<• CASE 14

A 45-year-old man comes to see his primary care physician with a chief complaint of fatigue lasting for the past 6 months. The man states that he goes to sleep easily enough but then wakes up repeatedly throughout the night. He has had this problem with sleep since his wife left him 6 months ago. On questioning. he reports drinking 6 to 12 beers a day, as well as several ounces of hard liquor. He says that it takes more alcohol than it used to "to get me relaxed." The patient claims he has experienced several blackouts caused by drinking during the past month. He admits that he often has a drink of alcohol first thing in the morning to keep him from feeling shaky. Despite his wife leaving him and his receiving several reprimands at work for tardiness and poor performance, he has been unable to stop drinking.

On mental status examination, the patient is alert and oriented to person, place, and time. He appears rather haggard, but his hygiene is good. His speech is of normal rate and tone, and he is cooperative with the physician. His mood is noted to be depressed, and his affect is congruent, although full-range. Otherwise, no abnormalities are noted.

- **What is the most likely diagnosis for this patient?**

- **What are some of the medical complications resulting from this disorder?**

ANSWERS TO CASE 14: Alcohol Dependence

Summary: A 45-year-old man comes to see his physician with a chief complaint of fatigue. Because of his heavy drinking, his wife left him 6 months ago, and he has not been sleeping well since then. He drinks 6 to 12 beers a day plus several ounces of hard liquor. He reports blackouts, an inability to quit drinking, tolerance for alcohol, and likely withdrawal symptoms. He has tried to quit on several occasions but has been unable to do so.

- **Most likely diagnosis:** Alcohol dependence.
- **Commonly associated medical complications:** Withdrawal seizures, delirium tremens, Wernicke-Korsakoff syndrome, cerebellar degeneration, peripheral neuropathy, fetal alcohol syndrome, hepatic encephalopathy, malabsorption syndromes, pancreatitis, cardiomyopathy, anemia, and an increased incidence of trauma (all types).

Analysis

Objectives

1. Recognize alcohol dependence in a patient.
2. Be familiar with the many medical complications that can be caused by the excessive use of alcohol.

Considerations

A 45-year-old man comes to see his physician with a chief complaint of fatigue. He has not been sleeping well for 6 months, and the pattern he describes is characteristic of alcohol dependence. His wife has left him, and his job is in jeopardy, but he is still unable to quit drinking. He drinks 6 to 12 beers a day plus several ounces of hard liquor. He reports blackouts, an inability to quit drinking, tolerance (it takes more alcohol to "make him relaxed"), and withdrawal symptoms (shakes).

APPROACH TO ALCOHOL DEPENDENCE

Definition

Delirium tremens: A delirium characterized by disorientation, fluctuation in the level of consciousness, elevated vital signs, and tremors as the result of an abrupt reduction in or cessation of heavy alcohol use that has lasted for a prolonged period of time.

Korsakoff syndrome (psychosis): Not actually a psychotic state but amnesia, especially anterograde amnesia (inability to learn new information), that develops after chronic alcohol use. It is usually **irreversible** and is also caused by a **thiamine deficiency.**

Wernicke syndrome: An acute, usually **reversible,** encephalopathy resulting from a **thiamine deficiency** and characterized by the **triad of delirium, ophthalmoplegia, and ataxia.**

Clinical Approach

In the United States, alcohol-related disorders are the third largest health problem (after heart disease and cancer) and the most common substance-related disorders. Furthermore, alcohol is associated with increased rates of cancer. heart disease, and hepatic disease. In the United States, 30% to 45% of all adults have had at least one episode of an alcohol-related problem (e.g., a blackout. driving while intoxicated [DWIJ, missing work, an automotive accident), whereas 3% to 5% of women and 10% of men will meet the diagnostic criteria for alcohol dependence during their lifetime. Alcohol is associated with 50% of all homicides and 25% of suicides. Yearly. 200,000 deaths are attributed to alcohol abuse. Alcohol use is also strongly associated with illicit drug use.

Alcohol dependence can be characterized by different drinking patterns. For instance, some individuals require a large amount of alcohol each day, others drink heavily only on weekends, and some binge heavily for days followed by days of no alcoholic intake at all. Alcohol dependence is also associated with behaviors such as an inability to cut down or stop drinking, repeated attempts to curb drinking ("'going on the wagon"), binging (intoxication throughout the day for a minimum of 2 days), episodes of amnesia (blackouts), and drinking despite a known medical disorder that is exacerbated by the intake of alcohol (Table **14-1).** Individuals with alcohol dependence show impairment in social and occupational functions. This behavior can be manifested by violence toward others, absence from work, legal difficulties (DWI. intoxicated behavior), and finally, strained relationships with friends and family.

Table 14-1
DIAGNOSTIC CRITERIA FOR ALCOHOL DEPENDENCE*

Three or more of the following are present:
1. Tolerance for alcohol
2. Withdrawal symptoms (e.g., elevated vital signs, tremors, delirium tremens, seizures)
3. Alcohol taken in larger amounts or over a longer period of time than was intended
4. Persistent desire or unsuccessful efforts to cut down or control alcohol use
5. A great deal of time spent obtaining alcohol, using alcohol, or recovering from the effects of alcohol
6. Important social, occupational, or recreational activities given up or reduced in frequency because of alcohol use
7. Alcohol use continued despite the knowledge that it causes or worsens physical or psychological problems (e.g., ulcer disease, depression)

*It is helpful to note thai these are the same general criteria for all substances of abuse.

Differential Diagnosis

An important distinction is the difference between alcohol dependence and alcohol abuse. Alcohol abuse (like the abuse of all substances) is characterized by a pattern of use resulting in at least one of the following:

1. Failure to fulfill obligations at work, school, or home
2. Continued use in dangerous situations (e.g., DWI, operating heavy machinery)
3. Alcohol-related legal problems (e.g., driving while under the influence |DUI], DWI)
4. Social or interpersonal problems (e.g., arguments about alcohol. spousal abuse)

The previous criteria for *misuse* (abuse) of alcohol differ from the criteria for alcohol dependence, which demonstrate an *inability to control alcohol use* (physical and/or psychological dependence).

Treatment

The essential treatment of alcohol dependence rests with the patient controlling his or her alcohol use. which is usually best achieved through total abstinence. Twelve-step programs such as the one sponsored by Alcoholics Anonymous (AA) are extremely helpful, as they address important issues necessary for recovery. These issues include denial that one has an addiction (prevalent in all addictive disorders), feelings of responsibility and blame, discouraging the enabling behavior of loved ones, establishing social support systems (through a sponsor), and a sense of hope within a community. Membership in these groups is free: they often meet daily and are located throughout the United States.

Antabuse (disulfiram) is a medication that blocks the enzyme acetaldehyde dehydrogenase. The purpose of taking this drug is to deter a patient from consuming alcohol, as concurrent use with alcohol (or alcohol-containing products such as foods and aftershave) causes extremely uncomfortable (and in high doses potentially fatal) physical symptoms. For this reason, the patient needs to be motivated, responsible, and without significant cognitive deficits. so that compliance with treatment instructions can be ensured. Another pharmacologic option is Re Via (naltrexone), an opioid antagonist. Studies have shown this medication to decrease craving for alcohol, believed to be caused by blocking the rewarding effects of alcohol.

The third, but least studied medication is Campral (acamprosate). The precise mechanism is unknown, but it has shown promise in improving abstinence when used in conjunction with psychological and behavioral treatment regimens.

Chronic alcohol use results in the depletion of many vitamins, most notably thiamine. This condition occurs because of decreased absorption as well as because of the poor nutrition often seen in individuals with alcohol dependence. It is therefore important for any individual with a pattern of heavy, chronic

alcohol consumption to receive vitamin supplements. **Acute thiamine depletion causes Wernicke encephalopathy, and chronic thiamine depletion is thought to cause Korsakoff syndrome.** Wernicke encephalopathy is not an uncommon presentation in the emergency department setting. Intravenous administration of thiamine should be given to **all** patients suspected of alcoholism, because the combined Wernicke-Korsakoff syndrome has been precipitated in these patients after the administration of thiamine-free intravenous solution containing glucose.

Comprehension Questions

[14.1] A 28-year-old man presents with a 12-year history of regular alcohol use. Although he has been able to maintain employment as a truck driver, he often drives when "buzzed" in order to make his deadlines. He has been reprimanded on numerous occasions for failure to perform his job adequately, and this has led to increasing conflict with his wife. He denies any recent increase in drinking or any withdrawal symptoms. but he does admit to not getting "as drunk as I used to" following consumption of the same amount of alcohol. Which of the following factors in his history is the most specific for alcohol *dependence?*

A. Driving while intoxicated
B. Marital conflicts
C. Not becoming intoxicated as easily
D. Occupational problems
E. 12-year history of regular alcohol use

[14.2] Which of the following questions is the most sensitive in screening a patient for alcohol dependence?

A. Have you ever attempted to cut down on your drinking?
B. How frequently do you drink?
C. How much do you drink per day?
D. When did you start drinking regularly?
E. Do you drink hard liquor, or beer and wine only?

[14.3] A 48-year-old woman is brought to the emergency department. She is unresponsive to questions, stumbles around the room, and is agitated. On physical examination, you notice that she smells of alcohol, and she is not cooperative during the remainder of the examination. Administration of what medicine would be the most appropriate initial treatment?

A. Benzodiazepine
B. Disulfiram
C. Glucose
D. Thiamine
E. An antipsychotic agent

[14.4] A 60-year-old man is brought into the emergency room by his wife for "confusion." She reluctantly confides to the staff that he is a "heavy drinker," that he had drunk up to a case of beer almost every day for the past 30 years. Although he has not changed his alcohol intake significantly, over the past year he has eaten less, preferring alcohol to large meals. She has noticed a gradual weight loss as a result. His last drink was earlier this day. Which of the following would be the most likely finding on the mental status examination of this patient?

A. Confabulation
B. Delusions
C. Elevated affect
D. Fluctuating consciousness
E. Loose associations

Answers

[14.1] C. Although DWI, marital conflicts, and occupational problems are all criteria for alcohol abuse, only not becoming intoxicated as easily as in the past is a criterion for alcohol dependence. Tolerance for alcohol (experiencing either the same effect with an increased amount or a decreased effect with the same amount), withdrawal from alcohol, and an inability to control alcohol use are the characteristics of alcohol dependence.

[14.2] A. Although questions regarding the specific frequency, kind of alcohol, amount, and initial use of alcohol are important in establishing a history and pattern of abuse, only asking about attempts to cut back is specific for alcohol dependence, as this question addresses the inability to control alcohol use. The CAGE questionnaire (Ewing, 1984) has been validated in screening for alcohol dependence. It uses the mnemonic CAGE. A yes answer to two or more of the following questions is a sensitive indicator in diagnosing alcohol dependence.

Have you ever felt you should Cut down on your drinking?
Have you ever felt Annoyed by someone criticizing your drinking?
Have you ever felt Guilty about your drinking?
Have you ever had an Eye opener (a drink first thing in the morning)?

[14.3] D. The most appropriate treatment is administration of thiamine. This patient presents with Wernicke encephalopathy, characterized by the triad of delirium, ataxia, and ophthalmoplegia. Thiamine must be given prior to glucose in patients suspected of having this disorder.

[14.4] A. This patient has a long history of heavy, regular alcohol use and likely malnutrition. A common sequela of this is chronic thiamine deficiency, resulting in Korsakoff syndrome. Korsakoff syndrome is

characterized by an anterograde amnesia: this memory impairment is often (poorly) compensated for by the patient's confabulation, or filling in the missing memories with false information.

CLINICAL PEARLS

Alcohol abuse is characterized by the recurrent *misuse* of alcohol. resulting in occupational, academic, interpersonal, or legal problems or in potentially dangerous situations.

Alcohol dependence is characterized by a recurrent physical or psychological *dependence* on alcohol resulting in a tolerance for alcohol, withdrawal from alcohol, or an *inability to control alcohol use.*

Both Wernicke and Korsakoff syndromes are thought to be caused by a thiamine deficiency. Wernicke syndrome classically features the triad of encephalopathy, ataxia, and ophthalmoplegia. A hallmark of Korsakoff syndrome is amnesia, especially anterograde amnesia.

In a patient with suspected Wernicke encephalopathy, thiamine should be administered intravenously *prior to* glucose.

REFERENCES

Ebert M. Loosen P. Nurcombc B. eds. Current diagnosis and Ireatmenl in psychiatry. New York: McGraw-Hill. 2000:233-259.

Ewing JA. Detecting alcoholism: The CAGE questionnaire. JAMA I984;252: 1905-1907.

Kaplan H. Sadoek B. Synopsis of psychiatry, 9th ed. Baltimore: Lippincott Williams & Wilkins, 2003:412-413.