L.S.D. (LYSERGIC ACID DIETHYLAMIDE) TREATMENT OF CHRONIC PSYCHONEUROTIC PATIENTS UNDER DAY-HOSPITAL CONDITIONS

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This article describes an experiment in treatment with the help of a specific drug, and some readers might question its suitability for this journal. This journal has always supported any experiment which enables patients to be treated outside mental hospitals, and the gradual replacement of mental hospitals is the declared policy of this publication. THE EDITORS

INTRODUCTION

AN investigation was carried out with fifty patients attending the Marlborough Day Hospital to assess the possible therapeutic value of lysergic acid diethylamide in the treatment of chronic psychoneurotic disorders under day-patient conditions.

DEVELOPMENT

Lysergic acid diethylamide, better known as L.S.D. from the German words *lyserg saure diethylamide*, was first discovered in 1942 by Hofman, who accidentally took a minute dose while working on ergot derivatives in his laboratory and began to feel restless and dizzy with peculiar visual sensations and disorientation necessitating his return home to bed. Later he isolated this drug, and its chemical and psychological properties have been investigated by many workers, namely Stoll, Condrau, Becker, Fischer, De Giacomo, Walter Frederking on the Continent; Busch and Johnson, De Shon, Rinkel and Soloman, William Savage in the U.S.A.; Meyer-Gross, Sloane and Doust, Anderson and Rawsley, Liddell and Weil-Malherbe, and particularly Sandison, Spencer and Whitelaw in England.

NATURE AND EFFECT

These workers found that the drug was potent in extremely small doses (25 to 50 μg.) and caused profound changes in the psyche together with a re-experiencing of early memories even back to birth, and often accompanied by abreaction. This brought about a therapeutic effect with greater mood swings and re-experiencing of early memories than that produced by mescaline and methedrine (Liddell and Weil-Malherbe). It was therefore considered a suitable drug to use on neurotic cases suffering from very early repressed emotional conflicts previously unreachable by psychoanalysis or any other form of treatment.

Professor Elkes (*Lancet*, February 1955) pointed out, however, that sometimes the abreactive effect could be violent and occur spontaneously days or even weeks later, and he considered therefore that the drug should only be used under in-patient conditions. Hence it was therefore necessary to find a method of rendering the drug safe under day-patient conditions. This was done with the aid of inhibiting drugs, such as the barbiturates and largactil, which were known to have a profound inhibiting effect within ten to fifteen minutes.

Another safety factor was in the careful selection of patients suitable for this treatment under day-patient conditions, and as my criteria I chose the following:

(*a*) No previous psychotic episode.

(*b*) A good personality.

(*c*) Some knowledge of their unconscious processes.
(*d*) Some degree of insight.
(*e*) High intelligence.
(*f*) A strong desire to get well.

The cases chosen were mainly long-standing neurotics, from the ranks of the obsessionals, sex deviants, psychopaths, and chronic tension states, who had previously undergone all other psychiatric treatments without improvement.

METHOD

(*a*) The patient arrived at the hospital at 9.30 a.m., having had his usual breakfast, and was put to bed in a single room.

(*b*) An initial dose of 25 to 50 gamma, according to the type of patient, was given orally in an ounce of sterile water. The dose was increased slightly with each treatment until the optimum reaction was obtained, and was then kept at that amount.

(*c*) A trained sister and a psychiatrist were available during the whole of the reaction time, which usually developed about one hour after the dose was given, and lasted on an average three hours intensively, then gradually diminished. The psychiatrist spent roughly one to two hours with each patient according to his needs. Some of the patients became more readily accessible and abreacted strongly, while others became more withdrawn and inaccessible than in their normal state. In some, transference situations were heightened and useful material became conscious during the treatment. The patient was allowed to have a meal, if he wished, four to six hours after taking the drug, but frequently a feeling of nausea made him refuse this.

(*d*) The reaction was terminated by giving Largactil mgm. 50 at 3.30 p.m., six hours after the initial dose; this was followed at 4.30 p.m. by tea and bread and butter. The patient was then allowed to go home with a companion or by ambulance at 5.30 p.m.

(*e*) If the effect of the drug had not disappeared by 5.30 p.m., a further dose of Largactil mgm. 50 was given.

(*f*) Each patient was sent home accompanied by a friend or relative, and where this was impossible by ambulance. When the patient had no home but only a bed-sitting-room, an arrangement was made for him to stay overnight in a general hospital or nursing home, and to return to his room the next day.

(*g*) A further mgm. 50 Largactil was given to each patient to take the same night and followed up in some cases where the reaction had been severe or unpleasant by a similar dose daily, thus ensuring against further recurrence of reaction.

(*h*) The last precaution taken was to tell the patient that he should telephone the hospital at any time during the next week if his emotional state became unbearable, thus maintaining an essential link with security. Using this method, no accident has occurred and only once has it been necessary for a patient to telephone the hospital.

IMMEDIATE EFFECT OF THE DRUG

The general effect of the drug was to produce at first a number of somatic symptoms such as headache, palpitation, nausea, chilliness, numbness, passing on to a stage of heightened awareness of all the senses, even to a delusionary-hallucinatory state, and often accompanied by a re-experiencing of long-forgotten childhood memories, together with an alteration in body image back to the age of the experience. These memories may cause emotional upset and abreaction in

the patient, or may leave him unaffected. The painful memories can be worked through and accepted, with the help of the psychiatrist present throughout the whole of the reaction, and, since consciousness remains intact, the original experience can be understood and re-experienced in an atmosphere of security.

The transference relationship is also frequently strengthened, and enables the patient to relive early parental relationships and gain considerable insight into his emotional problems thereby.

During the experience the patient may be so far withdrawn from reality as not to be able to communicate his experience to the psychiatrist unless forced to do so, but can easily remember it and communicate later. From my observations, the contents of the fantasies have been found to have value and meaning for the patient. The evidence of this is shown by his feeling of conviction that this experience has been of great importance and has removed some unconscious fears, resulting in an increase of confidence.

EXAMPLES

Case 1

A woman aged 27, married six and a half years, had not consummated her marriage due to panic attacks, nausea, vomiting and a choking feeling in her throat as soon as her husband approached her. She had been examined gynæcologically under an anæsthetic and found to be physically normal. She had a rigid, withdrawn personality, was efficient and obsessional about her work and had a great desire to have a baby. There was a history of being raped by an elderly man when the patient was five years old, but no memory of this could be recalled. Under L.S.D., the patient continuously saw an elderly man in a black homburg hat and a long black coat, whom she did not recognise as anyone previously known to her. After the fifth treatment, however, she suddenly recollected the doctor who attended her when she was five years old after the raping incident. She looked this doctor's name up in the telephone directory and went to his surgery at the other side of London. He remembered her and the case, and told her that she had not been damaged or penetrated physically at all, but there was only some soiling of her clothes. The patient had been ordered antiseptic baths for two weeks following the incident, and all her life since had had a washing obsession and had changed her underclothes three times a day. Now that the truth was known to her about the incident, she felt immensely relieved and no longer tainted, and for the first time was able to have intercourse with her husband. Without the vision of the man in the black coat and hat she could not have recovered the facts of the early incident, since previous abreaction under pentathol had not achieved this for her. She also gained great insight under L.S.D. and saw herself as having previously rejected the feminine role.

Case 2

A married woman aged 29, an asthmatic from five years old, now suffered from general anxiety symptoms, e.g. palpitations, headache, insomnia, lack of concentration, fear of people and of going out on her own. She had been unable to earn her own living and had spent many years having treatment both as an in-patient and an out-patient in hospital with no success. She was given L.S.D., and on the second occasion she experienced a return to three years old and saw her father coming into the room and holding a pillow over her face and trying to smother her. She screamed and shouted for her mother, who came into the room in time to save her. This was a terrifying experience, as the patient had been very attached to her father and always sided with him against her mother.

At the next L.S.D. treatment she again experienced being in her cot and saw her father looking at her with a murderous look in his eyes. She screamed again and again, and experienced acute fear for over an hour. Later she came to realize that her father had never liked her, because she was small, feminine and always ill, and he had wanted a boy. She was able to feel some aggression towards her father for the first time, and saw the cause of her asthma to lie in the repressed rage against her father when he tried to smother her with the pillow. With the release of the neurotic tie to the father, the relationship to her husband improved considerably, and her frigidity symptom disappeared.

Without the aid of L.S.D. it was impossible for this patient to recover the early memories, since the repressions were too rigid; and though the uncovering of them was very distressing to the patient, the help of the transference relationship to the therapist present during her experience made it possible to abreact her fear, and later her hostility towards her father, and then accept the pain of his not wanting her, which had been impossible when she was three years old.

Case 3

A young married woman aged 30 had three children, aged 12, 9 and 6, by two husbands with each of whom the first child was born before marriage. The sexual life was immature and on an exhibitionist level, with no real object-relationship on the patient's part. The patient had been an alcoholic for ten years and had twice attempted suicide, following which she had each time been given a course of E.C.T. and psychotherapy. She then attempted suicide a third time and was unconscious for thirty-six hours, resulting in treatment in a general hospital and finally a prison sentence of three months. After one month, however, she was released for medical treatment, and given a course of L.S.D. With the first treatment she brought back the memory of her husband attempting to strangle her, and this experience was later confirmed by the husband. In later treatments she recollected cruelties she had experienced in an orphanage where she was placed at the age of five after her mother's death. With each experience she developed violent stomach pains and vomiting, writhing about in agony and screaming. When she had abreacted this on many occasions she was then able to recapitulate the various punishments she had received in the orphanage, and relive the violent aggressive feelings she had towards the matron. Later she came to understand her lack of sexual feeling as due to the unresolved mother relationship with an exaggerated exhibitionistic response to the opposite sex. Gradually, however, she overcame her emotional immaturity and made a good adjustment to her husband in spite of the fact that he had been unfaithful to her while she was in prison.

The reliving of the painful experiences under L.S.D. enabled the patient through the guidance of the analyst to reduce the masculine protest and accept the domestic situation.

Case 4

A girl aged 26 suffered from congenital spastic paraplegia, speech impediment and mental deficiency, accompanied by hysterical behaviour and a rigid toilet obsession, preventing her using any toilet outside her own home. This patient underwent six L.S.D. treatments, during which she had an increase in sexual sensation and experienced a number of visual images of naked people. Gradually the content of these figures had great meaning for the patient, who had always shown unsatisfied curiosity about sex matters which now she was able to discuss for the first time. The figure of her father predominated, and

the memory of him helping her in the toilet as a young child came back very vividly, together with the fantasy of having shared the toilet pan with him in a symbolic erotic relationship. This fixed her unconscious incest wishes to the father and was the cause of her guilt feeling, preventing her from using any other than her father's toilet. Once this was understood through the series of visual images, a tremendous emotional release was obtained which brought about the weakening of the habit and eventually enabled her to apply for employment which might necessitate her being away from home most of the day. No insight had been achieved in previous psychotherapy, but the visions with accompanying abreaction enabled her to obtain this.

EXAMPLE OF CASE SHOWING NO IMPROVEMENT UNDER L.S.D.

A man of 36 was suffering from a severe tension state and pains in his head and back for the past three years. Recently his condition had been getting worse, necessitating his giving up his job.

He had four L.S.D. treatments and during the first two he became much more accessible and communicative, and related his condition to the time when he was in Korea and a shellburst caused a weight of earth to come down on his back. He had been taken to hospital, was X-rayed and no abnormality found, and at that time he suffered no pain. On his return home he resumed his former employment as an electric cable engineer, but after a few months he felt exhausted and developed pains in the head and back. Under L.S.D. he also remembered he had lost his girl friend, who jilted him for another man, but he felt no anger about this, only disappointment, although he had never cared for any other girl. Further L.S.D. failed to bring out his repressed feelings and he gained no insight into his condition, while his tension and pains became more severe, so that treatment was terminated. This failure was due to the patient's inability to tolerate and accept his repressed aggressive feelings, and he could only express them unconsciously in the form of physical symptoms.

CASES NOT IMPROVED

Five out of the fifty cases treated showed no improvement. Two of them had a violent reaction on their first and second treatments, thus rendering them unsuitable for day-patient treatment, an underlying psychotic trend being suspected. Three others were long-standing obsessional neurotics, who improved to start with, and then showed an intolerance and inability to deal with the unconscious material that was revealed, and reverted back to their original behaviour patterns.

The remaining forty-five cases all showed some improvement: twenty-five slightly improved, fifteen greatly improved, and five recovered. The criteria for these various groups are as shown in the table.

A follow-up of the cases after two years showed that one obsessional, one sexual neurosis and seven chronic tension cases had relapsed, but only one of these had done so while having treatment, the remaining eight being unable to continue treatment.

DISCUSSION

The therapeutic effect of L.S.D. would appear to be in the reliving of early experiences, particularly if accompanied by release of repressed feeling. If no feeling is present, then the experience may have little effect at the time and become easily forgotten, or it may be retained in consciousness and bring about meaning and insight to the patient later on. If the patient is not ready to receive the experience, then it may precipitate a psychosis, but the presence of the

L.S.D. DAY-PATIENT THERAPY IN A DAY HOSPITAL

	Total No. of Patients	Code letter of Patient	No. of Treatments	Dose, mgm.	Duration of illness in years	RESULTS							
						Recovered		Greatly Improved		Slightly Improved		Not Improved	
						Individual	Total	Individual	Total	Individual	Total	Individual	Total
OBSESSIONAL	19	A	14	68–200g	8			+					
		B	4	40–100g	10			+					
		C	6	50–90g	8					+			
		D	9	50–130g	10			+					
		E	6	50–150g	16							–	
		F	9	50–85g	16					+			
		G	6	50–125g	14					+			
		H	3	60–100g	18		**1**		**6**	+	**10**		**2**
		I	18	60–210g	7½			+					
		J	9	50–130g	16			+					
		K	9	50–225g	12					+			
		L	2	50–450g	12					+			
		M	9	40–130g	14	+							
		N	9	40–60g						+			
		O	8	45–60g	6					+			
		P	6	50–130g	10			+					
		Q	3	50–130g	5							–	
		R	2	50–60g	8					+			
		S	3	25–80g	9					+			
PSYCHOPATHS	6	A	10	50–100g	14	+							
		B	2	50–35g	6					+			
		C	7	40–100g	12	+							
		D	4	50–90g	10	+	**3**		**2**		**1**		
		E	10	50–150g	16			+					
		F	9	50–100g	15			+					
SEXUAL NEUROSIS	3	A	5	35–100g	10					+			
		B	12	75–195g	11			+	**1**		**2**		
		C	20	75–190g	11					+			
CHRONIC TENSION STATES	22	A	4	60–150g	4					+			
		B	7	50–180g	7	+							
		C	6	75–100g	16					+			
		D	6	70–160g	8					+			
		E	3	40–80g	2							–	
		F	7	50–100g	5			+					
		G	9	50–85g	16			+					
		H	3	50–70g	10		**1**		**5**	+	**14**		**2**
		I	4	50–95g	10					+			
		J	2	40–80g	6					+			
		K	3	50–100	16					+			
		L	2	50–40g	10					+			
		M	3	50–70g	7					+			
		N	11	50–75g	8			+					
		O	10	50–85g	5			+					
		P	7	50–70g	10					+			
		Q	13	45–100g	9			+					
		R	6	50–65g	12					+			
		S	7	40–100g	18					+			
		T	3	40–80	5							–	
		U	2	50–80g	4					+			
		V	2	50–75g	6					+			
TOTAL	50						**5**		**14**		**27**		**4**

Recovery.—Denotes a radical change in personality, with stable integration, and good adaption sexually, socially, and at work.
Much Improved, a change of attitude with greater insight, social adaption, and fitness for work.
Slightly Improved, some increase in confidence and insight, but no real stability.
Not Improved, those showing probable underlying psychotic trend where no improvement has been obtained.

psychiatrist helps him to act out and work through the experience in an environment of security not present at the original experience.

The question of the authenticity of the early experiences has raised many criticisms, since it is stated that memory cannot go back as far as birth or pre-birth because the cortex of the brain does not develop until much later. It has, however, been shown by Elkes and his co-workers that L.S.D. has a selective action on certain parts of the mid-brain and medulla, which are present even in the embryo, and it is therefore possible that a restimulation of these cells could be translated into the original experience through the adult brain with its later cortical development. In every case we have made careful efforts to confirm, as far as possible, through friends and relatives, every statement and early experience related by the patient, and the corroboration has been extremely high. It appears that the authenticity of these early memories is further supported by two other facts: first, the minute details described by the patient, and, secondly, the therapeutic effect achieved.

The results, therefore, obtained by L.S.D. treatment would appear to substantiate Freud's theory that certain neurotic disorders are caused by repressed emotional conflicts, the earlier the conflict, the more severe the neurotic disorder, the resolution of the conflict being achieved by bringing the repressed unconscious factors up to consciousness with liberation of effect.

The long-standing neurotic patient from the ranks of the obsessionals, psychopaths, sex deviants and chronic tension states appeared to be suffering from very early emotional conflicts previously unreachable by other therapeutic methods but now accessible with the help of L.S.D. supported by psychotherapy. If, in spite of continued psychotherapy, these experiences cannot be accepted and assimilated by the conscious mind, then the patient may revert to his original behaviour. If this can be achieved with the help of the analyst, then a tremendous feeling of confidence and poise may follow, for the deepest unknown fears are now known, and the personality freed to develop and integrate.

SUMMARY

An account has been given of the treatment of fifty specially chosen chronic neurotic patients with "L.S.D. 25" in a day-hospital setting.

The safety of the method was ensured by the use of an inhibiting agent, Largactil, in 50 mgs. to terminate the L.S.D. effect, followed by further doses if necessary.

Special precautions were taken regarding transport and overnight conditions for the patient following treatment.

Proof of the safety of the method lies in the fact that no accidents were experienced, and only once was it necessary for one patient to telephone the hospital between treatments.

The results obtained were: forty-five out of fifty improved; of these, five recovered, fifteen were greatly improved, and twenty-five slightly improved. The greatest improvement rate was observed in psychopathic patients, and the least amongst the chronic tension states.

A follow-up two years later showed that nine cases had relapsed, mainly from the chronic tension class, when they had been unable to continue with psychotherapy following the L.S.D. treatment.

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BIBLIOGRAPHY

Anderson, E. W. M., and Rawsley, K.: *Nschr. Psychiat. Neurol.*
Becker, A. N.: *Wein, Z. Nervenk.*, 1949, 2, 402.
Condrau, G.: *Acta. psych. neurol. Scand.*, 1949, 24, 9.
De Giacomo: Paper read at Symposium on "Chinic Creblale" of International Congress of Psychiatry, Paris, September 18th to 27th, 1950.
De Shon, H. J., Rinkel and Soloman, H. C.: *Psychiat. Quart.*, 1952, 26, 33.
Fischer, R., Googi, J., and Weber, R.: *Schweiz. med. Waschr.*, 1951, 81, 817.
Forrer, G. R., and Golder, R. D.: *Arch. Neurol. Psychiat.*, 1951, 65, 581.
Frederking, W.: *J. nerv. ment. Dis.*, 1955, 121, 262.
Liddell, D. W., and Weil-Malherbe, H.: *J. Neurol. Psychiat.*, 1953, 16, 7.
Meyer-Gross, W., McAdam, W., and Walker, J.: *Nature* (London), 1953, 168, 827.
Rinkel, N., De Shon, H. J., Hyde, R. W., and Soloman, R. C.: *Amer. J. Psychiat.*, 1952, 108, 572.
Sandison, R. A., Spencer, A. H., and Whitelaw, J. D. A.: *J. ment. Sci.*, 1954, 100, 491.
Savage, C.: *Amer. J. Psychiat.*, 1952, 108, 896.
Sloane, B. S., and Doust, J. M. L.: *J. ment. Sci.*, 1954, 100, 129.
Stoll, A., and Hofman, A.: *Helv. Chim. Acta.*, 1943, 26, 944.
Stoll, A., Hofman, A., and Troxler, F.: *Helv. Chin. Acta.*, 1949, 32, 506 (Fasc. 2).

PERSISTENT SENILE CONFUSION: STUDY OF 50 CONSECUTIVE CASES

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INTRODUCTION

UNDER the auspices of the Nuffield Provincial Hospitals Trust, an investigation is in progress at the Cowley Road Hospital, the Geriatric Unit of the United Oxford Hospitals, into the care and treatment of patients with persistent senile confusion. Though to reverse or even to arrest the progress of mental deterioration may be too hopeful in our present state of knowledge of the underlying pathology, it should be possible to discover methods of treatment to enable mentally senile people to lead a reasonably pleasurable and dignified existence in a suitably adjusted environment.

Before experiments were devised, it was felt that more information was needed about the exact state—physical and psychological—of patients regarded as suffering from persistent senile confusion (senile dementia), together with an assessment of their response to present methods of treatment.

Between February 1st and June 30th, 1955, 268 patients (99 men and 169 women) were admitted consecutively to this hospital over the age of 65 and