Life After Attempted Death: A Case Report of Symptom Mitigation with the Use of LSD in Methamphetamine Use Disorder and Other Psychiatric Comorbidities

JP Martell, M.D.

Abstract:
The Use of psychedelics, such as LSD, in the treatment of psychiatric conditions, remains controversial. Early LSD studies showed positive results in the treatment of psychiatric disorders, but critics point to questionable methodologies and poor data analysis as an alternative explanation for these results. As a result of the society backlash against psychedelics, LSD was included in the Convention of Psychotropic Substances of 1971 as a schedule 1 substance, further limiting its inclusions in research efforts. More recent interest in the use of psychedelics as potential treatments for psychiatric conditions including substance, mood trauma, and anxiety related disorders, will prompt researches towards exploring new, and promising avenues in neuroscience. Additional research into the therapeutic uses of LSD is necessary to determine its role in the treatment of psychiatric and substance use disorders.

Introduction

After cannabis, stimulants constitute the second most widely used category of drugs globally and account for 68 million past-year users. Amphetamines and its related analogs, including methamphetamine, have shown a remarkably spiked increase in consumption throughout the world, and considerably in the United States since 2009, and are the fastest rising drug of abuse worldwide [1]. Individuals with diagnosed methamphetamine dependence show high rates of comorbid psychiatric disorders, including primary mood, psychotic, and anxiety disorders [2]. Comparatively, hallucinogen use has shown a waxing and waning pattern, with a consumption estimate that constitutes a small fraction of stimulants [3]; this correlates with studies in animals that show that LSD and other hallucinogens are misused but are not addictive substances that lead to compulsive drug-taking, withdrawal or self-administration [4,5]. LSD has been studied for the treatment of Alcohol Use disorder [6,7], Opioid use disorder [8], Depression, and anxiety [9,10]. This case report serves to illustrate an instance where LSD showed marked symptom improvement in a patient with longstanding psychiatric conditions, including substance, mood, and trauma-related disorders.

Case Presentation

A 46-year-old Caucasian male was transferred from a Regional Hospital to a Metropolitan Academic Center Hospital after relapsing on methamphetamine and cannabis for two weeks and later attempting to commit suicide with a single dose of LSD. He was assessed to have DSM-5 diagnoses of methamphetamine use disorder, severe; methamphetamine-induced depressive disorder; and posttraumatic stress disorder, chronic.

On admission, vital signs were stable, and he was alert and oriented to person, place, time, and situation. His physical exam was grossly unremarkable. His urinary drug screen resulted positive for amphetamines and THC, and his complete blood count, comprehensive metabolic panel, urinalysis, and ethanol levels were all unremarkable.

He reported that the months before his relapse, he had felt increasing despair and hopelessness, low energy, depressed mood, anhedonia, increased sleep, and transient thoughts that he would be better off dead. Additionally, his daughter had been

murdered eight months prior, and he was in the process of a divorce from his wife, with whom he had been married for ten years. He stated that prior to this current relapse, he had been sober for about six months.

It is worth noting that he initially took LSD with the intent to end his life but stated that after the onset of its effects his outlook on life "completely changed." He reported that his mood improved and that he felt like "things were just right, and they will get better." He experienced a new sense of completeness and felt more in control of his thoughts than at any point in his history. He also saw more vivid colors and had a heightened appreciation for his sense of existence. Despite the overall improvement in his depressive symptoms and dissolution of his cravings for methamphetamine, he decided to visit a local emergency department "to make sure I'm okay... I also want to make sure that I get off meth completely".

He reported no prior psychiatric hospitalizations, outpatient psychiatry visits, or suicidal ideation or attempts. He reported increasing problems related to his methamphetamine use, including incarceration in the mid-1990s secondary to theft while intoxicated. He reported previous involvement with Narcotics Anonymous. Despite not endorsing any prior psychiatric contact, it is worth noting that he had experienced recurrent flashbacks, nightmares, and increased distress secondary to physical and emotional trauma by his stepfather when he was a child and young adult. His stepfather physically abused him for most of his childhood and adolescence, and "tried to kill" him by trying to choke him after he had sustained neck injuries in a motor vehicle accident (where he crashed his stepfather's car) and later kicked him out of the house, which led to him dropping out of school in the eleventh grade. In addition to the symptoms mentioned earlier, he dealt with anxiety related to these traumatic experiences; stating that "he never thought it was worth going to a psychiatrist for".

The patient had an uneventful two-night stay in the inpatient psychiatric unit, and no medications were initiated. Throughout his admission, he denied any psychiatric symptoms or suicidal ideation. He actively participated in groups and in therapy sessions, where he showed substantial motivation and hope for the future. At the time of discharge, the following diagnoses were given: Adjustment disorder with depressed mood; Methamphetamine induced depressive disorder, with onset during withdrawal; Stimulant use disorder, methamphetamine type, severe; Post-traumatic stress disorder, chronic; Cannabis use disorder, mild; Tobacco use disorder, mild; Hallucinogen intoxication. He was subsequently followed up on by phone call four weeks after his discharge, where he denied any psychiatric symptoms since his experience with LSD and hospitalization.

Discussion

Early studies on LSD's usefulness as a treatment for substance use were focused mainly on the treatment of alcohol and heroin dependence. These studies responded to a historical necessity secondary to the drugs of abuse with a higher incidence at that time. As substance use patterns have evolved throughout the years, a significant rise in stimulant-related disorders has become more apparent and given their high index of morbidity and mortality, and it has become more problematic. Although the neurochemical aspect of different substances differs significantly amongst themselves, the neurobiological aspect of addiction and its circuitry remains the same. Studies should focus on LSD's usefulness in the treatment of current high incidence addictive disorders, such as the stimulant use disorders, since

limited data exists for this subset of conditions.

This case report shows a specific instance where a patient suffering from long-standing comorbid mood, substance use, and trauma-related disorders achieved remission of symptoms with a single dose of LSD. It is reasonable to question if a one-time dose of any substance could be a "magical cure" for any condition. The symptomatic relief that this patient experienced was significant enough that achieved remission and remained abstinent for at least four-weeks with plans to closely follow over the coming months to further document his progression. The limitations specific to this case are related to the unknown dose of self-administered LSD and if it truly was LSD. These two variables are essential for further research in this area. This case report adds to the ever-growing list of reports that highlight the potential implications for the use of psychedelic substances in the treatment or management of patients with substance use disorders. This growing body of evidence necessitates future studies that should be rigorously designed and carried in an effort elucidate if these reports are truly a signal or just noise.

AUTHOR INFORMATION

Send correspondence to Dr. JP Martell (jperezmartell@kumc.edu)

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