ISSN: 2687-8410
Archives of
Clinical Case Studies
DOI: 10.33552/ACCS.2022.03.000558
Iris Publishers

Case Report

The Intersection of Mental Illness, Medical illness, and Substance use Disorder

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Received Date: June 02, 2022
Published Date: July 28, 2022

Abstract

Inhalant use disorder, according to the DSM-V diagnostic criteria, is a problematic pattern of use of a hydrocarbon-based inhalant substance leading to clinically significant impairment or distress, manifested by at least 2 of 10 listed behaviors. The disorder is seen most often in adolescents; the prevalence in all Americans 18 years and older is 0.02% [1]. The disorder extending into adulthood is associated with substance use disorders, personality disorders, especially antisocial personality disorder, SI with attempts, higher rates of mood and anxiety disorders [2-4]. Similarly, albuterol inhaler overuse is associated with poorer outcomes, worse asthma control, dependence, lower mental and physical functioning. Patients who overuse are at an increased risk for clinical depression, and emotional dysregulation and overuse of short-acting inhaled medications often go hand in hand [5,6]. Complex medical histories including depression, asthma, and inhalant use disorder illustrate the interplay between mental illness, physical illness and substance use to create patient problems, and the difficulty in clarifying a diagnosis when many factors are at play influencing one another. Although broader consideration of the patient can complicate reaching a diagnosis, this is necessary for proper treatment and patient education. Utilizing a holistic approach to patient diagnosis and treatment ensures that vital care informing factors are not missed, and that essential patient motivators, triggers, and protectors are considered.

Keywords: Inhalant use disorder; Depression; Asthma; Inhaler overuse

Case Summary

Mr. A is a 51 y/o Caucasian male with a PMH of depression, asthma, GERD, obesity, hyperlipidemia, hypertension, vitamin D deficiency, inhalant use disorder, alcohol use disorder and remote history of benzodiazepine (Xanax) use disorder. The patient was admitted to the state psychiatric hospital from a community-based mental health agency after presenting to the ER with depressed mood and SI with no plan; the patient subsequently denied any SI the following day after presentation. He had increased his compressed air inhalant use in the past couple weeks due to increased stress, partially attributable to loss of employment. He binged "3 dozen cans".

The few days prior to admission, resulting in bizarre and unpredictable behavior reported by the patient and confirmed by collateral information. The patient reported repeatedly using inhalants to unconsciousness and endorsed recent SOB, diarrhea and a 10 lb unintentional weight loss over the past month due to increased inhalant use. Previous use was reported as "a few cans of compressed air 2x/week", with use beginning at the age of 14. Collateral information indicated that the patient "huffs cleaners" due to financial difficulty, and reported an ongoing cycle of substance use, problems at work, depression, and more substance use. Collateral confirmed SI and "bizarre" behavior in patient. While at the community-based mental health agency, a screening performed indicated that the patient reported 8 symptoms of abuse regarding inhalant use, including causing him to miss work. Additional history of substance use includes past struggle with alcohol abuse, with last drink reported 10 days prior to admission, remote history of opioid

use and benzodiazepine addiction, with last reported uses in 2017 and 2015 respectively. Patient reported smoking marijuana 2-3x/week. In the past he received substance use disorder treatment at least 3 times, in addition to several mental health treatments, both inpatient and outpatient. Psychiatric history is positive for a previous suicide attempt after a personal relationship ended and several self-reported intentional overdoses. Patient has a history of treatment with psychotropic medications including Effexor, Abilify, Buspar, Desyrel and Remeron. Past medical history is significant for numerous ER visits for asthma and inhaler refills. The patient frequently requested his inhaler for subjective SOB without any physical exam finding corroboration and made complaints of the limitations on PRN inhaler use. Vitals were WNL and no wheezing or distress was noted when requests were made. At the time of discharge, the patient was observed to be much improved on Prozac, and outpatient follow up was arranged at a community mental health agency and addiction treatment center. Mental status exam showed improved mood, affect, judgement, insight, and impulse control over the course of treatment. Due to patient history of SUD, depression, SI, and instability in affect and in relationships, the differential diagnosis was to rule out MDD vs. inhalant induced depressive disorder vs borderline personality disorder.

Comments

This case illustrates the importance of awareness of the many aspects of a patient including physical health, mental health and social factors, and consideration of how they may confirm or contradict one another to inform diagnosis, treatment, and patient education. The importance of relying on physical exam findings and other objective measures to confirm subjective patient complaints and drive indicated, appropriate treatment is also made evident through this case. Another key takeaway is the importance of recognizing and screening for SUD that avoids detection on drug screen. The patient's longstanding asthma, inhalant use disorder, history of depression, suicidal ideation and attempts, past psychotropic medication use, and instable relationships raises questions as to the temporality and connectedness of his experienced issues and the best approach to treatment.

Acknowledgement

None.

Conflicts of Interest

No Conflict of interest.

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