrawal (2) appropriate therapy of secondary psychiatric problems like anxiety or insomnia, and (3) long-term addiction treatment like AA or NA: Patients with less than two years of life should remain on benzo's but dosages should be monitored.

ALCOHOL ABUSE

Alcohol abuse is a major medical and psychiatric problem in the elderly. Chronic alcohol ingestion produces multiple physical, medical, neurological psychiatric and social problems that effect psychiatric care of the elderly patient. Alcohol metabolism is altered in the elderly. Decreased body water in elders produces higher concentrations of alcohol as well as decreased lean body mass result in a 20% increase in peak blood level. The prevalence of alcoholism in patients over 65 is unclear with statistics from 3 to 5% of the community population and almost half of patients admitted to psychiatric units. The treatment of alcohol abuse and alcohol related complications cost Medicare two hundred and twenty three million dollars in 1989 and the total medical bill for alcohol abuse is certainly greater since most alcoholics remain unrecognized by primary care physicians. Most elders are abstinent (31% - 50%) or temperate drinkers, but 10% to 22% drink daily, 7-8% are heavy drinkers, i.e., 12-21 drinks per week. Patients who develop alcoholism prior to age 60 are considered early onset alcoholics while those who began drinking after age 65 are considered late onset (See Table 1).

Table 1. COMPARSION OF EARLY (EOA) VERSES LATE (LOA) ONSET ALCOHOLISM

| | EOA | LOA |
|-------------------------------------|-----------------|-----------------|
| GENDER | M > F | F > M |
| SOCIAL STATUS | LOW | HIGH |
| FAMILY HISTORY | ↑ | ↓ |
| PSYCHOSOCIAL CONSEQUENCE | ↑ | ↓ |
| ETOH RELATED MEDICAL PROBLEM | ↑ | ↓ |
| REVERSAL OF COGNITIVE LOSS | ↓ | ↑ |
| COMPLIANT | ↓ | ↑ |
| RELAPSE | SAME | SAME |

The age of onset may predict medical and psychiatric morbidity. Late onset alcoholic patients tend to drink smaller quantities, suffer fewer medical complications, and experience less psychological distress than individuals who began drinking prior to age 60. The alcoholic patient may present with a complex mixture of bio-medical psychosocial problems that further complicate management of other comorbidity psychiatric disorders, e.g., depression. The biological brain disorder produced by chronic alcohol ingestion includes simple withdrawal, delirium tremens, seizures, organic hallucinations, psychosis, and dementia. The medical problem common to patients with chronic alcohol abuse includes liver damage or cirrhosis as well as damage to peripheral nerves, pancreas muscles, heart, and bone marrow. Heavy drinkers may develop health problems that mimic depression. Cirrhosis, alcoholic heart disease, pancreatitis, and pancreatic carcinoma can produce malaise, energy, and weight loss. The psychological consequences of chronic substance abuse include the range of addictive behavior seen in all alcoholic patients. Suicide is a common problem in elderly male alcoholics who live by themselves. The social problems of alcoholism include isolation and caregiver burnout. Elderly chronic alcoholic patients have similar legal problems, DUI similar to those of younger patients although, criminal behavior is reduced in the older population.

The psychological screening for alcoholism includes the CAGE as well as the MAST-G (see table 1& 2). The CAGE is a short four-question test for alcoholism while the MAST-G is a longer more precise clinical instrument. Routine blood chemistries can identify some patients with alcohol abuse. The mean corpuscular volume or hemoglobin, i.e., MCV and MCH are reported on complete blood counts and elevation of this value may indicate alcohol abuse. Unexplained elevations of liver enzymes are also indicators for chronic alcohol abusers. Patients with unexplained malnutrition weight loss, injuries, or falls are possible substance abusers.

| Table 2. PHYSICAL DAMAGE |
|---------------------------------|
| ▪ Heart – Cardiomyopathy |
| ▪ Liver – Cirrhosis |
| ▪ Nerves – Neuropathy |

The treatment of alcohol abuse in the elderly includes acute detoxification followed by long-term outpatient stabilization and management. Almost half of elderly alcoholics have psychiatric comorbidity, e.g., drug abuse, mood disorders that require treatment. Elderly patients with chronic alcohol abuse may exhibit the three common withdrawal (1) syndrome uncomplicated alcohol withdrawal syndrome, (2) delirium tremors, (3) alcohol withdrawal seizures (see table 4). The alcohol withdrawal syndrome includes alterations of behavior, and autonomic control, i.e., vital signs. The alcohol withdrawal syndrome occurs within hours to days of the cessation of drinking and the peak incidents are within 24 hours. Behavioral symptoms include irritability, confusion, shaking, and sensory illusion. Autonomic instability include tachycardia, i.e., rapid

heart rate, tachypnea, i.e., rapid respiration, mild elevation of temperature, and hypertension. This withdrawal is best treated by short half-life benzodiazepine such as from secondary complications such as dehydration, etc. Adequate monitoring and early use of benzodiazepines should limit the risks for DT's. The third common complication of alcohol withdrawal is alcohol induced seizure which manifest as brief, non-localizing tonic-clonic seizures that do not require evaluation or anti-epileptic medicine unless they are atypical i.e., occur after seven days into withdrawal or more frequent than 6 per episode of withdrawal.

Alcohol-induced delirium tremens will occur several days following cessation of alcohol and include mental status changes, alteration of autonomic function, and frequently produces associated medical complications. Alcohol-induced delirium tremens is a medical emergency and should be managed by a combined medical and psychiatric team.

Table 3

| COMPLICATIONS OF ALCOHOL WITHDRAWAL | |
|--|------------------------------------|
| 1. | Alcohol Withdrawal Syndrome |
| 2. | Delirium Tremens |
| 3. | Seizures |

Table 4. TIME LINE OF ALCOHOL WITHDRAWAL SYNDROMES

| SYNDROME | DAY ONSET | HEALTH RISK |
|-----------------|------------------|--------------------|
| AWS* | 1 | Low |
| DT* | 4 | High |
| Seizures | 1 | Moderate |

**AWS – Uncomplicated Alcohol Withdrawal Syndrome*

**DT – Delirium Tremens*

Medical complications are a serious risk for any alcohol withdrawals, because elderly patients cannot tolerate rapid heart rate, severe swings in blood pressure, or acute psychosis produced by the alcohol withdrawal. Some elderly alcoholic patients develop withdrawal because of medical problems that disrupt their continued drinking. Elderly patients with medical problems such as myocardial infarction, chronic lung disease, or liver disease are at high risk for severe withdrawal syndrome or full-blown DT's. Medical problems such as peptic ulcer disease, chronic kidney disease, or chronic liver disease (ten-fold increase in mortality) during withdrawal includes (1) inpatient admission, (2) careful prescription of benzodiazepine to avoid respiratory depression and (3) management of liver disease, ulcers, etc. Chronic

alcoholics develop several complications including Wernicke’s encephalopathy, Korsakoff’s psychosis, and alcoholic dementia (Table 5).

Wernicke’s is an acute confessional state produced by Thiamin deficiency, and reversed by Thiamin replacement. Korsakoff’s psychosis is permanent memory impairment (**See Table 5**) that does not respond to Thiamin replacement. Alcohol induced dementia may resemble Alzheimer’s disease, but many patients have frontal lobe symptoms, e.g. apathy. Alcoholic dementia is common and this intellectual loss does not respond to Alzheimer therapies.

Table 5: NEUROLOGICAL COMPLICATIONS OF SEVERE ALCOHOLISM

| SYNDROME | SYMPTOM | CAUSE | THERAPY | OUTCOME |
|--------------------|---------------------------|------------------------|----------------|------------------------------|
| Wernicke’s | Confusion Eye Palsy | Thiamin deficiency | Thiamin | Reversal of Symptoms |
| Korsakoff’s | Amnesia | Unknown | Sobriety | Stabilization |
| Dementia | Multiple cognitive losses | Alcoholic Brain damage | Sobriety | Stabilization or progression |

The long-term management of chronic alcoholism in patients includes a complex mixture of medical and psychiatric prevention. The abstinent elderly alcoholic requires (1) a long-term treatment program for alcoholism, (2) family intervention to deal within the family unit, (3) assessment and management of alcohol induced medical complications, (4) assessment and management of psychiatric commodity, (5) assessment and disposition of legal problems. Alcoholic’s Anonymous provides an excellent method for long-term alcohol management and the spiritual qualities of the AA system correspond well to elder attitudes. ALANON is a resource for family members. Family issues for elderly substance abuse involve a multi generational approach that includes spouses and adult children. Elderly alcoholic patients who suffer terminal disease, e.g. pancreatic carcinoma may continue to drink. The treatment team must consider the potential complications and discuss the issue with patient and family.

Table 6

The CAGE Questionnaire

1. Have you ever felt you should cut down on your drinking?
2. Have people annoyed you by criticizing your drinking?
3. Have you ever felt bad or guilty about your drinking?
4. Have you ever had a drink first thing in the morning to steady your nerves or to get rid of a hangover (eye opener)?

Scoring: Item responses on the CAGE are scored 0 for "no" and 1 for "yes" answers, with a higher score an indication of alcohol problems. A total score of 2 or greater is considered clinically significant.

Source: Ewing, 1984.

**Table 7. MICHIGAN ALCOHOLISM SCREENING TEST –
GERIATRIC VERSION (MAST –G)**

| | | |
|---|-----|----|
| 1. After drinking have you ever noticed an increase in your heart rate or beating in your chest? | YES | NO |
| 2. When talking with others, do you ever underestimate how much you actually drink? | YES | NO |
| 3. Does alcohol make you sleepy so that you often fall asleep in your chair? | YES | NO |
| 4. After a few drinks, have you sometimes not eaten or been able to skip a meal because you didn't feel hungry? | YES | NO |
| 5. Does having a few drinks help decrease your shakiness or tremors? | YES | NO |
| 6. Does alcohol sometimes make it hard for you to remember parts of the day or night? | YES | NO |
| 7. Do you have rules for yourself that you won't drink before a certain time of the day? | YES | NO |
| 8. Have you lost interest in hobbies or activities you used to enjoy? | YES | NO |
| 9. When you wake up in the morning, do you ever have trouble remembering part of the night before? | YES | NO |
| 10. Does having a drink help you sleep? | YES | NO |
| 11. Do you hide your alcohol bottles from family members? | YES | NO |
| 12. After a social gathering, have you ever felt embarrassed because you drank too much? | YES | NO |
| 13. Have you ever been concerned that drinking might be harmful to your health? | YES | NO |
| 14. Do you like to end an evening with a nightcap? | YES | NO |
| 15. Did you find your drinking increased after someone close to you died? | YES | NO |
| 16. In general, would you prefer to have a few drinks at home rather than go out to social events? | YES | NO |
| 17. Are you drinking more now than in the past? | YES | NO |
| 18. Do you usually take a drink to relax or calm your nerves? | YES | NO |
| 19. Do you drink to take your mind off your problems? | YES | NO |
| 20. Have you ever increased your drinking after experiencing a loss in your life? | YES | NO |
| 21. Do you sometimes drive when you have had too much to drink? | YES | NO |
| 22. Has a doctor or nurse ever said they were worried or concerned about your drinking? | YES | NO |
| 23. Have you ever made rules to manage your drinking? | YES | NO |
| 24. When you feel lonely, does having a drink help? | YES | NO |

Scoring: five or more "yes" responses are indicative of an alcohol problem.

Source: Blow, F.C.; Brower, K.J.; Schulenberg, J.E.; Demo-Danaberg, L.M.; Young, J.P.; and Beresford, T.P.; *The Michigan Alcoholism Screening Test –Geriatric Version (MAST-G): A new elderly specific screening instrument. Alcoholism: Clinical and Experimental Research* 16:372, 1992. © The Regents of the University of Michigan, 1991.