

# THE BLACK VAULT

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# COMPARISON OF THE EFFECTS OF MED-41 AND LSD-25



MLD-41 is i-methyl-diethylamids of lysergic acid. Studies on this agent were undertaken in order to obtain data on structure-activity relationships in the LSD series.

The purposes of the present experiments were: (1) to determine if MLD induced LSD-like effects; and (2) to essess roughly the potency of MLD as compared with LSD.

#### METHODS

Subjects. Fourteen Nagro males aged 24 to 45 years volunteered for the experiments. All were prisoners who were serving sentences for violation of the U. S. narcotic laws and all had been abstinent from narcotic drugs for at least six months prior to serving in these experiments. All were in good physical and mental health, none were psychotic, and all had taken LSD on previous occasions.

Ornes. The drugs were given wrally in solution. Identifies of the drugs were unknown to both the patients and observers.

-bservers did not know of the purposes of the experiments, and, furthermore, were not aware that a new LSD-like drug was being

given. Solutions of the drugs were prepared with freshly distilled water and preserved in brown bottles; concentration of stock solutions was 100 megm./cc. Doses for each individual were measured with micro-pipettes and drugs diluted to 30 cc. with freshly distilled water and administered while patients were fasting.

Methods of Measurement. Pattents were housed in a special ward which is reserved for experimentation with psychotomimetic drugs. The patients entered this ward on the night before tests. All were accustomed to the environment. At hourly intervals, two hours before and eight hours after administration of drugs. the pupiliary diameter was measured under conditions of controlled light and accommodation. The distance through which a calibrated harmer must fall to elicit a kneejerk was determined. Systolic blood pressure was measured after ten minutes rest in bed. Patients filled out a modification of the Abransonlarvik questionnaire hourly, and short mental-status examinations were made by the attending physician. Date on pupillary size, biood pressure, and threshold for elleitation of kneezerk were plotted on graph paper and the average of the two pre-drug observations used as a baseline. Data under the curve for the 8-hour period of observation was measured with a plantmeter, thus reducing all date on these particular measurements to a single figure. Luestions were counted, eliminating any that were also

scored positively prior to ingestion of the drug. Clinical grade was assessed according to the method of isbell, as described in the attached reprint.

Desagn. Patients received, in randomized order: placebo;
LSD 1 mcgm./kg. (10 subjects); LSD 1.5 mcgm./kg. (10 subjects);
and LSD 2 mcgm./kg. (8 subjects); and various doses of MLD-41.

In order to ascertain the approximate dosage range, preliminary
runs were done with MLD-41. With doses of .25 mcgm./kg.

It patiently, 0.5 mcgm./kg. (1 patiently, 0.75 mcgm./kg. (1 patiently,
or 1 mcgm./kg. (1 patiently, no objective or subjective effects
were observed. However, when 1.5 mcgm./kg. (3 patients) or
2 mcgm./kg. (1 patient) were given, definite, but mild, LSD-like
mental symptoms were observed. It was, therefore, decided that
experimental doses would be higher than 2 mcgm. of MLD-41 par kg.
Sim patients received 3 mcgm./kg. of MLD-41, 10 received 4 mcgm./kg.,
and 6 received 6 mcgm./kg.

## RESULTS

figures represent the mean for the particular measurement & the standard error. The data, however, are sufficient to show that: (11 MLD creates autonomic disturbances similar to those caused by LSD; (2) MLD creates paychic disturbances similar to those caused caused by LSD; (3) MLD is less potent than LSD. The data permit a rough estimate that LSD is one-third to one-half as potent as

tSD. Such a figure is only an approximation since true deszeresponse curves cannot be constructed because number of callents at each described was two small, some mations did not receive all deses, and, apparently, flat portion of the descresponse curve had already been reached with the 4-megm./kg. dose in case of kneejerks, pupillary size, and blood pressure.

Subjective phenomena reported after ingestion of MLD-41 included anxiety, feelings of unresility, confusion, haptic sensations, afterations in stactile, visual, and auditory perception, the presence of delusions and optic hallusinations, dependently zaiton and deresilization. The IntD-resettor began more slowly insually 1 to 1-1/2 hours as compared to 30 minutes after LSD) and did not persist as ione.

#### CHASILAS

MLD-41 is a psychotomimetic drug which induces mental effects similar to those of LSD. It is roughly one-third to one-half as potent as LSD.

### CLAPARISON OF EFFECTS OF MED-41 AND LSD-25

SV"	DEUG_AUD_DASE_							
		LSD Mcgm./Kg.			til" Megw./Kg.			
	Placebo	1.0	1.5	2.0	3.0	4.0	ć.0	
tejerk	40.38 ± 0.2	2.40 ± 0.34	7.00 ± 0.35	2.39 & 0.54	3.04 ± 0.35	3.10 £ 0.28	2.88 4 0.49	,
illory	40.94 ± 0.4	4.42 1 0.34	4.53 4 0.52	4.82 ± 0.47	4.55 4 0.66	4.28 ± 0.47	4.01 ± 0.5	automore (
od ssure	40.85 ± 0.16	2.46 <u>4</u> 0.36	2.50 ± 0.04	2.63 4 0.39	2.83 4 0.37	9.87 ± 0.41	3.18 4 0.5	and the contract of the contra
tions:	1.0 ± 3.3	36 <u>‡</u> 13	55 <u>k</u> 22	43 <u>£</u> 15	19 ± 22	34 <u>t</u> 19	42 <u>‡</u> 13	e-efuryes
30	0 ± 0	1.0 £ 0.35	1.5 4 0.4	1.3 ± 0.37	1.0 1 0.55	1.3 ± 0.3	2.0 1 0.39	-

Number of subjects of various deses: LSD 1.0 mcgm./kg. (10 subjects); LSD 1.5 mcgm./kg. (10 subjects); LSD 2.0 mcgm./kg. (8 subjects); ALD 3.0 mcgm./kg. (6 subjects); MLD 4.0 mcgm./kg. (10 subjects); MLD 6.0 mcgm./kg. (6 subjects).

figures are means & standard errors.