

Preoperative Evaluation of the Patient with Substance Use Disorder and Perioperative Considerations



Debra Domino Pulley, MD

KEYWORDS

- Substance use disorder • Preoperative evaluation • Alcoholism
- Preoperative drug testing • Cocaine • Chronic opioid use • Addiction

KEY POINTS

- Preoperative evaluation should include routine questions about substance abuse (alcohol and nonmedical uses of prescription and illicit drugs).
- In patients with known or suspected substance abuse, an assessment of associated illnesses and end-organ damage from chronic use needs to be performed.
- Substances that are most commonly abused in the United States are alcohol, marijuana, and nonmedical use of prescription pain relievers.
- Order a preoperative urine drug screen only if the result will change clinical management.
- Postoperative pain management may be difficult in the substance use disorder patient (especially with patients on opioids).

SUBSTANCE USE DISORDER PATIENT

Incidence

Health care professionals encounter many patients with a history of current and/or former substance abuse. Each year the Substance Abuse and Mental Health Services Administration conducts a survey of substance use, abuse, and dependence among Americans 12 years and older titled the National Survey on Drug Use and Health. In 2014, a total of 21.5 million persons in the United States aged 12 or older (8.1%) were classified with substance dependence or abuse in the past year and 10.2% of the US population had used an illicit drug in the past month.¹

Because of new substance availability and change in socioeconomic factors, substance use trends can change rapidly. The National Institute on Drug Abuse launched the National Drug Early Warning System in August 2014.² It reports on emerging

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Department of Anesthesiology, Washington University School of Medicine in St. Louis, 660 South Euclid Avenue, Campus Box 8054, St Louis, MO 63110, USA

E-mail address: pulleyd@wustl.edu

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trends and patterns of drug use as problems arise. In addition, local or regional conditions can also cause variability in the substances used.

Impact and Associated Illnesses

Substance abuse is not just a problem in the United States, but occurs worldwide and places significant disease burden on society.³ Chronic substance abuse can lead to other major health problems.⁴ The particular health issue depends on the substance used. To complicate matters, often there are several substances being used. Intravenous drug abusers may develop infectious complications, such as endocarditis, abscesses, osteomyelitis, hepatitis, and human immunodeficiency virus infection.⁵

There is evidence of an association between specific drug use disorders and mood and anxiety disorders.⁶ It is not clear what the exact mechanism is, but it has been proposed that drugs of abuse cause symptoms that mimic other mental illnesses, other mental illnesses can lead to drug abuse, or drug abuse/other mental illnesses share etiologies and risk factors (eg, brain deficits, genetic vulnerabilities, or exposure to stress/trauma).⁷

Perioperative Considerations

A thorough preoperative evaluation is essential. Unfortunately many of the substance abuse patients presenting for an operation may not be medically optimized. Many of these patients may not have access to primary care, and even if they do, they may not be compliant with their prescribed medications.^{8,9} Interactions are challenging with mutual mistrust, compounded by a lack of understanding and compassion from health care professionals. In addition, many of these patients have not had treatment of their addiction. In 2013, 8.6% needed treatment for a problem related to drugs or alcohol but only 0.9% received treatment at a specialty facility.¹⁰

When developing an anesthetic plan, considerations need to incorporate the following potential consequences:

- Acute substance use may cause toxicity and these effects need to be recognized so that they are potentially mitigated. In general, acute use decreases the analgesic and anesthetic requirements.¹¹
- Chronic substance use may cause tolerance to commonly used perioperative medications so adjustments to dosing may need to be made. In general, chronic use increases the analgesic and anesthetic requirements.
- Chronic substance use may cause pathophysiology and consequences of major organ damage need to be considered.
- Pain control may be especially difficult to manage.
- Be aware of withdrawal symptoms in hospitalized patients.¹¹
- Substance abuse patients may not be appropriate candidates for office-based procedures.¹²

Postoperatively as preoperatively, there are similar concerns that may hinder recovery, such as medication noncompliance and drug-seeking behavior. Substance abuse patients (especially with illicit drugs) may be less likely to come to follow-up visits.¹³ In-hospital integrative programs should be considered, because there has been some reported success in increasing treatment of substance abuse and increasing frequency of outpatient care.¹⁴

Screening for Substance Abuse

A routine preoperative history and physical examination should include assessment of substance abuse. Patients should be asked about use of alcohol and illicit drugs. A few clues as to possible substance abuse include refusing to grant permission to

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