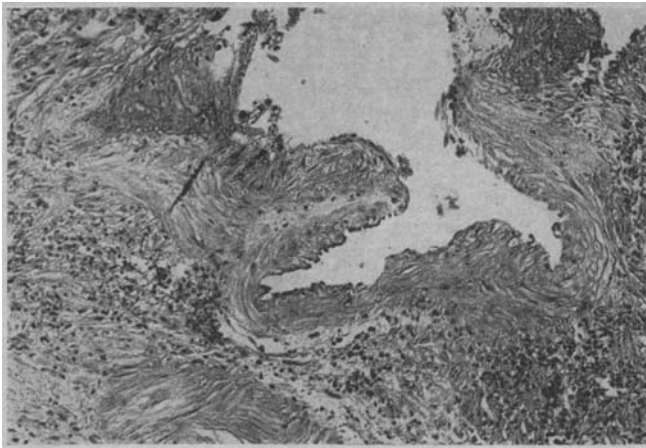
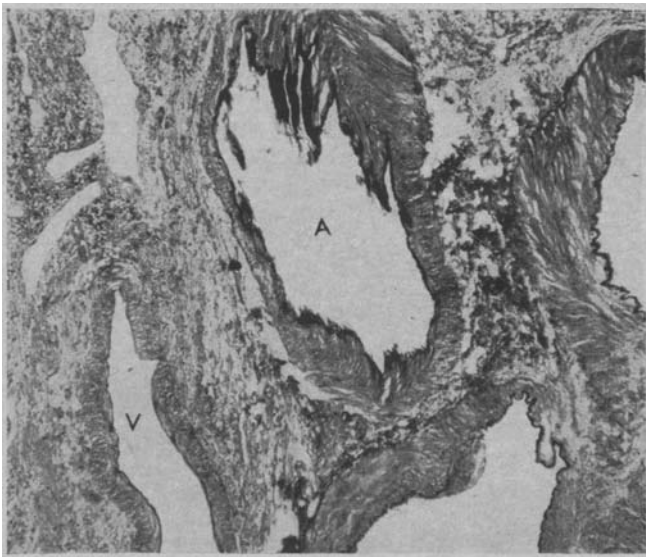




3. Higher magnification of bleeding vessel with thrombus at edges of defect (hematoxylin-eosin, $\times 150$).



4. Elastic tissue stain showing lesion is comprised of both arteries (A) and veins (V) (Verhoeff-Van Gieson, slightly reduced from $\times 90$).

are microscopically veins and arteries (Fig 3). A defect in the wall of one of the smaller vessels was found, and a thrombus was adherent in that area (Fig 4). Fresh blood was present beneath the pelvic mucosa, in the pelvic fat, and in many of the collecting ducts and renal tubules. The glomeruli were not remarkable and did not appear to be the site of origin of the intratubular blood. The pathologic diagnosis was bleeding vascular malformation.

Comment

Reported vascular malformations of the kidney have usually been symptomatic. Heart failure, hypertension, and hematuria are the major features. In addition to blood in the urine, routine laboratory investigation will occasionally reveal anemia. Cystoscopy will enable physicians to rule out primary disease of the bladder and may show which side is bleeding. Pyelography almost always fails to reveal the lesion although blood clots may produce obstruction or filling defects in the renal pelvis or ureters. Selective renal arteriography, on the other hand, will frequently help characterize as well as

localize the lesion.⁴ If a vascular malformation is found, a conservative therapeutic approach may be possible. Operative intervention should be delayed, as bleeding may cease spontaneously. Occasionally these patients may bleed again later, but this may not occur for many years. Knowledge of the size and location of the lesion is helpful, because often at surgery no gross lesion can be seen.^{5,6} If the lesion is known to be confined to one pole of the kidney, and surgery is necessary, partial nephrectomy may be curative.⁷

Pathologically, these lesions appear to be an abnormal collection of intercommunicating arteries and veins. Similar collections of vessels have been found previously in the kidney and elsewhere in the body.^{5,6,8} These are not neoplastic and may exist for years without producing symptoms.⁷ There is speculation that these lesions are congenital, but as far as we know, no cases have yet been reported in children.

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Psychotogenic Effect of Marihuana

Doris Perna, MD

A case report of marihuana use by a young male college student demonstrates the psychotogenic effect that may be observed following exposure to this drug. It is postulated that marihuana may have a psychotogenic effect even in an individual with a healthy premorbid personality.

THE PROBLEM of marihuana as a hazard to health is a question of considerable topical interest in both the popular and scientific press. A vast proportion of the general public, as well as a surprisingly large part of the medical community share the view that marihuana is not a dangerous drug.

This continued idealization of marihuana is encouraged by the fact that the medical literature

From Cedars-Sinai Medical Center, Los Angeles.
Reprint requests to 465 N Roxbury Dr, Beverly Hills, Calif 90210 (Dr. Perna).

contains few detailed case reports of serious adverse reactions to this drug. A more accurate understanding of this dilemma can be reached by specifically documenting cases of such reactions.

It is the purpose of this communication to report a case of a severe marihuana intoxication in order to add to the available statistics about the psychotogenic effect of this drug.

Report of a Case

A 23-year-old white man was seen because of severe agitation and a thought disorder that developed after smoking marihuana.

History of Present Illness.—There was no history of drug use except that the patient had smoked three marihuana cigarettes on one recent occasion under similar circumstances with no lasting side effects. The smoking was done in a comfortable setting with a group of fellow college students. During this first experience he described having hallucinations of the world full of symbolic meanings, to which he could not relate. These hallucinations were not distressing, and ended as soon as the drug effect stopped.

Although the setting was the same, the patient's second experience was of a different type. It was very unpleasant and included a visual hallucination of himself attempting to kill his mother. This hallucination persisted for three days. He had thoughts that people were watching him and reading his mind, and that an outside force was controlling him. These thoughts continued after the drug effect terminated. He then experienced a continuous buzzing sound in his right ear, and saw images which he described as checkerboards. He feared that he was going crazy.

Past History.—The patient was an only child of parents who were divorced when he was 2½ years old. He lived with his mother, who remarried when he was 13. His development was normal except for nocturnal enuresis until 18 years of age. His medical history was unremarkable. In school, he was an average student. He was liked by others, and always had a close friend. At 16 years of age he was seen in conjoint therapy with his mother for six months, because of his depression over the loss of his best friend. He graduated from high school, and after a few months at college, enlisted in the military service (Army) for three years. He then reentered college and achieved B grades during his first year. He had started dating in the service at age 18, and continued dating in college. A recurrence of acne developed which interfered with his social activities. His closest friend married and he became mildly depressed. It was during this interval that he decided to try marihuana.

Psychiatric Examination.—The patient was a 23-year-old white man of average size and stature, with numerous acne-form eruptions over his face. He was oriented in all three spheres and his memory was intact. Affect was flattened, and mood was extremely agitated. No loosening of associations was seen, but frequent blocking was present. There was no display of unusual mannerisms or forms of behavior. Intelligence appeared high average. Insight was good, and judgment fair. He had ideas of reference, that people were watching him and reading his mind, and that an outside force was controlling him. There was no visual or auditory hallucinations noted.

Psychological Examination.—Psychological testing demonstrated an intelligence quotient of 111 on the Shipley-Hertford scale, with the indication that it was probably lowered because of the psychopathology. Results of the Minnesota Multiphasic Personality Inventory and the sentence completion test showed a markedly confused individual who was having great difficulty concentrating, with a very prominent loss of control and decompensation.

Physical Examination and Laboratory Studies.—Results of physical examination were within normal limits except for severe acne vulgaris. Values for the following were all within normal limits: hemoglobin, hematocrit, differential cell count, urinalysis, blood urea nitrogen, calcium, protein-

bound iodine, cholesterol, fasting blood glucose, glucose tolerance test, and serology; x-ray films of the chest and skull, electroencephalogram, and radioisotope brain scan were also normal.

Course in Therapy.—A regimen of phenothiazines and supportive psychotherapy was prescribed for the patient and he was hospitalized shortly thereafter. His course was marked by a gradual but progressive decrease in the intensity of his delusions. However, after three months, he eloped from the hospital and attempted suicide by cutting his wrists and throat. His recovery from this incident was accompanied by improvement in his mental status. One month later he slipped back into a state of withdrawal and agitation, and received a course of electroconvulsive therapy. This treatment resulted in further integration manifested by a lack of agitation, delusions, or withdrawal. He was discharged from the hospital after ten months and was seen in therapy for 1½ years. During that time he gained control of his psychotic manifestations through compulsive defenses.

Comment

This case illustrates the psychotogenic effect of marihuana upon a young adult student. His first experience with the drug was slightly unpleasant. The second experience produced extreme anxiety and marked ego impairment, resulting in a psychotic reaction. Although this patient demonstrated some emotional problems in his past history, there is no evidence that he showed symptoms of psychosis prior to his use of marihuana. Therefore, a causal relationship is strongly suggested between the use of marihuana, his subsequent delusions, and the resultant psychosis.

There is indication in the literature of an association between the continuous use of marihuana and the development of psychiatric illness.¹ Reports emphasize that marihuana may be psychotogenic in individuals with poor ego integration.²⁻⁴ The usual assumption is that the psychosis results from an initially poorly organized personality that becomes more disorganized with the use of marihuana. However, there have been cases in which the role of the drug is considered to be exclusive.^{5,6}

The case presented here suggests that marihuana may have a psychotogenic effect even in an individual with a healthy premorbid personality. It is an isolated and less than ideal model, but it raises a question which, to my knowledge, has not been proposed in our literature. Further study of larger groups of subjects under controlled conditions is needed. Hopefully, a conclusive judgment may then be reached about the psychotogenic effect of this notorious drug.

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