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Homicide During a Psychosis Induced by LSD

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A 22-year-old student killed a stranger during a psychotic reaction precipitated by lysergic acid diethylamide. With the exception of another bad trip, he had not been psychotic previously and showed no evidence of psychosis during four years of follow-up treatment.

Untoward psychotic reactions to the effect of lysergic acid diethylamide (LSD) have become relatively common medical emergencies.[1,2] These reactions, known as "bad trips," are often characterized by tension, panic, and paranoid ideation. The patient may become agitated or assaultive and may make violent efforts to escape from would-be helpers. Precipitous self-destructive acts also can occur.[3]

We report the case of a young man who killed a stranger with a knife after fleeing from California to Israel in response to persecutory delusions precipitated by LSD. He had used LSD many times before with only one previous bad trip. During the four years we have observed him since the homicide, he has not been psychotic and had no history of psychosis prior to his LSD experiences.

Report of a Case

A 22-year-old single, white Jewish graduate student was admitted to the Massachusetts Mental Health Center after a brief hospitalization in a private mental hospital. His parents had brought him back from Israel after he had been declared unfit to stand trial for homicide because of insanity. On admission he was noted to be a lithe, handsome young man with a guarded manner but no evidence of psychosis. Results of physical examination and laboratory studies were normal. He adjusted easily to the ward routine, remained aloof from the staff, and associated with the younger, intellectual patients.

He had grown up in an eastern city, the second of three children. His father ran a successful small business but played a passive role at home. His mother was domineering. He had no unusual illnesses in childhood, had a normal growth and development, and, with the exception of occasional temper tantrums, had an easy going friendly disposition. In retrospect he felt like an outsider at school, but had good friends and did well academically. A detailed history of his relationship and behavior did not show any evidence of serious emotional problems.

At age 20, while studying at a university in Europe, he became depressed over the infidelity of a girl friend and consulted a psychiatrist. Soon afterward he was expelled for using marihuana and entered a university in California. There he became involved in the drug culture and used marihuana frequently, as well as amphetamines and LSD occasionally during the next two years.

One year after moving to California he had his first "bad trip." He had just broken up with a girlfriend and was attempting to set up the scenery for an outdoor dance program while under the influence of LSD. He thought the natural beauty was being ruined by the scenery and then began to suspect that his friends were devils. They saw that he was upset and tried to take him home, but he escaped and attacked an elderly woman who was watering her lawn. She was a stranger to him. He later recalled that he wanted to kill her. She squirted him with her garden hose and he ran away. The police caught him and took him to a mental hospital where he recovered rapidly and was released in a few days. With this exception he experienced his frequent drug reactions as pleasant and personally meaningful, associated with a sense of union with nature.

He did well academically, but because of increasing dissatisfaction with his life, dropped out of school to pursue a career in modern dance. His parents objected to this decision and when his father had a heart attack soon afterward, the patient felt a sense of responsibility for the illness. He considered returning East to help his family.

While in a state of indecision a few months later, he picked up some hitchhikers who invited him to spend the night in their communal dwelling. There he slept with a girl and the next morning at her suggestion took some LSD. At first he listened to music and had his accustomed pleasant peaceful hallucinatory experiences. When the effect persisted, he began to suspect that the girl had given him too much drug in order to "destroy his mind." Then he became convinced that his companions were from another planet, and in panic he fled to the airport and took a plane home. His parents saw him briefly and noted that he seemed tense and withdrawn but did not suspect that he was psychotic. He took his money out of the bank and flew to Europe convinced that he was

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escaping a Nazi conspiracy to exterminate the Jews. In terror he fled from London to Paris to Athens and finally to Tel Aviv, at each spot finding evidence to support his delusions. There were soldiers in London, police in Paris, soldiers in Athens, and in Israel the six-day war against the Arabs had just concluded, and the country was mobilized. Throughout the eight days of his flight, he was extremely agitated and slept very little. When he saw the soldiers in Israel he believed that the Nazis had taken over and were gassing the population.

At this point he gave up hope of escape. While sitting in a sidewalk cafe drinking what he thought to be poisoned wine, he overheard a soldier speaking Hebrew to a girl and another couple. He thought the man was a Nazi bragging about the Jews he had killed. Suddenly he felt enraged and thought of killing the man with the knife he had carried with him, but instead he got up to leave the cafe. The waitress called him back because he had left an incorrect amount of money on the table. He made another effort to leave, but she again called him back, and this time he drew his knife, rushed at the soldier, and killed him by stabbing him in the chest and abdomen. In the subsequent struggle he also wounded the other man and one of the women. A mob chased him. He rushed at a policeman who shot him through the left side of the chest.

His psychosis cleared rapidly while he was recovering from the chest wound in an Israeli hospital. He recalled the events of the psychosis but felt detached from them as though they were a dream. His remorse led him to try to make reparations to the family of the dead soldier. The court declared him unfit to stand trial and he was released to his parents on the condition that they take him to the United States for hospitalization.

During four months of hospitalization at the Massachusetts Mental Health Center he showed no signs of psychosis. Psychological testing demonstrated a paranoid character structure, marked by mistrust, sexual fears, and inability to form close ties to others. Intensive psychotherapy was begun in the hospital and was continued on an outpatient basis.

Since discharge, the patient has lived a marginal life, working at various jobs including driving a cab, janitorial work, and managing a dance troupe. He has taken no drugs and has shown no evidence of unusually aggressive behavior. Recently he went to work in his father's business but was disappointed and dissatisfied. He has had several steady girlfriends. When his first psychotherapist left town, he successfully switched his allegiance to another doctor and has continued treatment voluntarily until the present. None of the psychiatrists who knew him well considered him to be psychotic. He has been advised to abstain from drugs and alcohol. When last seen by one of the authors, he was marching in an antiwar demonstration carrying a sign and shouting, "Peace now."

Comment

Our patient had features in common with many long-term LSD users, including his narcissistic orientation, shallow intimacies, confused identity, chronic depression, and search for meaning through drugs.[4] He also had prominent paranoid and homosexual tendencies. Diagnostically, we considered him to be a borderline character. Neither his premorbid personality, his psychological test performance, nor his behavior during the four years that we followed him justified a diagnosis of schizophrenia.

The patient's character structure may have made him susceptible to the adverse effects of LSD. Just why two particular LSD experiences became bad trips while approximately 20 were benign cannot be explained by our data. Drug dosage, social setting, and the prior emotional state of the drug user have been cited elsewhere as significant variables.[5] Our patient may have received an unusually high dose of LSD at the commune when he had his second reaction, but his first bad trip occurred after he had given himself his usual dose of 200μg. Both reactions occurred while the patient was depressed. In addition, at the commune he was among strangers. However, he had taken LSD under similar conditions at other times without suffering adverse effects. We agree with those who emphasize the difficulty of accounting for the occurrence of a bad trip at our present level of knowledge.[5]

While both bad trips had the characteristic onset of a prolonged benign effect followed by paranoid delusions, panic, and flight, they differed markedly in their course and outcome. The first reaction was terminated after approximately 12 hours, when he was controlled by the police and hospitalized. For various reasons the second reaction was not treated. He was among strangers when he became psychotic, his behavior did not cause concern to anyone, including his parents, and much of his psychosis occurred while he was traveling in foreign countries where cultural barriers served to isolate him. In addition to the absence of treatment, his psychosis may have been potentiated by sleep deprivation and by the disorienting effects of his flight through Europe. Very little information is available on the natural history of untreated bad trips. With therapeutic interventions, including the treatment provided by friends in the drug culture, most bad trips are over in 24 to 48 hours. It is possible that untreated bad trips might run a more variable course depending for their termination on chance circumstances and on the restorative capacities or ego strength of the individual. Even with optimal treatment, some bad trips go on to prolonged psychoses that are indistinguishable from schizophrenic reactions.

Both reactions in our patient were distinguished by the intrusion of murderous impulses directed toward strangers. Although violent behavior is often seen during bad trips, homicide in association with LSD has only been reported three times in the medical literature. A 25-year-old woman, diagnosed as psychopathic, killed her lover with a knife three days after completing a course of LSD treatments under medical supervision. Although she apparently was neither psychotic nor under the influence of the drug on the day of the crime, she first experienced the urge to kill her lover during an LSD experience but had no history of violent behavior.[6] A 32-year-old man, suffering from chronic paranoid schizophrenia, murdered his mother-in-law while acutely psychotic a few hours after he had ingested LSD.[7] A 24-year-old man shot a stranger during an argument while he was having the acute hallucinatory effects of his first LSD trip.[7] Other incidents associating LSD with violent assaults have been reported in the newspapers.

While homicidal assault is a rare outcome of adverse reactions to LSD, our impression from observing bad trips in the walk-in clinic of a mental hospital and in the emergency ward of a general hospital is that bad trips are characterized by more uncontrolled aggressive energy than are most other acute psychotic reactions. Another group of psychotic reactions that share this characteristic are the

paranoid psychoses induced by amphetamines. A recent report cited 13 cases of homicide associated with amphetamine abuse.[8] These cases had many features in common with the case reported here, including the characters of susceptible individuals, the form of the paranoid psychoses, and the unprovoked nature of the assault, often involving strangers. Another interesting parallel to our case was the sleep deprivation that preceded the murders associated with amphetamines, in part a reflection of the pharmacological action of the drugs but also a common feature of many agitated states. Our patient probably suffered serious sleep deprivation during his eight days of flight. One of the authors (Dr. Reich), while in the military, observed another group of psychotic reactions that were unusually violent: brief psychotic states often precipitated by alcohol or by situations that excited homosexual impulses, occurring in individuals with character disorders marked by aggressive and paranoid features. Perhaps when an individual with this type of character disorder becomes psychotic either because of toxic or situational insults, the psychosis involves more aggression than acute schizophrenic reactions which typically occur in individuals with more passive character types. We also wonder whether LSD and amphetamines may interfere with defense mechanisms and allow aggressive impulses to emerge in unmodified form during a psychosis.

Our case illustrates the need for prompt and adequate treatment of adverse reactions to LSD. Optimal treatment includes control of behavior in a safe environment, nonthreatening interpersonal contact, and therapy with phenothiazines.[9] In our experience a sound night's sleep is one of the most reliable signs of the recovery from a bad trip. Perhaps sleep not only signals the end of the tension state but helps to restore psychological equilibrium.

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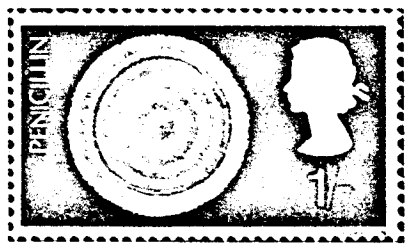

Sir Alexander Fleming (1881-1955), British physician and bacteriologist, received his MD degree from St. Mary's Hospital Medical School of the University of London in 1908. Fleming was professor of bacteriology at St. Mary's Hospital Medical School until 1948. In 1922 he discovered lysozome, an antiseptic found in human and animal tears, in leukocytes, in some plants, and in fish. Fleming was most famous, however, as the discoverer of penicillin. Fot this accomplishment he shared the 1945 Nobel prize for physiology and medicine with Sir Howard Florey and Dr. Ernst Chain.

"Penicillin has proved itself in war casualties and in a great variety of the ordinary civil illnesses, but it is specific, and there are many common infections on which it has no effect. Perhaps the most striking results have been in venereal disease. Gonococcal infections are eradicated and syphilis in most cases by a treatment of under ten days. Subacute bacterial endocarditis, too, was a disease which until recently was invariably fatal. Now with penicillin treatment there are something like 70% recoveries" (Fleming Sir A: *Chemotherapy: Yesterday, Today and Tomorrow,* Cambridge University Press, 1946.)

Great Britain in 1967 issued a set of stamps publicizing British discoveries and on the 1 shilling stamp is a picture of a penicillin culture (Scott 513). Togo in 1969 issued a stamp honoring the Red Cross League 50th anniversary, and the stamp shows a portrait of Dr. Fleming (Scott 671).—Samuel M. Bluefarb, MD