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THE USE OF LSD-25 IN PSYCHOTHERAPY—AN EVALUATION

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ABSTRACT

A review is presented of the patient selection, treatment methodology and results in the author's use of LSD-25 as a psychotherapeutic adjuvant at the Toronto Western Hospital. It is the author's impression that the drug is very useful in teaching, research and therapy. Over-all, 26 of 31 patients showed definite social and psychological improvement and it seemed that a particularly useful application was in the producing of emotionally meaningful insight in obsessional personalities who tended to intellectualize a great deal and to isolate relevant affect from thought. Patients who improved most notably tended, in three of four cases, to have had more than one LSD treatment session. Complications were uncommon and not serious.

LSD-25 (Lysergic Acid Diethylamide) has been described as an aid in psychotherapy by many authors. This paper attempts to delineate some of the patterns of patient selection and response to LSD-adjunctive psychotherapy. The 31 patients described here have been selected and treated in sequence by the author since November 1963 and have not been included in other reports. Although working with LSD-25 since early in 1961, the author has chosen to refer only to those patients seen since he has developed a fairly constant pattern of using this drug. The interviews were all conducted in the same setting as described previously by Baker. [1]

Previous attempts have been made to study the indications for and general effects of using LSD-25 as an aid in psychotherapy. [2] These have involved subjective appraisal and the patients have generally been followed rather closely subsequent to such treatment. Sandison, Delay et al. and K. Cameron have stressed the use of this drug in obsessional neuroses, and possibly in other diagnostic categories, such as character disorders. [2] Admittedly it is difficult to conduct a truly double-blind study, [3] and therefore this paper will merely review some data concerning patient selection; outcome will be presented in terms of general social and psychological function.

In a recent review of 150 cases, Baker [4] uses categories of "not known", "worse", "same", "some better", "better" and "much better". Of the total 145 known, 108 are described as at least "some better" (73.8%). However, this includes 76 patients in the "some better" category which is defined as, "those who have gained and maintained moderate insight, and yet are unable to make much use of the insight gained. Thus 32 cases (22.1%) show definite psychological and social improvement on a con-

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sistent basis over a three month to four year folow-up period. Six of the 150 cases were diagnosed as "obsessive-compulsive psychoneurotic reaction" and two of these were rated as "much better" or "better" following LSD. No classification as to the presence of marked obsessive-compulsive personality traits and structure in some members of other diagnostic groupings (e.g. psychoneurotic depressive reactions, sexual deviations and addictions) was reported and thus this basis for selection was not assessed. In another recent publication, Leuner [2] reports that 63% of 54 patients were "recovered or greatly improved" and that character disorders seemed to fare most successfully.

This paper will attempt to assess such characteristics and to measure outcome in terms of definite social and psychological improvement. No effort will be made to assess the role of the LSD itself in any change as this would likely introduce one more tactical error, but rather the overall results of treatment which includes LSD will be presented as rated by the author. It is hoped that these will provide some basis for comparisons to be made.

Pharmacology:

LSD-25 is a partially synthetic compound closely related to Ergometrine. Since it was first investigated in 1938 much has been learned regarding its actions and effects on the peripheral nervous system, both sympathomimetic and parasympathomimetic. This drug induces mydriasis, increases blood sugar, affects the heat-regulating centre, produces salivation, lacrimation, nausea and vomiting, and tends to increase blood pressure slightly in man. It selectively antagonizes serotonin in its effect on guinea pig gut and blood vessels and on the isolated rat uterus. The substance is colorless, odorless, tasteless and water-soluble, and tolerance does not tend to develop. The psychic effects have been well described in terms of perception, thought association patterns, sensorium and behavior. Unfortunately, however, the mechanisms of such actions are not yet clearly understood. For further pharmacological data, the reader is referred elsewhere. [1, 5]

METHODS

Patients have been selected primarily on the basis of apparently rigid neurotic ego defenses, which prevent insight, in a person with sufficient drive and intelligence to (hopefully) apply such insight if obtained. This choice is reflected in the diagnostic categories noted in Table I. Patients are always admitted to hospital for a period of at least 24 hours. The drug is administered in the morning after they have taken no other medication for a minimum of 48 hours and have had no breakfast. With the exception of subjects #1 and #7 listed in the table, patients have been confined to bed for all or most of the 6-8 hours of maximal drug activity and doses given have ranged from 100-2000 mcgm. I.M. Sodium diphenylhydantoin, gr. lss. p.o. or 100 mg. I.M., has been given routinely since the occurrence of serial seizures in patient #2 who had been investigated by the neurological service and assessed as showing no pathology. Methamphetamine hydrochloride in a usual dose of 30 mg. may be given intravenously about an hour after the injection of LSD to heighten the effect and to promote outward oriented expression of feeling. An added dose of LSD has been given on occasion and 1 gm. of Niacin has sometimes been used to reduce fear and panic. Each patient is investigated with care before LSD is given. Follow-up consists of a minimum of one interview the day following the LSD session and further interviews as required to consolidate any insight gained and to adapt the LSD session within the overall psychotherapeutic program. The only absolute contraindications applied have been those of weak ego structure with impending psychosis, uncontrolled epilepsies, pregnancy and general debilitation especially involving the cardiovascular system. With this program, and with the use of trained personnel in a relatively standardized setting, we have found this drug to be quite safe. This corresponds to the opinions of other investigators such as Abramson and Hoch. [6] The author is oriented in a direction supporting the theories of Freud, with the acceptance of some modifications and extensions by Adler, Klein and E. Weiss. Interviews using LSD thus tend to be non-directive with the patient being encouraged to associate freely and to identify the meaning and symptomatic relevance of perceptual distortions and associated emotions. The nurse, who is also present throughout, adopts the same frame of reference. Either the nurse or doctor may aggressively attempt to promote thought and feeling activity by presenting stimuli, such as a drink of water and objects to hold or throw, to a patient in an apparently unproductive interview. Interviews are frequently tape recorded

TABLE I

PATIENT	SEX	AGE AT FIRST LSD.	NUMBER OF LSD's	DOSE RANGE OF LSD IN MCGM.	PRIME NOSOLOGIC AND PERSONALITY DIAGNOSIS PRE-LSD.	OCCUPATION	MARITAL STATUS AT FIRST LSD.	DURATION OF ALL PSYCHIATRIC TMT. PRECEDING FIRST LSD.	THERAPEUTIC OUTCOME
1. D.D.	F	32	9	25-200	Phobic state in immature dependent personality.	Housewife and Nurse	M	6 yrs.	o
2. E.P.	M	31	1	300 + 300	Pedophilia in obsessional personality.	Manual Labour.	M	o	o
3. A.A.	M	24	1	100	Hysteric dissociation.	Manual Labour.	S	1 week	+ +
4. C.T.	F	16	1	500	Conversion hysteria.	Schoolgirl.	S	1 month	+
5. S.G.	F	29	1	200 + 200 + 400	Narcotic addiction in dependent personality.	Prostitute.	M	2 years	o
6. N.T.	F	27	3	200-2000*	Phobic state in compulsive personality.	Housewife	M	6 mos.	+ +
7. L.T.	F	16	5	100-1500	Mixed psychoneurosis.	Schoolgirl.	S	2 yrs.	+ +
8. B.M.	F	31	1	500*	Chronic anxiety state.	Clerk and Mother.	Div.	4 yrs.	+
9. J.T.	F	24	1	400 + 500 + 500	Psychoneurotic depressive reaction.	Art Student and Housewife.	M	1 mos.	+
10. J.G.	F	29	2	300; 150+	Obsessive-compulsive personality.	Actress.	Div.	1 mos.	+ + +
11. P.F.	F	28	2	150; 400*	Sexual frigidity in obsessional personality.	Actress.	M	1 mos.	+ + +
12. J.H.	M	34	3	200-1200+	Fetishism in compulsive personality.	Book-keeper.	M	3 yrs.	+ +
13. D.T.	M	40	1	200 + 200 + 400	Compulsive personality.	Schoolteacher	M	4 yrs.	+
14. E.C.	F	38	1	200 + 100	Manic-depressive in remission in obsessional personality.	Housewife.	M	1 yr.	+
15. G.M.	M	31	1	150 + 75 + 100 + 200	Compulsive neurosis (Pornographic vouyerism.)	Business Executive.	M	< 1 mos.	+ + +
16. G.C.	M	35	1	100 + 100 + 200	Depressive reaction in compulsive personality.	Draughtsman	M	4 yrs.	+ +
17. J.R.	F	29	2	200 + 100; 600 + 400*	Manic-depressive, depressed in compulsive personality.	Ballet Dancer & Housewife.	M	< 1 mos.	+ +
18. C.F.	M	21	1	200	Passive-aggressive personality, passive dependent type.	Film Editor.	S	1 yr.	+

TABLE I (CONT.)

PATIENT	SEX	AGE AT FIRST LSD.	NUMBER OF LSD'S.	DOSE RANGE OF LSD IN MCGM.	PRIME NOSOLOGIC AND PERSONALITY DIAGNOSIS PRE-LSD.	OCCUPATION	MARITAL STATUS AT FIRST LSD.	DURATION OF ALL PSYCHIATRIC TMT. PRECEDING FIRTS LSD.	THERAPEUTIC OUTCOME
19. J.A.	F	22	1	200 + 400	Compulsive personality.	Secretary.	S	< 1 mos.	+ +
20. T.G.	M	28	1	600	Compulsive personality.	Construction worker, Ex-boxer, Hairdresser, Parking Attndt.	Bigamously married.	2 yrs.	0
21. C.K.	F	17	1	200**	Depressive reaction in compulsive personality.	Schoolgirl.	S	6 weeks	+
22. A.M.	M	19	1	200	Passive-aggressive personality, passive dependent type.	Warehouse Receiver.	S	2 weeks	+ +
23. O.S.	F	48	1	200	Manic-depressive, depressed in dependent personality.	Clerk & Mother.	Widowed	15 yrs.	0
24. D.B.	F	39	1	600	Manic-depressive, depressed in compulsive personality.	Business Manager & Mother.	Div.	1 1/2 wks.	+ +
25. S.F.	M	27	1	600	Anxiety reaction.	Schoolteacher	M	2-3 yrs.	+
26. J.F.	M	37	2	400; 1000*	Depressive reaction in compulsive personality.	Cinematographer.	M	2 mos.	+
27. G.F.	M	30	2	500; 150+	Mixed psychoneurosis.	Unemployed	S	5 yrs.	+
28. V.M.	F	24	1	200 + 300*	Hysteric personality.	Housewife	M	1 yr.	+
29. A.V.	M	35	2	150; 500 + 500*	Depressive reaction and homosexuality in obsessional personality.	Flower Arranger.	Div.	17 yrs.	+ + +
30. P.T.	F	22	2	200*; 800	Depressive reaction in obsessional personality.	Cashier	S	1 mos.	+
31. H.T.	M	36	1	500*	Compulsive personality.	Hotel Manager.	S	5 yrs.	+ +

LEGEND:
WORSE: -
UNCHANGED: 0
SOME BETTER: +
BETTER: + +
MUCH BETTER: + + +

*: PLUS METHAMPHETAMINE HYDROCHLORIDE, 30 mgm.
**: PLUS METHAMPHETAMINE HYDROCHLORIDE, 50 mgm.
+: PLUS NIACIN.

and occasionally filmed in 8 mm. sound and discussed with the patient in a subsequent interview. Chlorpromazine in doses of 0.5 mg. per mcgm. of LSD has been used to aid in sleep and occasionally to terminate an apparently hyperactive and non-productive interview.

Impressions:

Table I describes the 31 patients involved. They received a total of 54 LSD treatments, each having between one and nine. Twenty-one received one LSD interview and 17 of these showed definite improvement (80.9%). The overall number showing significant social and psychological improvement was 26 of the 31 (83.9%). None became worse. Four of the five reported as unchanged had one LSD. Three of the four reported as much better had two LSD's.

Doses ranged from 25-2000 mcgm. of LSD and methamphetamine hydrochloride was added on occasion. The doses given to those reported as unchanged were 25-200 mcgm. (nine sessions), 300 + 300 mcgm. (1 session), 200 + 200 + 400 mcgm. (1 session), 600 mcgm. (1 session) and 200 mcgm. (1 session); these doses spanned most of the range employed in the overall group.

Of the five reported unchanged, one (#2) had the LSD terminated following two sequential grand mal convulsions; one (#1) required prefrontal leucotomy and chronic hospitalization (these were considered probable before LSD was given); one (#5) was a prostitute-addict who returned to her old way of life; one (#23) returned to a marginal adjustment following E.C.T. and chemotherapy; and one (#20) continued to have a problem with the law through his bigamous involvements after a temporary improvement of about four months. The follow-up period on all cases varied between three and twenty-one months.

No consistent relationships were noted between outcome and age or duration of previous treatment, but these data are included to provide a more complete perspective of the cases selected. Three of the five unchanged were females (60%), and this compares with 17 of the 31 overall (55%).

Eighteen of the 31 were classified as having a compulsive or obsessional psychoneurotic reaction or a marked obsessive-compulsive personality structure in which other symptoms, for example depression in four cases, developed. Of these 18, sixteen improved (88.8%), as compared with improvement in ten of 13 (76.9%) of those not so diagnosed. Two cases felt to be unchanged were in this group and three cases were not. These three were thought to be markedly dependent personalities. Four of the 18 cases in this group (22.0%) were rated as "much better," and none of the 14 cases not so rated showed this degree of striking improvement. The most remarkable improvements seemed to occur in the obsessive-compulsive group.

Complications were uncommon. One patient (#2) had two grand mal convulsions, but these were readily controlled by intravenous barbiturate, intramuscular sodium diphenylhydantoin and routine conservative management. Another patient (#29) became temporarily psychotic, but cleared quickly with oral chlorpromazine which was discontinued within one week. There were no deaths or suicides.

EPICRISIS

LSD appears to be a useful adjunct in psychotherapy, especially in obsessive-compulsive personalities and when used in more than one session as part of an over-all program of psychotherapy. It is also very useful in studying personality dynamics and (retrospectively) personality development. This area of study has been aided by having parents and other significant figures present during some of the LSD sessions. LSD is useful in some areas of basic and clinical psychiatric research. It is of particular value in teaching personality dynamics and some aspects of psychotherapy to nurses, nursing students and post-graduate students in psychiatry. In this field, the use of tape re-

cording, sound film and active participation by the student with patients known to them are particularly helpful.

An evaluation of the use of LSD in psychotherapy is presented with reference to thirty-one patients. Methodology, indications and outcome are discussed in detail. Other uses for this drug in a general hospital psychiatric ward are discussed.

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