

Chapter 36. Substance-Related, Self-Assessment Questions

1. According to recent US national estimates, which of the following substances is associated with the highest incidence of new drug initiations among individuals younger than 18 years?

- A. Alcohol
- B. Opioids
- C. Cannabinoids
- D. Nicotine
- E. Stimulants

2. The rewarding effects of acute drug use are partially the result of the activation of which of the following neuronal pathways?

- A. The hypothalamic pituitary circuit, resulting in corticotropin-releasing factor (CRF) release
- B. The tuberoinfundibular dopamine (DA) pathway, resulting in release of endorphins
- C. The mesocorticolimbic DA pathway, resulting in activation of nucleus accumbens (NA)
- D. The serotonin projections from the raphe nuclei, activating the hippocampus and amygdala
- E. The dopamine receptors (D_1) in the caudate, resulting in the release of glutamate in the NA

3. Which of the following substances is not associated with a *DSM-5* intoxication criteria set?

- A. Alcohol
- B. Opioids
- C. Cannabinoids
- D. Nicotine
- E. Stimulant

4. A young college student is brought into the emergency department (ED) after a party at his fraternity house. His fraternity brothers are alarmed because they were not able to arouse him when they found him slumped on the floor in the bathroom. His blood alcohol concentration (BAC) is 580 mg/dL (0.58% or 126 mmol/L). Which of the following *best* explains his current state?

- A. His blood ethanol level is likely to explain his current state, but it would be prudent to check for the presence of other drugs that could potentiate ethanol effects.
- B. His blood ethanol level is unlikely to explain his current state. He has probably fallen in the bathroom, so he should be rushed to radiology to check for a cerebral hemorrhage.
- C. His blood ethanol level could explain his current state, but only if he has also used an opioid; it would potentiate the CNS and respiratory depressant effects of ethanol.
- D. His blood ethanol level could explain his current state, but he should be sent home to “sleep it off” because ethanol self-ingestion is never fatal, and he is not likely to need medical support.
- E. An alcohol antagonist should be administered immediately to reverse the BAC effects.

5. Which of the following medications is the most appropriate to treat a patient experiencing alcohol withdrawal who has a positive past medical history of alcohol withdrawal related seizures?

- A. Phenytoin
- B. Diazepam
- C. Clonidine
- D. Valproic acid

6. GF is a 36-year-old woman who has a 10-year history of heavy ethanol use combined with daily heroin use over the past year. Additionally, she has used cocaine at least weekly for the last 8 months. After being admitted to the hospital after an automobile accident, her treatment team is worried about drug withdrawal complicating her medical treatment. She is likely to be in the *greatest* medical danger from:

- A. Cocaine withdrawal because it is often associated with seizures
- B. Heroin withdrawal because it is often very uncomfortable and fatal
- C. Ethanol withdrawal associated with seizures, delirium, and death
- D. None of the above are dangerous medical situations
- E. All of the above are dangerous medical situations

7. A 48-year-old man is undergoing acute alcohol withdrawal. What is the *most* important issue regarding the administration of thiamine during alcohol withdrawal?

- A. It should be continued for at least 3 weeks.
 - B. It should be combined with other vitamins in an IV fluid.
 - C. It should be given before any glucose-containing fluids.
 - D. It should be combined with magnesium in an IV fluid.
 - E. It should be avoided unless encephalopathy is present.
8. Which of the following medications should be AVOIDED in a patient being treated for an alcohol use disorder who you believe is likely to relapse and continue drinking alcohol?
- A. Acamprosate
 - B. Disulfiram
 - C. Naltrexone
 - D. All the above
 - E. None of the above

9. A 22-year-old woman with a 3-year heroin addiction has decided to undergo detoxification and treatment for her addiction. Assuming you have approval to use buprenorphine in this patient, how should you initiate buprenorphine treatment?

A. Have the patient wait 7 days from the last heroin use, verify that the withdrawal symptoms have decreased to a Clinical Opiate Withdrawal Scale (COWS) score of less than 5, and then initiate treatment at 4 mg given twice daily.

B. Because buprenorphine has low bioavailability that can be further impaired by vomiting associated with heroin withdrawal, wait 12 hours after last heroin use and initiate treatment with 4 mg buprenorphine given IV.

C. Initiate rapid withdrawal using naloxone under conscious sedation. Wait until the patient has been free of withdrawal symptoms for 2 weeks and initiate buprenorphine 2 mg twice daily and titrate up to 32 mg/day if necessary.

D. Verify that the patient's last heroin use occurred at least 12 hours ago and that the COWS score is greater than or equal to 5. Then initiate treatment at 2 to 4 mg every 2 hours up to a maximum of 8 mg over the first 24 hours.

E. Wait until COWS score is greater than 5, and then send patient home with doses of clonidine and loperamide for withdrawal symptoms. Have the patient return in 3 days to begin treatment with 4 mg twice daily of buprenorphine.

10. You are treating a pregnant woman who currently smokes one pack per day of cigarettes, consumes variable levels of alcohol on most days, and periodically injects heroin. Your treatment team has decided to aggressively manage this woman with pharmacotherapy to try to protect the fetus from substance use exposure, particularly illicit opioids. Which of the following medications should be AVOIDED in this patient?

A. Nicotine patch

B. Methadone

C. Buprenorphine

D. Varenicline

11. The coingestion of cannabinoids and which of the following substances could potentially be acutely problematic for a patient with moderate to severe cardiovascular disease?

A. Cigarette smoking

B. Amphetamines

C. Anticholinergic medication

D. All of the above

E. None of the above

12. Synthetic cannabinoid (eg, Spice or K2) users may present with severe psychiatric manifestations including psychosis and acute onset anxiety. Identify the primary theorized cause of psychiatric symptoms associated with the use synthetic cannabinoids?

- A. Route of administration
- B. High THC potency
- C. Lack of cannabidiol
- D. Low THC potency
- E. Addition of cannabidiol

13. AS is a 47-year-old man with a long history of alcohol dependence and co-occurring major depressive disorder (MDD). He was admitted 2 weeks ago to an inpatient unit for alcohol withdrawal (CIWA-Ar = 18) complicated by seizure activity. His nausea and vomiting, seizures, and hypertension completely abated after a tapering regimen of lorazepam, and he now exhibits a clear sensorium and no agitation. However, AS remains extremely depressed with marked anhedonia. Given AS's history of recent alcohol withdrawal seizure activity, which antidepressant should be *avoided* when selecting pharmacotherapy for his cooccurring MDD?

- A. Venlafaxine
- B. Fluoxetine
- C. Sertraline
- D. Mirtazapine
- E. Bupropion

14. A 28-year-old man who is a known drug user is admitted to the emergency department. He presents with sedation, pinpoint pupils, hypothermia, and respiratory depression. Assuming other medical etiologies have been ruled out, the clinical picture is *most* consistent with which of the following substance use presentations?

- A. Alcohol withdrawal
- B. Cocaine withdrawal
- C. Amphetamine withdrawal
- D. Alcohol intoxication
- E. Opioid intoxication

15. Which statement concerning varenicline 2 mg/day for smoking cessation is *true*?

- A. It is no more efficacious than placebo.
- B. It triples the likelihood of abstinence at 6 months.
- C. It triples the likelihood of abstinence at 2 years.
- D. It is no longer prescribed in the United States because of toxicity.
- E. It is limited in scope to individuals with normal hepatic function.

Answers

1. C

2. C

3. D

4. A

5. B

6. C

7. C

8. B

9. D

10. A

11. D

12. C

13. E

14. E

15. B