LSD-ASSISTED PSYCHOTHERAPY AND THE HUMAN ENCOUNTER WITH DEATH

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I. INTRODUCTION

> My own experience with Maria convinced me that the living can do a great deal to make the passage easier for the dying, to raise the most purely physiological act of human existence to the level of consciousness and perhaps even of spirituality.

Aldous Huxley wrote these words after being with his first wife as she died of cancer in 1955. During her final hours, he employed a hypnotic technique to remind her of spontaneous peak experiences she had known during her life, thereby seeking to guide her toward similar states of consciousness as the death process occurred. In his novel *Island,* he describes a similar scene during the death of his character Lakshmi. Also in this novel, he writes of the "moksha-medicine" that gives inhabitants of the island a mystical vision that frees them from the fear of death and enables them to live more fully during their everyday lives. To those who knew Aldous Huxley and have read his works (Huxley, 1963a,b), there is no doubt that, in Huxley's mind, "moksha-medicine" was a psychedelic compound similar to mescaline, psilocybin, and LSD. The seriousness with which he envisaged this futuristic scene is well portrayed by his second wife, Laura, in her description of Huxley's request for LSD a few hours before he himself died of cancer in 1963 (Huxley, 1968).

Aldous Huxley and fear of death

[1]Respectful acknowledgement is made of Walter Pahnke's pivotal enthusiasm, dedication, and former efforts in this research endeavor. Appreciation also is expressed to the following persons for their contributions: Charles Savage for his encouragement and medical support; Thomas Cimonnetti for his treatment of some patients; Ilse Richards and Nancy Jewell for their sensitive participation as nurses and cotherapists; Helen Bonny for her help as music therapist and research assistant; Robert Blatchley and Winifred Wilkinson for their direction and execution of the data analyses; and Adolph Ulfohn and other members of the Sinai surgical staff for their cooperation.

At the time of Huxley's death, studies with LSD as a facilitating agent in the psychotherapeutic treatment of alcoholics were in their early clinical stages in the research department of the Spring Grove State Hospital (later to become the Maryland Psychiatric Research Center), under the direction of Sanford Unger and Albert Kurland. It was two years later, after studies with alcoholics and neurotics were well underway, that the attention of the Spring Grove research team first was focused on the needs of terminal cancer patients. It began in an unforeseen and tragic manner. At that time, a middle-aged female staff member, who herself was not involved in the research with psychedelic drugs, developed carcinoma of the breast associated with marked physical and emotional distress. On the basis of the relief of depression and anxiety frequently observed in psychiatric patients following LSD-assisted psychotherapy, a member of the psychotherapeutic team, Sidney Wolf, suggested that the psychedelic treatment procedure might prove helpful to this woman.

pioneering LSD research on terminal cancer patients

At that time, the information available on the use of psychedelic drugs in the treatment of persons with cancer was limited to two sources. In 1963, Eric Kast of the Chicago Medical School conducted the first of his pioneering experiments using LSD with terminal cancer patients. In a series of articles (Kast, 1963, 1964, 1966), he reported that LSD not only had a significant analgesic effect superior to dihydromorphinone (Dilaudid) and meperidine (Demerol), but also in some patients relieved depression, improved sleep, and lessened apprehension concerning death. Subsequently, Sidney Cohen in 1965 was able to confirm Kast's findings in a study involving only a few patients. He concluded his case history of a single terminal cancer patient by expressing his hope that "LSD may one day provide a technique for altering the experience of dying" (Cohen, 1965).

initial clinical LSD-assisted psychotherapy at Spring Grove

These very limited but encouraging observations, plus the extensive clinical base of experience with LSD-assisted psychotherapy at Spring Grove where almost 200 psychiatric patients had then been treated without any serious adverse consequences or sequelae, led to a decision to offer the treatment to this staff member. After consultation with her family, she accepted and began a brief period of preparatory therapy with Sidney Wolf. The approach at Spring Grove differed considerably from that of Kast, who had administered LSD as a chemotherapeutic procedure, sometimes even without forewarning the patients. In the treatment plan at Spring Grove, the primary objective was to facilitate the

occurrence of a psychedelic peak experience in the context of brief but intensive psychotherapy. The outcome of this pioneering experiment, published in detail elsewhere (Pahnke, et al. 1970), was encouraging and resulted in a decision to investigate further this avenue of research.

The next three cases were treated by Sanford Unger at Sinai Hospital in Baltimore, where a group of unusually open-minded and interested surgeons, headed by Louis Goodman, offered their cooperation. Walter Pahnke then took charge of the treatment program at Sinai Hospital and, in association with William Richards, continued the research during the next five years. Since the tragic death of Walter Pahnke in July, 1971, Stanislav Grof has accepted medical responsibility for further research explorations in this direction. Currently, Grof and Richards are performing a controlled study with financial support from the Babcock Foundation. The aim of the new research is to obtain more conclusive data in some of the areas to which the following pilot study has drawn our attention. As of July, 1972, our total experience is based on the psychedelic treatment of 60 cancer patients, including those in the study described below, early pilot patients treated prior to instigation of the rating system, and patients included in an ongoing study with DPT.

brief account of research development

II. LSD-ASSISTED PSYCHOTHERAPY WITH CANCER PATIENTS: A PILOT STUDY

A. Methodology

1. Selection of the Patients and Description of the Sample. Upon referral by Louis E. Goodman, Head of the Oncology Clinic at Sinai Hospital, or by other interested physicians, each patient was interviewed by a psychiatrist from the Maryland Psychiatric Research Center. Primary criteria for selection were as follows: (1) the patient must be suffering from some degree of physical pain, depression, anxiety, or psychological isolation associated with his malignancy; (2) he must have a reasonable life expectancy of at least three additional months; (3) no evidence of brain metastases or organic brain disease must be apparent; and (4) the patient must not manifest gross psychopathology or appear pre-psychotic. The potential benefits and risks inherent in this form of psychotherapy were discussed openly with the patient and his family, and informed, written consent was obtained.

primary criteria for selection of therapy subjects

The sample included 31 patients of whom 8 were male and

research sample

23 were female. Their ages ranged from 35 to 81, the mean age being 54.74 years. Twenty-four patients were married, 2 were single, 2 widowed, and 3 divorced. Twenty-six of the patients were Caucasian; 5 were Negro. In terms of religious background, 16 were Jewish, 14 were Protestant, and 1 was Catholic. The time that had elapsed since the first diagnosis of cancer ranged from 13 years to 1 month, with a mean of 34 months. According to the three stages of disease suggested by Weisman, (Weisman, 1966) 1 patient was classified in Stage I, "The initial stage of reduced alternatives"; 20 patients qualified for Stage II, "The intermediate stage of middle knowledge"; and 10 patients fell into Stage III, "The terminal stage of counter control and cessation". Data for individual subjects, including the site of primary cancer, the extent of metastases, and the average consumption of narcotics per day before LSD therapy in equivalent units are presented in Table 1.

phases of therapeutic treatment

2. *Therapeutic Procedure.* The treatment procedure consisted of three mutually interrelated phases: (1) a series of drug-free interviews in which rapport was established and the patient was prepared for the drug session, (2) the LSD session itself, and (3) several subsequent drug-free interviews for the integration of the session experiences. The preparation usually lasted from 6 to 12 hours (mean 9-¾ hours) extended over a period of 2 or 3 weeks. Since a good therapeutic relationship and an atmosphere of basic trust seem to be the most important variables in successful psychedelic therapy, considerable effort was exercised during the preparatory period to establish close rapport and give the preparatory sessions the quality of genuine human encounter. The actual psychotherapeutic work generally focused on the present situation, including unresolved issues between the patient and family members; problems of confronting and accepting diagnosis, prognosis and death; and significant intrapsychic conflicts that became evident as the therapeutic relationship developed. No sustained attempts were made to probe into deep conflict material or traumata, in contrast with our usual procedure with alcoholics, narcotic drug addicts, and neurotic patients. Primary emphasis was placed not upon death but upon living whatever time remained in as full and meaningful a manner as possible. Many of the discussions with the patients tended to revolve about philosophical issues and current interpersonal relationships with significant figures in their lives. This necessitated the involvement of the family members as much as possible in order to open up a greater degree of communication. Families were seen both with and without the patient. They were given a

primary emphasis on living fully

chance to discuss their own feelings about the approaching death and were encouraged to increase their interaction on as many levels as were appropriate in order to decrease the psychological isolation usually experienced by such patients. Their fear of upsetting the patient and the fear of death itself usually were significant issues. Our usual practice was not to confront patients indiscriminately and routinely with the fatal outcome of their illness. It was important, however, for the therapist to be willing to discuss issues of diagnosis and prognosis when a patient was ready for such discussions and to be on guard lest his own anxiety concerning such an encounter unconsciously lead him to give nonverbal cues to the patient that the subject was not to be discussed. In charting the course through this tenuous situation, the therapist relied on his intuitive sensitivity. At least one week prior to the administration of LSD, all phenothiazine medication was discontinued. There was no interruption of narcotic, antibiotic, cytostatic, and hormonal medication.

reduction of psychological isolation

When major issues had been explored and a good therapeutic relationship had been established between the patient and the therapist, plans were made for the actual psychedelic session. At this time, if the patient had been in a double room, he was transferred into a private room. An attempt was made to make this setting as supportive as was feasible within the hospital environment. Relatives often were encouraged to bring in some fresh flowers. Occasionally photographs or works of art that had special meaning to the patient also were brought into the room. In a special interview on the day immediately preceding the LSD session, the patient received specific and comprehensive instructions concerning the range of altered states of consciousness induced by LSD and means of responding constructively to them. The specially trained psychedelic nurse or cotherapist, who assisted the therapist during the LSD treatment, visited the patient to establish basic rapport and mitigate any anxieties about the routine nursing needs for which she would take responsibility during the session. Portable stereophonic equipment was set up, and the patient was allowed to become accustomed to the experience of listening to music with headphones and an eyeshade, both of which would be employed during the hours of drug action on the following day. Usually the therapist met with the members of the patient's family as a group to assist them in understanding the rationale, procedure, and goals of the LSD treatment; to allay some of their anxieties, especially those prompted by articles they had read about the use and abuse of psychedelic drugs in nonmedical circles; and to promote group cohesiveness

preparation for session

TABLE 1
BASIC MEDICAL CHARACTERISTICS OF THE GROUP OF CANCER PATIENTS TREATED BY LSD-ASSISTED PSYCHOTHERAPY

CASE	AGE	SEX	PRIMARY CANCER	METASTASES	TIME SINCE FIRST DIAGNOSIS	STAGE OF DISEASE[a] (I TO III)	NARCOTICS (AVERAGE AMOUNT PER DAY, PRE-LSD)[b]
C-1	57	F	Breast	Spine	11 yrs.	II	5.2
C-2	58	F	Breast	Skin of chest wall	3 yrs.	II	0
C-3	51	F	Lung	Abdomen	2 yrs.	II	6.1
C-4	57	M	Right biceps	Generalizer, Lung, liver, spine	13 yrs.	III	8.0
C-5	46	F	Rectum	Lower abdomen	1 mo.	II	4.2
C-6	47	M	Lung	Liver	2 mos.	II	0
C-7	57	F	Colon	Liver, lung	1 yr.	III	1.9
C-8	56	M	Rectum	Abdomen	1 yr.	II	1.0
C-9	57	F	Breast	Pelvis, lungs, ribs	5 mos.	II	0
C-10	46	M	Kidney	Lung	5 mos.	III	4.0
C-11	60	F	Breast	Axilla	4 yrs.	III	2.0
C-12	57	F	Breast	Spine, liver, bone	6 yrs.	II	6.0
C-13	81	M	Paranasal epidermoid	Skull bones (orbit)	2 yrs.	II	0
C-14	35	F	Ovary	Abdomen	2 yrs.	III	0.5
C-15	58	F	Unknown	Lungs	1 yr.	III	1.9
C-16	48	F	Breast	Pulmonary edema	1 yr.	III	5.2
C-17	72	M	Lungs	Bone	1 yr.	III	6.7

C-18	81	F	Vulva	Inguinal and iliac nodes	2 yrs.	III	5.0
C-19	37	F	Breast	None	1 yr.	I	0
C-20	42	F	Breast	Bone, skin	3 yrs.	II	2.0
C-21	63	M	Lungs	Pleural cavity	9 yrs.	II	1.7
C-22	62	F	Breast	Lungs	2 yrs.	II	1.0
C-23	53	F	Rectum	Abdomen	1 yr.	II	0.5
C-24	47	F	Breast	Spine	3 yrs.	II	0
C-25	70	M	Undifferentiated	Prostate, bone	2 mos.	III	1.6
C-26	39	F	Breast	Ovaries, lungs	1 yr.	II	4.0
C-27	58	F	Breast	Bone	5 yrs.	II	2.4
C-28	44	F	Breast	Lung, adrenal, bone	6 yrs.	II	3.9
C-29	50	F	Breast	Bone	1 yr.	II	0
C-30	59	F	Colon	Same	1 yr.	II	2.7
C-31	49	F	Colon	Liver, bladder	4 yrs.	II	2.5

[a]Weisman's Classification of Stages:
Stage I—The initial stage of reduced alternatives
II—The intermediate stage of middle knowledge
III—The terminal stage of counter control and cessation

[b]A unit of 1.0 was assigned to each of the following dosages: Numorphan, 1 mg. Dilaudid, 2 mg; Demerol, 50 mg; Codeine, 30 mg; Morphine, 8 mg; Methadone, 5 mg; Pantopan, 10 mg; Percodan, 1 tablet.

and freedom of affective expression among family members. Generally the therapist insisted that any family members who wanted to be present with the patient on the evening following the LSD treatment must be present for this preparatory meeting.

On the morning of the session day, the regular hospital staff gave the patient breakfast and routine care earlier than usual, so that when the therapist and psychedelic nurse arrived the session could begin without undue delay. As has become a tradition since our early work with LSD and alcoholics, the nurse usually gave the patient a single, red rosebud when she arrived. A sign was placed on the door to promote the patient's sense of security by preventing interruptions during the session and by ensuring confidentiality. The LSD was usually administered intramuscularly. The dosage was determined by the therapist on the bases of the patient's psychological defensiveness and body weight, and ranged from 200 to 500 micrograms, with a mode of 300 micrograms and a mean of 323 micrograms.

criteria for LSD dosage

As the patient began to feel the effects of LSD, the eyeshade was put in place to help him focus his attention on the internal phenomena that were beginning to unfold, and to prevent distraction from external stimuli. The stereophonic headphones also were put in place, and throughout most of the day, carefully selected classical music was played to help channel affective expression, facilitate relaxation, and provide an enhanced sense of continuity during the various altered forms of consciousness that would occur (Bonny and Pahnke, 1972). The therapist and nurse remained with the patient throughout the LSD session. When appropriate, emotional support was given by holding the patient's hand and by verbally encouraging the patient to confront whatever material might be emerging and to express his feelings freely. Nonverbal support was employed whenever possible in preference to verbal interaction. At intervals during the session, the therapist removed the headphones and eyeshade and briefly "checked in" with the patient. During these periods, the patient was given an opportunity to express verbally any insights or feelings he cared to communicate. As a whole, however, the patient was encouraged to "collect experiences" during the session and told that there would be plenty of time to discuss them in the evening and during the following days. When appropriate, the patient was encouraged to explore external stimuli such as flowers or paintings during these periods. The rosebud sometimes became a helpful focus of attention and meditation, and not infrequently subjectively

purpose of eyeshade

facilitating effects of selected classical music through stereophonic headphones

emotional support throughout session

instructions to patients

seemed to pulsate or open, as in time-lapse photography, drawing the patient within its center, and onward into new forms of experience. Occasionally, especially in the latter hours of the session, family photographs were employed to help elicit feelings and memories about specific persons, including the patient himself, and further to resolve conflictual personal material. Subjectively, the photographs often were described as "coming to life."

visitation procedure

The effects of LSD usually lasted between 8 and 10 hours. As the patient returned to his usual state of consciousness, family members were permitted to visit in accordance with the judgment of the therapist. Not infrequently, significant progress in family therapy occurred at this time. In special circumstances, young children also were permitted to visit briefly with the patient. The visitation period was terminated by the therapist when it seemed appropriate, and some additional time was usually spent in interaction with the patient alone. The average amount of time spent with the patient by the therapist on the session day was 11-¼ hours. Orders were written for sleeping medication, if needed by the patient during the night following the session.

follow-up work

On the following day, and during the next week, the therapist helped the patient to integrate the experiences he had encountered during the session and to apply any insights gained to everyday living insofar as was possible. Each patient was asked to write out or dictate a phenomenological account of his experiences during the session in as much detail as possible. Although the experimental design allowed for repeated sessions, 28 of the 31 patients received LSD on one occasion only; the remaining 3 patients had 2, 4, and 6 sessions respectively, spread over several months.

primary emphasis on ratings by external observers

According to the original research design, each patient was expected to complete the POI and MMPI before and after treatment. However, this turned out to be a rather unrealistic expectation as these psychological tests require a degree of concentration that for many of the patients with cancer is rendered almost impossible by physical pain and exhaustion. As a result, primary emphasis had to be placed on ratings by external observers, rather than on psychological tests. For this purpose a special rating scale was developed by Pahnke and Richards (see figure 1). This instrument makes it possible to obtain values ranging from —6 to +6 reflecting the degree of the patient's depression, psychological isolation, anxiety, difficulty in management, fear of death, preoccupation with pain and, since its recent revision, denial

FIGURE 1

RATING SHEET FOR EMOTIONAL CONDITION OF PATIENTS

Name of Patient _____ Rating No. _____

Name of Evaluator _____ Date of Evaluation _____

Instructions: Please rate the emotional condition of this patient on each of the continua listed below (A-G). Circle the ONE number from -6 to +6 that best signifies your assessment of the present DOMINANT state of this patient on each continuum, using the following scale of INTENSITY:

0 - Point of Balance between the two ends of a continuum
1 - Very Slight
2 - Slight
3 - Somewhat
4 - Moderate
5 - Strong
6 - Very Strong or Extreme

If you are unable to obtain the information necessary to responsibly rate the patient on any continuum, place a question mark in front of the capital letter designating that particular continuum.

A.	DEPRESSION; Sadness; Despair	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	Sense of WELL BEING: Inner Confidence; Joy
B.	Psychological ISOLATION; withdrawal from warmth and depth in relating to others; Shallowness; Defensiveness	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	Psychological OPENNESS; warmth and depth in relating to others; Honesty; Genuineness
C.	ANXIETY; Apprehension; Tension	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	Sense of SERENITY; Security; Peace of Mind
D.	DIFFICULTY in medical management for all complaints	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	EASE in medical management for all complaints
E.	DENIAL of the imminence of physical death	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	ACKNOWLEDGMENT of the imminence of physical death
F.	FEAR OF DEATH	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	CALM acceptance of DEATH
G.	PREOCCUPATION with pain and physical suffering	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6	TOLERANCE of pain and physical suffering

of the imminence of death. Ratings with the use of this instrument were made one day before and three days after treatment by attending physicians, nurses, family members, LSD therapists and cotherapists and, after preliminary funding, by a psychiatric social worker who was hired as an independent rater. In addition, the amount of physical pain and/or pain tolerance was assessed on the basis of the amount of narcotics required in the management of the patient. The dosages of various narcotic drugs were unified according to the Narcotic Scale of Equivalent Dosages (see Table 1).

use of pre- and post-session tests for clinical assessments

3. Data Analysis. The effectiveness of the psychedelic treatment program was evaluated by performing statistical tests of significance on the pre- and post-session assessments of the clinical condition of each patient as reflected (1) by the values assigned to him by various raters on the rating

scale and (2) by the amount of narcotics consumed. The computations of the ratings were done separately for each of the individual subscales and also for representatives of each of the six categories of raters.

In addition, a global index was obtained for each of the categories of distress by pooling the ratings of all the raters. Therapeutic improvement then was assessed by comparing the global indexes from pre- to post-treatment. For gross assessment of the degree of improvement, one global index of the clinical condition was developed for each patient by collapsing the data from all individual raters for all the clinical categories measured.

B. Results

clinical impressions supported by results of ratings

The clinical impressions of the often dramatic effects of psychedelic therapy on the emotional condition of cancer patients were supported by the results of ratings. Table 2 shows the differences between mean scores of ratings that reflect the clinical condition of the patients before and after psychedelic therapy. The computations were made separately for various categories of raters. As the table indicates, all the differences had a positive direction. Out of a total of 36 differences of mean scores, only 3 did not show statistical significance or a strong positive trend. Many of the differences were significant at the 0.001 level.

pilot nature of research

In evaluating the data, it is necessary to take into consideration the pilot nature of this research; there was no concomitant control group, and different combinations of raters were tried during the course of the study. Different numbers of raters and changes in their constellations during various stages of research account for the dissimilar *N*s in the table. For the above reasons, the statistical results should be considered as illustrations or indications of the therapeutic efficacy of psychedelic treatment with terminal cancer patients, rather than as conclusive statistical proof.

Table 3 shows the difference between mean global indexes for separate categories of emotional and physical distress. These indexes were obtained by pooling the ratings from all raters who evaluated the patients. As indicated by the table, all the differences were significant at the 0.001 level.

Table 4 shows the difference between the means of the pre- and post-treatment global indexes. These indexes were ob-

TABLE 2

DIFFERENCES OF MEAN SCORES OF RATINGS REFLECTING THE EMOTIONAL AND PHYSICAL CONDITION OF PATIENTS BEFORE AND AFTER PSYCHEDELIC THERAPY

1. DEPRESSION (MEAN RATING SCORES)

RATER	N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
Therapist	31	−3.42	+1.06	4.48	10.69	.001
Co-therapist	20	−3.40	+1.20	4.60	7.72	.001
Physician	28	−3.57	+0.39	3.96	6.60	.001
Nurse	27	−1.78	+0.56	1.22	1.70	n.s.
Family member	26	−2.88	+0.50	3.38	4.50	.001
Independent rater	7	−3.43	−0.86	2.57	2.52	.05

2. ANXIETY (MEAN RATING SCORES)

RATER	N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
Therapist	31	−3.52	+1.16	4.68	9.19	.001
Co-therapist	20	−3.50	−0.05	3.45	5.92	.001
Physician	28	−3.29	+0.25	3.54	5.86	.001
Nurse	27	−2.59	−0.37	2.22	2.99	.01
Family member	26	−1.85	+0.85	2.69	3.27	.01
Independent rater	7	−3.43	−1.29	2.14	1.95	.10

3. PAIN (MEAN RATING SCORES)

RATER	N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
Therapist	31	−1.52	+1.42	2.94	3.89	.001
Co-therapist	19	−2.84	+1.21	4.05	5.31	.001
Physician	27	−3.52	+1.07	4.59	6.14	.001
Nurse	27	−1.67	+0.85	2.52	3.93	.001
Family member	26	−1.65	+1.31	2.96	3.57	.01
Independent rater	7	−3.14	+0.43	3.57	2.42	.10

4. FEAR OF DEATH (MEAN RATING SCORES)

RATER	N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
Therapist	23	−2.70	+2.61	5.30	9.53	.001
Co-therapist	16	−1.75	+0.81	2.56	2.82	.02
Physician	18	−2.17	+0.22	2.39	3.06	.01
Nurse	19	−3.42	+0.21	3.21	2.92	.01
Family member	18	−0.06	+1.89	1.94	1.83	.10
Independent rater	7	−2.71	−0.71	2.00	2.90	.05

5. ISOLATION (MEAN RATING SCORES)

RATER	N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
Therapist	31	−0.55	+2.52	3.06	7.74	.001
Co-therapist	20	−1.30	+2.60	3.90	6.43	.001
Physician	28	−0.21	+1.61	1.82	2.49	.02
Nurse	27	−0.15	+0.85	1.00	2.01	.10
Family member	26	+0.65	+2.96	2.31	3.13	.01
Independent rater	7	−2.29	+1.14	3.43	3.53	.02

6. MANAGEMENT (MEAN RATING SCORES)

RATER	N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
Therapist	31	−0.19	+1.71	1.90	3.53	.01
Co-therapist	20	−0.15	+1.05	1.20	1.72	n.s.
Physician	28	−1.86	+1.43	3.29	4.32	.001
Nurse	27	+0.07	+1.37	1.30	2.77	.02
Family member	26	+0.23	+1.58	1.35	1.54	n.s.
Independent rater	7	+0.29	+3.14	2.86	3.87	.01

TABLE 3

DIFFERENCES OF MEAN GLOBAL INDEXES REFLECTING THE EMOTIONAL AND PHYSICAL CONDITION OF TERMINAL CANCER PATIENTS BEFORE AND AFTER PSYCHEDELIC THERAPY

	MEAN GLOBAL INDEX					
	N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
1. Depression	31	−3.05	+0.43	3.48	10.05	.001
2. Anxiety	31	−2.94	+0.33	3.27	9.13	.001
3. Pain	31	−2.21	+1.06	3.26	7.32	.001
4. Fear of death	24	−2.22	+1.05	3.27	6.97	.001
5. Isolation	31	−0.40	+1.92	2.32	6.95	.001
6. Management	31	−0.50	+1.26	1.76	4.68	.001

TABLE 4

COMPARISON OF THE GLOBAL INDEXES REFLECTING THE EMOTIONAL AND PHYSICAL DISTRESS OF TERMINAL CANCER PATIENTS BEFORE AND AFTER PSYCHEDELIC THERAPY

N	PRE-	POST-	MEAN DIFFERENCE	t-SCORE	P
31	−1.96	0.96	2.92	9.80	0.001

TABLE 5
PERCENTAGE OF TERMINAL CANCER PATIENTS SHOWING IMPROVEMENT AFTER PSYCHEDELIC THERAPY

NUMBER	DESCRIPTION	PERCENT
9	DRAMATICALLY IMPROVED (Increase of the global index of 4 or more)	29.0%
13	MODERATELY IMPROVED (Increase of the global index between 2 and 4)	41.9%
9	ESSENTIALLY UNCHANGED (7—Insignificant increase of the global index between 0 and 2) (2—Insignificant decrease of the global index between 0 and 1)	29.0%

tained by pooling the ratings from all raters relative to each of the patients and then collapsing the data also over the individual categories of distress. This procedure makes it possible to express the emotional condition of the patients by a single number. The differences between the pre- and post-treatment global indexes can be used as gross indicators of the overall improvement of the patients.

definition and degree of therapeutic success

The use of the global index makes it possible to estimate the percentage of therapeutic success. "Dramatic improvement" can be defined arbitrarily as increase of the global index of 4 or more points, and "moderate improvement" as a gain of between 2 and 4 points; patients who show an increase of less than 2 points, or an equivalent decrease, can be considered as "essentially unchanged." According to this definition, as indicated in Table 5, 9 patients (29.0%) showed dramatic improvement following psychedelic therapy, 13 patients (41.9%) were moderately improved, and 9 patients (29.0%) were essentially unchanged. Only 2 patients had a lower global index in the post-treatment period; in both of these patients, the decrease was negligible (—0.21 and —0.51 points respectively).

For the group of 31 subjects, the mean daily dose of narcotic medication changed from 2.58 units before LSD administration to 2.24 units afterwards. These figures yield a *t*-score of 1.10 that, although indicative of a positive trend, is not statistically significant. As this finding appears to be in conflict with the data from the ratings that indicate a highly significant decrease of pain, it will be analyzed in the discussion section of this article.

C. Two Case Histories

Many unique aspects of this treatment approach are submerged in the statistics that describe the sample as a whole.

Thus, the two case histories that follow are included to focus light upon some of the interesting facets of work with cancer patients that otherwise might pass unnoticed. They also illustrate the possible contribution of this form of psychotherapy to preventive medicine by illumining some of the potential benefits that may be experienced indirectly by members of patients' families. Both of the persons described below responded well to the treatment, although their respective LSD sessions were very different. Such optimal response to therapy is, of course, not typical of all subjects. Descriptions of other cases, including treatment failures, have been published elsewhere (Pahnke, 1969; Pahnke et al., 1969, 1970a,b).

CASE ONE

Patient C-20 was a 42-year-old, married, Negro mother of two sons, the younger of whom recently had graduated from high school. For the past ten years, she had worked as a group therapist with retarded children and, at the present time, continued to feel very dedicated to her job even though she had been unable to work for several months.

She first discovered a mass in her right breast three years before she was referred for LSD-assisted psychotherapy. Immediately following diagnosis, she underwent a radical mastectomy and post-operative radium treatments. She was told that she had cancer and appeared to accept her diagnosis without experiencing any noticeable degree of depression. A year later, however, when nodes appeared on the incision and she was given additional radium treatments, she became depressed and began to confront more fully the reality of her condition. The following year, she noticed a mass in her left breast and underwent another radical mastectomy. At about the same time, her uterus, ovaries, and tubes were surgically removed, and she was treated with testosterone. A year after her hysterectomy, the cancer had metastasized to the bone of her left hip and the skin of the right side of her neck, and she was rehospitalized. An adrenalectomy was attempted, but the operation could not be completed due to the extended growth of her cancer and difficulties in controlling bleeding. Chemotherapy with cytoxin was initiated and, in hopes of mitigating her pain and depression, she then was referred for LSD-assisted psychotherapy.

During eight hours of individual psychotherapy over a ten-day period preceding the date of LSD administration, she expressed the following outline of her problems. She preferred not to interact with people and wished they would not call her on the telephone or visit her in the hospital. She felt unattractive and sexually unacceptable to her husband, in spite of the re-

assurance he sought to give her. Besides insomnia, she was troubled by a constant dull ache that radiated throughout her back and occasionally became unbearable in spite of the narcotic medication (Dilaudid) that she received. She expressed ambivalence about her older son's plans to marry in the near future, stating that she felt especially close to this son and did not quite approve of his fiancee, not to mention a child that the woman had borne from a previous relationship. She also worried about her younger son and feared that he would not succeed in life as an adult. Another source of tension lay in interpersonal difficulties with an elderly aunt who was trying to help her husband during her hospitalization.

Religiously an inactive member of a Protestant church, she expressed a sense of belief in some kind of Supreme Being, but was uncertain about anything more specific. She was irked by the religious quibbling that she had experienced in interaction with some fundamentalist family members who disapproved of her nominal approach to the dogmas and customs of their particular churches. She was open to the possibility that life might continue in some form after death, but was not at all convinced that this would be the case.

The only problem from the past that she introduced into therapy was the death of her 31-year-old mother when she was twelve. The dominant concern in her mind during the funeral, she claimed, was how, as the eldest child in the family, she would care for her father and five younger siblings. During the past thirty years, she had continued to feel unresolved grief for her mother, an awareness that became especially acute during times of crisis. She especially missed her mother during her present illness. Relatives told her that her mother had died of pneumonia, but she believed it really was cancer. She described her life style as very similar to that of her mother.

Regarding the goals of therapy, she expressed hope that after LSD the pain would be sufficiently under control to enable her to walk and perhaps work around the house for a while. She also expressed hope that she would be able to return to work, at least for a short period of time, but this desire was not encouraged by her therapist.

On the morning of her session day, the patient was given an intramuscular injection of 300 micrograms of LSD. Approximately a half hour after the onset of the effects, she reported nausea and then exclaimed, "How can anyone expect me to hold it all in?" A brief episode of vomiting ensued, which she experienced as a psychological expulsion of repressed feelings as well as a loss of her breakfast. Her consciousness then shifted to her relationship with her husband, and she exclaimed, "Darling, you have been everything to me, lover, father, everything. How could you be all those things to me?

We have been genuine to each other. I want you there with me to the end."

Her attention then spontaneously shifted to each of her two sons. She affirmed an apparently newly discovered faith that her young son would succeed in life and cried about the doubts she had nourished that partially had undermined their relationship in the past. In asking herself why she had been so overprotective of her younger son, she recognized a previously unexpressed fear that this son would become homosexual like one of her brothers. In regard to her older son, she felt that she could let go of him as well and affirmed that now she could accept his fiancee and her child. At one time she cried and expressed grief about the surgical loss of her femininity, stating that, "No woman will understand until it happens to her." At another time, she regressed to what she considered an age of two months and felt that she was with her mother again.

letting go

Each time she subjectively let go of one of her sons, she saw a vision of a beautiful emerald on a velvet pillow. Once her problems with her sons were behind her, she found herself struggling to let go of her husband. When she finally did so, she again saw the vision of the emerald, but this time felt drawn into the crystalline beauty of the gem, and into a profoundly meaningful form of consciousness. In retrospect, she reported the basic phenomena that we have come to consider mystical—phenomena that correspond to the six categories of (1) unity, (2) transcendence of time and space, (3) objectivity and reality, (4) sacredness, (5) deeply felt positive mood, and (6) ineffability (Pahnke and Richards, 1966). Emerging from this experience, she stated, "I've made my peace with God. Each man has to make his own. I've seen so many go up [sic] regardless of race, and I've had many wonderful things happen. It's got to all work out. I've made it with my Maker! They can do whatever they want over my body. Life has been beautiful, even though painful and hard. It's been beautiful." She then expressed a certain amusement about the manner in which her fundamentalist relatives had argued about their particular interpretations of religious dogmas. In the final hours of the session, she occasionally hummed along with records and clapped her hands. When asked about death, she stated, "I've been there. I wasn't afraid. I thought I had accepted it before; now I really accept it."

mystical phenomena

acceptance of death

When the family visited her after the effects of LSD had subsided, she interacted with them in a very genuine manner, stressing that together they should make the most of the time that remained before her death. She expressed more understanding and tolerance toward the aunt who previously had been a source of irritation. She apologized for not having told her diagnosis to her younger son when she first learned it herself and affirmed her faith in his masculinity. She was disappointed that her older son's fiancee was unable to be present,

and looked forward to the opportunity of welcoming her into the family.

aftermath

During the week following her LSD session, she received an additional five hours of psychotherapy to assist her in the integration of her experiences. She then was discharged to her home and seen occasionally in the out-patient clinic. At this point, she reported a decrease in the severity of her pain, an increase in her general energy level, and continued reduction of depression and anxiety. Soon after she returned to her home, she returned to work. Being able to work again for a brief period of time gave her a great sense of satisfaction. She also found herself able to participate fully and genuinely in the wedding of her older son.

Eight months after her LSD session, and two weeks prior to her death, she was rehospitalized because of severe pain. When visited by her therapist, she recalled the experience associated with the emerald in her LSD session and seemed to derive a sense of meaning and serenity from the memory, even in the midst of her pain.

CASE TWO

Patient C-29 was a white, Jewish, 50-year-old, married woman with two children. At the time of referral, she was aware of her diagnosis. Two years previously, she had undergone a right, radical mastectomy; now the cancer had metastasized to her spine, ribs, and thighs. The pain she suffered was relatively mild and could be controlled with Darvon. It was apparent, however, that she had a definite problem with depression.

Preparatory psychotherapy was conducted in her home. In an initial interview, she explained that neither her 13-year-old daughter nor her 11-year-old son knew that she had cancer or that she would probably die in the near future. She explained that both children would be leaving for summer camps in a few days, and expressed a hope that she would be dead before they returned. Her mother, a woman in her mid-seventies who lived in another state, also had not been informed of the patient's diagnosis or prognosis. The patient was afraid her mother would die from the shock if she heard about the situation.

As the patient's husband was still outwardly denying the terminal nature of her illness, she felt quite isolated from him. He occasionally talked about a vacation in the Caribbean for the two of them, while she wondered how much longer it would be possible for her to navigate from her bed to the bathroom and back. When she would broach the subject of her limited life span, he either would force a change of topic or leave the room. In private conversation with the husband,

it was apparent that, although he understood the situation fully in an intellectual manner, he was quite unable to express his feelings to anyone. He was courteous and cooperative, but very guarded in his responses.

The first therapeutic goal was to help the husband to accept his wife's condition. This was accomplished in joint meetings with relative ease, and the couple began having their "nightly cries" together in one another's arms. This was a marked change from the previous prohibition of crying, and both experienced a noticeable lessening of depression. The patient was able to express how hurt she had felt that her husband had known the seriousness of her condition for over a year prior to her discovery of the facts. After the expression of her feelings, she was able to appreciate the ambivalence and anguish that her husband had felt during that time.

The patient introduced into therapy the interpersonal problems she was having with her mother-in-law, a woman who visited her each day for an allotted fifteen-minute period, usually prior to her daily bridge game. She arrived, chatted about trivia, and left punctually. She knew the patient's diagnosis, but "preferred not to think about it." The patient admitted that she dreaded the visits, but endured the artificiality inherent within them because she felt unable to express her real feelings to her husband's mother.

concept of death and focus of religious life

She described her religious life as nominal synagogue attendance. Her concept of death was that of a blind alley that must be faced and reluctantly accepted; beyond death, she envisioned "nothingness." The focus of religious life, she felt, was concern for one's family.

At this point in therapy, both she and her husband were very appreciative of a new level of communication that had developed between them. She remained quite depressed, however, and still hoped her death would occur before her children returned from their summer camps. She had given away some of her jewelry to close friends and relatives, saying that she wanted to experience the joy of giving rather than allow others to do it for her after her death.

After sixteen hours of psychotherapy over a three-week period, the patient was admitted to Sinai Hospital for administration of LSD. Having read *The Beyond Within* by Sidney Cohen (1967), and being aware of the changes in aesthetic perception that sometimes occur during LSD sessions, she arranged to have a valuable painting and a piece of sculpture transported from her home to her hospital room.

On the following morning, she was given 300 micrograms of LSD intramuscularly. She manifested no resistance to the effects of the drug and surrendered completely to the material that unfolded within her mind. This material consisted essentially of intense memories of loneliness. She felt that she had

to go through this agony of loneliness, and did so for several hours. The only pleasant theme that she subsequently recalled was yellow polka dots bouncing through the streets of New York City, reminding her of a happy period of time she once had shared with her sister there. She experienced no alterations in aesthetic perception, in spite of her expectations. In the latter hours, she was able to deal more completely with issues of saying goodbye to her children and husband, and of trusting other people to care for them after her death. She described the session as "an emotional bath."

After the drug effects had faded, her husband and sister visited, followed by approximately a dozen good friends and her mother-in-law, all of whom had been counseled as a group on the previous day. When the mother-in-law bent over to give the patient a kiss, the patient grabbed her wig and tried to pull it off to the dismay of the mother-in-law and the delight of everyone else. The patient sat regally in bed and gave everyone a brief lecture about honesty and directness in the face of life's dilemmas. The visit became "an emotional bath" for almost everyone present.

On the next day, the patient manifested more energy and less depression. Her first decision was to call her daughter home from summer camp, so that she could prepare the girl personally for her death. After discharge to her home, she found herself able to walk downstairs to have dinner with the family. She began going out for occasional rides in the country with her husband. Visits with her mother-in-law seemed less stressful. She called in her lawyer and rewrote her will. The company of her friends was enjoyed, and she continued selectively to give away her collection of jewelry.

When her daughter arrived home from camp, the patient, in the presence of her husband, explained the situation to her, and all three shared their feelings together. Subsequently, the patient called her son home from camp and went through the same procedure with him. Finally, she invited her mother to come for a visit and told her the gravity of the situation. She was greatly relieved to discover that her mother did not die from the shock and that, like her two children, she was able to "rise to the occasion."

For a two-month period after her LSD session, the patient appeared to be quite free of depression. Her pain seemed to be on the periphery of her consciousness and continued to be responsive to mild medication. She visited frequently with her friends and spent much of her time counseling with them about their own problems.

After that time, however, depression of moderate intensity returned. She expressed anger about her husband's plans to leave the following month for a week's conference that he considered crucial to their continued financial success, asserting that she felt her husband considered financial matters

more important than accompanying her during her final hours. As she explored her feelings in the therapeutic context, she recognized that it was just prior to this same conference the previous year that her husband had learned of her diagnosis and had decided to keep it from her. She decided not to go downstairs to have dinner with her family for the first time since her LSD session; instead the family came upstairs and ate in her bedroom.

Ten weeks after her session, she was readmitted to Sinai Hospital because of generalized pain. She stated that, when she left her home, she knew that she would not see it again. She felt unable to eat and occasionally saw double images. Her mother-in-law had sent her a bouquet of a special variety of flowers that the patient liked and her mother-in-law disliked. This "act of greatness" on the part of the mother-in-law moved the patient very deeply. As she focused on one of the flowers, she reported that it seemed to beckon to her, like a finger. She spoke of death as a friend and seemed to have little fear of the experience she was approaching. Basically, she still held to her expectation that after death there would be "nothingness," but also manifested a certain curiosity and openness in case she might be underestimating the mysteries of human existence. The day after her readmission to the hospital, her rabbi died unexpectedly. After momentary hesitation, the patient's husband shared the news with his wife. She accepted it with amusement as, one week previously, when she had attempted to discuss her funeral plans with her rabbi, he had refused, stating, "You take care of your business, and I'll take care of mine." Basically she felt serene. She talked about "surrender" to the experience of dying, but affirmed that it was still hard to entrust others with the care of her children.

new attitude toward death

Six days after readmission, as she was approaching coma, her children came in and said goodbye to her; she also said goodbye to them and affirmed her love for them. Her husband and sister remained with her as she entered into coma. The following afternoon, she quietly died. The hospital staff commented that hers was one of the most peaceful deaths they had witnessed.

a peaceful death

III. DISCUSSION

When we first began to work with cancer patients, we naively thought that, in contradistinction to the work with psychiatric patients, this study would entail the administration of LSD to relatively "normal" persons who had a physical illness. This illusion quickly was dispelled, as many patients with cancer proved to have significant psychological conflicts that predated the diagnosis of their physical illness. As a group, they had quite strong psychological defenses and generally were

rule of rapport

able to relinquish those defenses during their LSD sessions only if firm therapeutic rapport had been established.

comparison with other categories of patients

The phenomenological data reported by the cancer patients after their LSD experiences did not differ substantially from the data reported by other categories of patients with whom we have worked, such as alcoholics, neurotics, and narcotic drug addicts. Their experiences ranged widely from abstract, aesthetic phenomena, through the reliving of traumatic or positive childhood memories, to profound archetypal and transcendental forms of consciousness.

relation of dramatic therapeutic changes to peak experiences

It has been our clinical impression that the most dramatic therapeutic changes followed sessions in which the patient experienced an intense psychedelic peak experience, the phenomenological description of which corresponded to the categories of (1) unity, (2) transcendence of time and space, (3) objectivity and reality, (4) sense of sacredness, (5) deeply felt positive mood, and (6) ineffability (Pahnke and Richards, 1966). Profound experiences of this kind were described by approximately 25% of the patients in this study. These patients were often those who seemed most completely free of a fear of death following their sessions. As indicated above by the somewhat atypical case history of patient C-29, however, the therapeutic efficacy of purely psychodynamic sessions without transpersonal content also can be dramatic.

special problems in work with cancer patients

As might be expected, the cancer patients generally manifested a higher incidence of difficult physical symptoms. Various psychosomatic problems, such as nausea, tremors, palpitations, and breathing difficulties, are common in psychedelic psychotherapy, especially during the onset of the drug effect, and usually appear to be correlated with a patient's struggle to free himself from his usual resistances and defenses. In addition to these psychosomatic manifestations, similar problems that were rooted in the cancerous condition of the patients required attention, such as vomiting in patients with gastric cancer or intestinal obstruction, or incontinence of urine and feces in patients with pelvic tumors or metastases to the spinal cord.

Persons with cancer also seemed to find their LSD sessions much more fatiguing than the other categories of patients with whom we have worked. Many of the patients felt tired not only on the evening of the session day, but also on the day following their sessions. The beneficial effects of a session typically became noticeable to hospital personnel on

the second day following the LSD treatment. It might also be noted that the frequency of visions of deceased family members appeared to be higher in cancer patients than in other persons; such patients reported a subjective comforting sense of the family member's presence that sometimes was felt to continue after the LSD session.

It is interesting to consider the extent to which the therapeutic results of this treatment can be attributed to the pharmacological effects of LSD per se, and the degree to which they may be attributed to the psychotherapy that precedes, accompanies, and follows the drug administration. This question, of course, cannot be answered without an extensive, controlled study. Kübler-Ross (1969) and others have reported noteworthy psychotherapeutic progress in their work with terminally ill patients without the aid of psychedelic drugs. Some hospital chaplains undoubtedly have assisted patients and their families in the task of living as fully as possible while confronting the imminence of death. On the other hand, Kast (1963, 1964, 1966; Kast and Collins, 1964) obtained basically positive results with a predominantly chemotherapeutic approach and minimal interpersonal interaction. Of course, the history of psychedelic research indicates clearly that psychotherapeutic rapport maximizes the benefits and minimizes the risks of LSD administration; yet, the fact that Kast sometimes observed positive results without a psychotherapeutic matrix strongly suggests that the potential analgesic and therapeutic values of the drug itself should not be underestimated.

question of direct effects of LSD per se

It is very difficult to try to compare the findings reported by Kast with the results of this study. Kast routinely used 100 micrograms of LSD in his experiments and frequently terminated the sessions with chlorpromazine at the occurrence of the slightest signs of distress. In our approach, LSD was administered in much higher dosages (200–500 micrograms) after careful preparation and within the framework of systematic psychotherapy. Analgesia was not the primary goal; our aim was to relieve not only the physical, but also the emotional suffering of the patient. In spite of the fact that a profound transcendental experience was considered the most desirable objective, patients actively were encouraged to work through emotionally difficult psychodynamic experiences if these occurred in their sessions. Each of the two studies had different therapists, different pools of patients, and different conditions of treatment. The situation is even more complicated in the case of Cohen's study (Cohen, 1965), since no detailed description of his research condi-

Cohen's study

tions exists in the LSD literature. This discussion, therefore, can only point to the problems involved; more effective attempts to isolate the respective contributions of LSD and psychotherapy will have to be reserved for future controlled studies.

apparent psychological processes involved in successful treatment

It is also of interest to inquire into the psychological mechanisms responsible for the therapeutic changes that were observed. The positive results were least surprising in the area of emotional symptoms, such as depression, tension, anxiety, insomnia, and psychological withdrawal. Similar effects were observed in our previous studies with psychiatric patients. It seems that LSD-assisted psychotherapy involves a favorable combination of a number of mechanisms that operate in conventional psychotherapy, such as the reliving of traumatic childhood memories, abreaction and catharsis, facilitation of emotional and intellectual insights, and intensification of the transference relationship. As the most dramatic therapeutic results usually have been observed in association with the psychedelic peak experience, it appears that such experience may constitute a new and rather powerful mechanism for eliciting profound personality changes.

relation of LSD to decrease in pain

The effect of LSD on severe physical pain is more difficult to explain. Certainly, this substance cannot be considered simply as an analgesic; its effect is not sufficiently consistent and predictable, and there is no clear dose-response relationship. Moreover, the relief of pain often was observed for a period of weeks or months following the single administration of the drug. This indicates a rather definite psychological component in this analgesic effect. Some of the possible explanations entail (1) increased pain tolerance, (2) defocusing of attention from the site of pain stimulation and broadening the field of awareness, and (3) an enhanced "here-and-now" orientation that attenuates the past and future components involved in the experience of pain (oversensitization due to memories of past pains and anticipation of pain in the future).

In this respect, it is of interest to note the discrepancy in our findings mentioned above, namely, the fact that the ratings indicated a statistically significant decrease in pain, whereas the consumption of narcotics did not show significant reduction. At least three factors should be taken into consideration in evaluating this situation. First, most of the patients received, in addition to narcotics, a variety of other psychoactive substances, such as major or minor tranquilizers, nonnarcotic analgesics, and hypnotics. The changes in con-

sumption of these drugs were not measured systematically in our study. This is especially important in the case of phenothiazine tranquilizers that routinely were discontinued a week before the LSD session. Second, in many patients even heavy narcotic medication did not control pain successfully prior to the administration of LSD. Some of these patients found the same amount of narcotics more effective after treatment. Third, it is quite plausible that this apparent discrepancy also reflects the element of habituation or even physiological addiction due to the prolonged administration of narcotics.

significance of references to death in psychedelic therapy

In psychedelic therapy with psychiatric patients or normal subjects, the therapist quite frequently hears comments concerning death. Subjects who have experienced the ego-death and rebirth sequence in a psychedelic session usually claim that they feel a very radical change in their attitude towards death as a result of this experience. Those who experience feelings of cosmic unity indicate retrospectively that they have experienced a state of mind where physical death appears irrelevant. In spite of the fact that this experience is so common for a psychedelic therapist, it was rather astounding to discover that these statements apparently reflect much more than a momentary self-deception resulting from altered brain functioning. There could hardly be a better indicator of the profundity and relevance of this emotional insight than its occurrence in patients who actually are facing physical death.

discussion of defense against helplessness and hopelessness

In discussing the changes in attitudes toward dying observed after LSD treatment, Kast suggests that some mechanism must protect terminal patients from a devastating realization of hopelessness. This "desperate" situation of the terminal patient is, however, only quantitatively different from that of any person who can anticipate the possibility of death at any time with some probability and ultimately with certainty. Kast, therefore, assumes that the mechanisms that protect us daily from the realization of our doomed situation operate with greater force in the terminal patient. He believes that the terror experienced from the contemplation of death in preterminal patients, as well as in healthy persons, consists of fear of the loss of control of internal and environmental influences. The acceptance of and surrender to the inevitable loss of control during and after the LSD administration are seen by Kast as indications that LSD apparently eases the blow that the impending death deals to the fantasy of infant omnipotence, not necessarily by augmenting the infantile process, but by relieving the mental apparatus of the com-

pelling need to maintain the infantile fantasy. In addition, Kast emphasizes the attenuation of anticipation as an important factor in relieving both the experience of pain and the fear of death. Under normal circumstances, anticipation represents a very important mechanism that is useful not only for orientation, but also for defense and procurement of food. In the desperate situation of the terminal patient, anticipation can offer nothing to the welfare of the patient, and can only accentuate his feeling of helplessness. Anticipation is contingent on the ability to use words meaningfully, to form and manipulate symbols. Kast sees the decrease in the power of words and the resulting loss of the ability to anticipate, together with the expansion of the immediate sensory life, as the most important factors modifying the attitudes of the terminal patients towards death.

profound changes in relation to life, death and universe

The above explanations seem to be incomplete and inadequate to account for the profound changes observed in many terminal patients undergoing psychedelic psychotherapy. Some of the patients who experienced the phenomenon of ego-death, followed by an experience of cosmic unity and rebirth, seemed to show radical and lasting changes in some of their fundamental concepts of man's relation to the universe. Death, instead of being seen as the ultimate end of everything and a step into nothingness, appeared suddenly as a transition into a different type of existence; the idea of possible continuity of consciousness beyond physical death seemed to be much more plausible than the opposite. The patients who had transcendental experiences developed a rather deep belief in the ultimate unity of all creation and experienced themselves as part of it without regard to the situation they were facing. The encounter with elements of the deep unconscious in the form of transpersonal experiences (such as the Jungian archetypes, racial and collective memories, experience of the cosmic drama, divine and demonic appearances, etc.) enabled them to relate in a very tangible and convincing manner to psychic realities that were far beyond their individual frameworks. It seems that it was this opening of the transpersonal and cosmic panorama that provided a background and referential system against which the fact of individual destruction appeared to be relatively unimportant.

relation of transpersonal and cosmic background to individual destruction

It would be a purely academic question at this point to debate whether the changes of consciousness described should be considered a merciful delusional self-deception or a profound ontological insight into the nature of the universe and

of man; in any case, they seem to make the otherwise dismal situation of the terminal patient much more tolerable.

profound influence on patient's value system

One of the important consequences of psychedelic peak experiences is their profound influence on the patient's value system. They entail insights into the ultimate absurdity of exaggerated ambitions, orientation toward achievement, holding onto money, status, power, and other temporal values. It is easy to see how such insight could be helpful for someone who does not have a chance to achieve any more and is going to lose all his worldly possessions. The patient's attitude towards time is reevaluated; the past and future become less important as compared with the here and now. The level of zest is increased considerably, and there is a tendency to derive satisfaction from simple things in life. Appreciation of human relations, together with more honesty and openness, results in endeavors to resolve conflicts existing in present relationships. There is usually a distinct increase in spirituality of a universal nature rather than one related to any specific church affiliation. The emerging religious and mystical feelings seem to be intrinsic to human nature and rather independent of personal backgrounds and forms of religious training; yet, in the light of such feelings, one's traditional beliefs may become illumined with new dimensions of meaning.

opportunity for practice of preventive medicine

The significance of psychedelic therapy with terminal patients transcends the narrow framework of the short-lived help to the patient. Times of death are times of crisis in any family. It seems that the bereavement period is affected by the degree and nature of conflicts in the relationship with the dying person that have preceded it. Adjustment to the death of a family member may be more difficult if relatives have ambiguous feelings about the appropriateness of their decisions regarding that person while he was dying. There apparently exist no systematic studies of the relationship between the situation at the time when a relative was dying and the nature of the subsequent grief reaction. Practicing psychiatrists are, however, well acquainted with the crucial importance of how a person reacts to and integrates the death of a relevant emotional figure. Psychedelic therapy with terminal patients that includes the family members thus offers a unique opportunity to practice preventive medicine. By adequate therapeutic intervention, we have the opportunity to ease the agony of death for the one who dies and, at the same time, to help those who go on living to absorb this deep trauma in a healthy manner.

search for shorter-acting psychedelic drug

One of the practical disadvantages of this psychotherapeutic approach is obviously the length of the LSD experience and the considerable commitment of time demanded of the therapist and psychedelic nurse. This situation has led to a search for a shorter-acting drug with properties similar to LSD. At present we are pursuing a new study with DPT (dipropyltryptamine) and cancer patients that appears promising. Besides its shorter duration of action (1½ to 6 hours, depending on dosage), DPT has two other noteworthy advantages. Its effects terminate quickly and completely, unlike the wave-like termination period of LSD. Thus, patients treated with DPT generally appear alert and hungry after their sessions, and seem to have much more energy available for interaction with their families in the evening. Also, DPT has the advantage of being basically unknown in drug-abuse circles and fortunately has not been subjected to the sensationalistic publicity that has been typical of LSD coverage. Some patients were so frightened by their image of LSD that they refused the treatment when it was offered to them; with others, an educative process concerning the medical, responsible use of LSD had to be interwoven with the preparatory therapy in order to mitigate their fears. Other psychedelic drugs that might profitably be investigated in this context include MDA and the short-acting forms of psilocybin, CZ-74 and CEY-19. We are in the process of beginning pilot investigations with MDA at the present time.

apparent advantages of DPT

pilot investigations of other psychedelic drugs

significant values in psychedelic therapy

In conclusion, it should be reemphasized that psychedelic therapy, as we understand it, is not simple chemotherapy, nor does it provide therapeutic magic. Equally important factors are the quality of the human encounter, sensitive psychotherapeutic guidance, and the optimism of the therapist. Therapist enthusiasm is a powerful factor in many forms of psychotherapy. Because of the psychological power of the LSD reaction, few patients are disappointed when they are promised an unusual and compelling psychological experience. The dramatic positive changes in attitudes and behavior when therapy is successful are more than enough to keep the enthusiasm of the therapist at an effective level, even in the face of what is at best a grim reality situation. Sustaining therapist enthusiasm may prove to be one of the most important advantages of this form of therapy for terminal cancer patients.

Enthusiasm and optimism would not be enough, however, for starting an LSD program. As a caution to those who may attempt psychedelic psychotherapy with cancer patients, we

definitely would not advise its use without specialized training under supervision from those already familiar with the reactions facilitated by this powerful psychoactive drug. With adequate training, however, our clinical experience thus far suggests that skilled use of the psychedelic procedure can be a relatively safe and promising approach in an area that has been most discouraging up to the present. The majority of terminal patients are still faced with a very dim picture, described by Aldous Huxley (1963a) as "Increasing pain, increasing anxiety, increasing morphine, increasing addiction, increasing demandingness, with the ultimate disintegration of personality and a loss of the opportunity to die with dignity."

need for specialized training

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