Marijuana is a widely used substance whose legal status is currently a topic of intense interest and controversy. One crucial controversial issue of special concern to physicians is whether or not marijuana is harmful.

To date experimental studies have failed to confirm the occurrence of serious adverse reactions when marijuana is taken under laboratory conditions in doses that are in general social use. However, compelling clinical evidence in the form of reports of cases from all over the world suggests that while marijuana is harmless to most users, some persons may develop a serious toxic psychosis. Physicians should become cognizant of this syndrome and acquaint themselves with its characteristics and management.

The following reports 5 cases of serious psychiatric disorders that appear to be closely associated with the use of marijuana at dose levels that are generally in social use. The disorders lasted beyond the period of actual physical influence; these cases were not "bad trips," but prolonged psychotic reactions. The patients were observed and treated by the author in the psychosomatic service at Metropolitan Hospital and also in her private practice.

Case reports

Case 1. A twenty-seven-year old female, married social worker with three children smoked marijuana in the presence of her husband and her sister and the latter's husband. The patient is intensely competitive with her sister who is extremely prominent, wealthy, and accomplished. This was the patient's first exposure to marijuana. She stated that after smoking three or four "joints," she began to experience intense fear, spatial distortion, and paranoid symptoms. These symptoms lasted for four days at which time she was flown to New York City for treatment. Treatment consisted of assurance and small doses of phenothiazine medication (25 mg. of chlorpromazine at bedtime for four days) which was sufficient to control the symptoms. The patient recovered with no residual pathologic condition within twenty-four hours after initiation of treatment. Follow-up after one and a half years revealed no recurrence. She has not used marijuana since this episode. Family history is negative for overt psychosis, but the father is reported to be "very nervous." The patient had no previous history of psychiatric illness. On examination shortly after the episode no signs of psychosis were noted. The patient is a very sensitive and emotionally labile person, whose psychologic functioning is generally excellent.

Case 2. The patient is a sixteen-year-old female high school student in a private school. Four months prior to referral she had been smoking marijuana intensively with her friends for about a week. On the night preceding the onset of her illness she had a frightening nightmare and the following day developed intense anxiety while at school. She felt tremulous and perceived her voice, thoughts, and appearance as being strange and unreal. After initial psychotherapy her
symptoms continued unimproved, necessitating her discontinuing school. The patient was seen for four months after the onset of the illness and was treated with high doses (800 mg. daily) of chlorpromazine and with psychotherapy. She improved gradually, and medication was discontinued three months thereafter. Eight months after the episode the patient was left with some moderately severe phobias (she is afraid the symptoms will recur), a mild degree of mental blocking, and personality constriction which continue to improve gradually. Perceptual symptoms have recurred briefly at times of stress and responded quickly to small doses of phenothiazine.

The patient has no prior history of psychosis. She was a happy, popular girl prior to this episode. She had used marijuana for a week on one occasion previous to this episode when she was fifteen and reported that she had had similar symptoms lasting only two days which cleared spontaneously. Examination of the family reveals the father has chronic borderline schizophrenia.

At the time of occurrence of the present episode the patient's parents were in process of divorce, and her older sister, to whom she is very close, had recently left for college. She has not used marijuana since the last episode.

Case 3. The patient is a twenty-five-year old married female with one child. She smoked marijuana for the first time one year previous to referral, in the company of her husband at a party. At that time she felt very frightened and had hallucinations of seeing the walls of the room close in on her, as well as paranoid symptoms. She crept on the floor to her husband for help and was taken home. Symptoms continued for several days, but the patient refused medical treatment at that time. She was seen one year after this episode and reported that since that time she has been subject to intense anxiety attacks, has developed multiple phobias, and is unable to reach orgasm. She has not smoked marijuana since that time and will not stay in a room where anyone is using it. The patient refuses to accept any psycho-tropic medication at this time, and psychotherapy is directed toward relieving phobias, anxiety, and sexual inhibition with gradual improvement. Family history is inconclusive as family members were not available for examination: the father is reported to be alcoholic. History suggests that the patient has a long-standing history of detachment and borderline functioning. However, she reports no phobias or anxiety attacks or sexual difficulties before the acute episode described.

Case 4. A twenty-year-old female, college senior experienced intense anxiety, paranoid symptoms, and feelings of unreality after smoking marijuana intensively for two weeks. She became tremulous and returned home and was admitted to a hospital in a partial-hospitalization program. Treatment consisted of 300 mg. of chlorpromazine daily and psychotherapy, and after
two months she improved and was able to return to school. She complained of mild residual symptoms and phobias which began to improve and entirely abated after eight months of therapy. She then graduated from college and obtained an excellent position in her field. At that time she again began to use marijuana since she wanted to test the therapist's hypothesis that she was liable to adverse reactions to this substance. She smoked without ill effects daily for a week. Thereafter she again began to experience symptoms of paranoia, perceptual distortions, and intense anxiety. These symptoms are currently improving. Treatment again consists of 300 mg. of chlorpromazine daily and psychotherapy.

The patient was living with a married man of a different religion at the time of her first episode, and this was a source of conflict for her. Her history revealed a long-standing emotional disorder that could be classified as borderline schizophrenia, however she had periods of excellent, symptom-free functioning. Examination of the family revealed her mother also to have borderline schizophrenia.

Case 5. The patient is a twenty-five-year-old female, married graduate student. Several times after smoking marijuana she had had frightening experiences. These consisted of intense anxiety, visual distortions, and paranoic ideas. On the first three occasions these were transient and limited to four or five hours. The last episode lasted four days, however, and brought the patient into treatment. Treatment consisted of 25 mg. chlorpromazine at bedtime and reassurance and she recovered within forty-eight hours. No residual psychotic symptoms were noted. The family was examined and there is no evidence of psychiatric disorder. The patient revealed a long history of anxiety and uneven functioning. There is no evidence of schizophrenia, but during intense conflict she tends to react with acute anxiety and feelings of depersonalization. Her psycho-logic difficulties have responded well to psychotherapy.

Comment

Most of the millions of persons who use marijuana appear to suffer no adverse reactions therefrom. Indeed, most users report reinforcing feelings of pleasure and relaxation and a welcome diminution of aggression when smoking pot. However, despite this apparent innocuousness, clinical findings suggest that there are some rare individuals who under certain conditions react to marijuana with an acute psychotic syndrome.

The following brief and tentative description of this syndrome is based on the author's
Clinical features. Although it should be classified as a toxic brain syndrome, the marijuana psychosis is clinically indistinguishable from an acute schizophrenic reaction. As in schizophrenia, perceptual and cognitive as well as affective functions are variously disrupted. Thus perceptions over all sensory modalities may be distorted and hallucinations may occur. Characteristically, the ability to handle complex sensory input is impaired. Feelings of depersonalization and strangeness are often reported, as is a distorted sense of time. Cognitive symptoms commonly include paranoid ideation as well as peculiar and bizarre thoughts. Disturbances of affect are also like those of schizophrenia. Patients are often acutely anxious in reaction to their psychosis and also report peculiar as well as simultaneously occurring emotions. Again, as in schizophrenia, but in contrast with other toxic brain syndromes, the patient is oriented, and consciousness is not impaired. Patients characteristically fear they "are going crazy," but do not attribute their difficulties to marijuana.

Although it is a frightening experience, the majority of patients seem to recover without damage within a few days. However, occasionally the psychotic episode is prolonged, and then psycho-logic problems which persist after the psychosis has subsided may be acquired. In the cases described herein such sequelae included phobias, inhibitions, and damage to self-esteem.

Diagnosis. The marijuana syndrome is differentiated from schizophrenia primarily by its favorable outcome and by a history of marijuana intake just prior to the onset of symptoms. In addition, in contrast to the schizophrenic patient, the person suffering from a marijuana psychosis may be a well-functioning individual with no prior history of psychiatric problems.

Etiology and treatment. The question of whether psychosis associated with marijuana represents an acute provocation of an underlying schizophrenic process or whether it is an idiosyncratic reaction unrelated to schizophrenia is controversial. On the one hand, clinical reports indicate that the marijuana psychosis is not extensively influenced by psychiatric diagnosis.2,3 The syndrome has been observed in persons who seem psychologically healthy as well as in highly disturbed individuals. Conversely, schizophrenic patients frequently take marijuana apparently without ill effect. On the other hand, the incidence of schizophrenia among persons who suffer from marijuana psychosis is reportedly high.
In either case, it may be speculated that the chemical effect of marijuana on the susceptible brain is the crucial etiologic determinant of the marijuana psychosis. In addition, psychologic factors, specifically intense emotion or emotional conflict present at the time of marijuana intake, seem to increase the patient's vulnerability to the physiologic disruption of brain function in some manner.

Accordingly, treatment should be aimed first at intervening on a chemical level, and, in addition, psychologic intervention designed to reduce intense emotionality is indicated when this appears to be a contributing factor.

Controlled outcome studies of this condition are still forthcoming, and no direct comparisons between various forms of treatment or between treated and untreated cases is currently available. However, therapy based on the preceding rationale seems to yield excellent results. A course of phenothiazine medication in doses sufficient to control cognitive and perceptual symptoms seems to facilitate rapid resolution of the reaction, and complete recovery often occurs within a few days. Medication may safely be withdrawn as soon as symptoms subside.

Psychologic intervention during the acute reaction should include explanation of the cause of the patient's condition and reassurance as to the excellent prognosis. In addition, follow-up psychotherapy aimed at conflict resolution when this appears to be a problem may be helpful. Those rare patients who acquire persistent behavioral symptoms may require further treatment.

Finally, the patient should be warned that he may have an idiosyncratic reaction to marijuana and related compounds and be advised to avoid this substance in the future.

Prognosis. The prognosis of marijuana psychosis is excellent for rapid and complete remission in those patients who are relatively stable. For the more disturbed patient, the marijuana psychosis seems to represent a greater danger: the reaction may follow a more prolonged course which establishes conditions favorable for the development of chronic psychologic
sequelae.

Summary

Although a causal relationship between marijuana and psychosis has not been established in the experimental laboratory, and although most users are not adversely affected, compelling clinical evidence suggests that marijuana may induce an acute and serious psychosis in some persons.

Five cases of acute psychosis apparently associated with marijuana were reported, and a tentative description of the syndrome and suggestions for management were presented.

References


