

Clinical Notes

LSD "Mainlining"

A New Hazard to Health

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THE usual oral dose (25 μ g to 150 μ g) of lysergic acid diethylamide (LSD) required for a desired psychedelic effect is far below that which causes other serious derangements directly attributable to its pharmacologic activity. Complications of the illicit oral use of the drug, despite larger doses, are also largely limited to its hallucinogenic and psychologic effect. Doses of 20 μ g/kg of body weight are known to have been taken without a lethal outcome.¹ To our knowledge no deaths directly related to the use of LSD have been reported, although it has been used unsuccessfully for suicide attempts. (The rare suicide associated with LSD use tends to occur days to months after administration of the drug to a disturbed person.²) Occasionally, a subject under the hallucinogenic influence of the drug will accomplish acts incompatible with life such as attempting unaided flight from the top of a multi-story building.

The danger of unsupervised use of this potent psychotomimetic has been limited to its effect on the central nervous system. Oral administration separates LSD users from those who prefer the effects of intravenously administered narcotics or amphetamines in that they are not susceptible to local abscesses, phlebitis, serum and infectious hepatitis, endocarditis, and pulmonic foreign body reactions sometimes observed in drug "mainliners."

Report of Cases

Recently this dichotomy was abolished by the appearance in the Infectious Disease Service of three young men with hepatitis who claimed to have been injecting LSD intravenously. All stated that they had used the drug at "trip parties" in the same fashion known to be used by narcotics "mainliners"; none of them used any method of skin decontamination or asepsis. Patients 1 and 2 had shared the same unsterilized makeshift syringe three months previously. Patient 3 gave a history of sharing a needle with a friend in another state who recently wrote that he had become jaundiced. Evidence of hepatitis developed in patient 2 while he was hospitalized for study of monoplegia of recent onset. Patients 1 and 3 were incarcerated at the County Jail on charges of possession of marijuana at the time they became symptomatic. No epidemic of infectious hepatitis occurred in the jail before or after they received treatment.

All three young men experienced a typical hepatitis prodrome with nausea, anorexia, malaise, distaste for ciga-

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Results of Liver Function Tests in Three LSD* "Mainliners" With Hepatitis

	Case		
	1	2	3
Age	19	18	20
Admission values			
SGOT/SGPT,† units	869/1,239	1,071/1,386	880/1,078
Total bilirubin, mg/100 cc	8.51	5.00	2.55
Alkaline phosphatase, BU	13.1	8.4	6.1
Discharge values			
SGOT/SGPT, units	51/91	216/735	18/69
Total bilirubin, mg/100 cc	1.28	1.76	0.85
Alkaline phosphatase, BU	6.2	5.9	3.8

*Lysergic acid diethylamide.

†Serum glutamic oxaloacetic transaminase/serum glutamic pyruvic transaminase.

rettes, and dark urine. Patient 1, in addition, gave a history of vomiting, pain in the right upper quadrant of the abdomen, and light stools. Physical examination in each case disclosed jaundice and a tender enlarged liver. No fever, splenomegaly, lymphadenopathy, or stigmata of chronic liver disease was noted. Results of liver function tests (Table) and the finding of minimally elevated serum γ -globulins were compatible with acute hepatitis. Prothrombin times were normal and all of the patients had negative tests for heterophile antibody and leptospiral agglutinins. Percutaneous liver biopsies showed typical changes of viral hepatitis in patients 1 and 3; no biopsy was done on patient 2. All followed an uncomplicated course with hospitalization from 19 to 43 days. Enzymes returned to near normal values except for patient 2 who was discharged to rest at home.

Comment

LSD is illegally imported into the South Florida area in ampules of clear blue liquid of varying concentration. Adulteration of the original compound is not uncommon; LSD may be highly diluted or not present at all. Often, neither content nor concentration are known to the recipient. The liquid is generally administered per os after absorbing it with a sugar cube. Since the drug is unstable it is frequently stored by refrigeration in foil-wrapped sugar cubes.

Tolerance to the behavioral effects of the drug is manifest within a few days if used frequently.^{2,3} This, plus the increasing difficulty in obtaining good quality drug, may account for the beginning use of the intravenous route by "hard-core" users. The drug is absorbed rapidly and begins to manifest its effect within 15 to 45 minutes when taken orally; intravenous administration results in symptoms within a few minutes.⁴ Whether the intravenous route was selected for special status or more rapid effect is unclear. Unsupervised use of LSD in young adults is said to be most prevalent among sociopathic personalities; the demand for immediate satisfactions in this group may be a factor in the selection of the parenteral route.⁵

The implications of LSD "mainlining" are patent. Those who indulge in this form of psychedelic misadventure risk serious side effects of administration as do the population of narcotic and amphetamine users. Since the use of psychotomimetic agents appears to be fairly widespread among American youth, we can anticipate an increase in organic complications if the parenteral method of administration becomes popularized.

References

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