

## REGRESSIVE ELECTRIC-SHOCK IN SCHIZOPHRENICS REFRACTORY TO OTHER SHOCK THERAPIES\*

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Since shock therapies were introduced, a great deal of work has been done with them. In general, all workers have reported at least some good results. However, there are invariably individuals who fail to respond. The present writers now wish to report on a series of 25 patients with schizophrenia, who had previously received "adequate" courses of insulin, electric, or metrazol shock or combinations of these therapies and yet had shown little or no improvement. Some of these had been recommended for lobotomy

The report by W. L. Milligan† on convulsive therapy (intensive method) in psychoneurosis stimulated the present writers to use similar electric shock therapy on refractory cases of schizophrenia. Since Milligan reported regression in some of his cases, we set out to produce regression in our group. However, we soon found that the technique he used was inadequate for our purpose.

We started by inducing two to four grand mal convulsions daily until the desired degree of regression was reached. After about 10 days to two weeks without treatment, regressed patients returned to their previous levels, but usually without their symptoms. A number of these patients were well enough to go home and carry on as they had before the psychosis developed. We considered a patient had regressed sufficiently when he wet and soiled, or acted and talked like a child of four. These patients became confused, could not take care of their physical needs and lost weight—despite eating, in some cases, as much as usual. Frequently, they had to be spoon-fed. As soon as treatment was stopped, confusion began to clear, and the patients improved in their eating habits and in their care of themselves. In about 10 days to two weeks behavior was essentially normal and symptom-free. During this period, as patients returned toward their chronological age levels, their behavior and conversation concerned

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†*Lancet*, October 12, 1946, II:516.

events appropriate to the emotional and intellectual levels through which they were passing. At this time repression was removed, and they answered questions freely, frequently revealing spontaneously, their conflicts at various age levels, material which was not obtained during mental examinations or anamneses. These data are useful in subsequent psychotherapy when patients finally emerge from their confusion.

Sometimes the confusion passes rapidly and patients act as if they had awakened from dreaming; their minds seem like clean slates upon which we can write. They are usually co-operative and very suggestible, and thus amenable to psychotherapy. Ordinarily such patients are easily de-sensitized to the conflicts revealed, or the therapists—lacking information of conflict—are able to steer them back to reality and away from their psychotic thinking. When hallucinations or delusions are discussed, they do not usually remember them. In a few cases, some symptoms return, especially in the paranoid group; if these are of a superficial nature, they respond to a few days of further treatment. Our patients seldom retained their organized delusions. In a few cases a full course of electric shock had to be repeated. The course generally consisted of 20 to 30 treatments. The shortest course was 11 and the longest 50.

It is interesting to contrast this type of treatment with the standard technique of two to three treatments a week. In the latter technique, when the patient responds, he begins to improve. After a few treatments, he gradually loses his symptoms, behaves better, puts on weight, and, by the end of the series, is greatly improved. In the regressive technique, the patient does the opposite; he becomes worse physically, loses weight, cannot care for his physical needs, and becomes gradually more and more confused. The confusion lasts for about 10 days after treatment is stopped. In the standard treatment, confusion lasts only one-half to one hour following each application. Frequently, under our regimen, there is early mental improvement and it is very tempting to discontinue shock therapy, but we have found in this type of case that the early improvement is likely to be temporary, and we continue to treat until the regression is what we consider adequate.

Table 1. Relation of Diagnosis to Degree of Improvement

	A	B	C	D	Total
Catatonic .....	3	1	6	1	11
Paranoid .....	2	4	5	0	11
Hebephrenic .....	2	1	0	0	3

Table 2. Relation of Regression to Degree of Improvement

	A	B	C	D
W. and S. .... 15 Pts.	(5) 33%	(5) 33%	(4) 26%	(1) 6%
Not W. and S. .... 10 Pts.	(2) 20%		(8) 80%	

A—Home placement (convalescent status). B—Partial remission but no suitable placement available. C—Employed in hospital (working patient). D—No improvement. W. and S.—Wetting and soiling.

## RESULTS

Of the 25 cases 11 were catatonic, 11 paranoid, and three hebephrenic. The average duration was four and one-half years; only two cases of less than two years. The average duration for the paranoid cases was five years and five months; the catatonic, four years and five months; the hebephrenic, one year and 10 months. Only three patients had previously received single courses of insulin—50 treatments—without electric shock therapy, and one patient had had electric shock therapy alone. The remaining cases had had both insulin and electric shock therapy combined and/or more than one course of electric shock therapy alone; some had had metrazol as well. Although some patients had had previous remissions, we wish to emphasize their lack of response to earlier treatments during their current admissions. These treatments were, in most instances, more extensive than those administered before their previous remissions.

Of the 25 cases reported, only one catatonic showed no marked improvement although she became well-behaved and able to care for herself. Seven improved sufficiently to go home. Of these, three were catatonic, two paranoid and two hebephrenic. Six improved sufficiently to be placed on convalescent status, but have remained in hospital for lack of suitable placements to date. Of these, four were paranoid, one was catatonic and one hebephrenic. Eleven, who were previously unable to work, improved sufficiently to become workers; six of these were catatonic and five paranoid.

We have seen no lasting ill effects. Although the patients looked physically ill and had profound memory loss at the end of a "regressive" series, the physical improvement is rapid once treatment is ended, and the memory returns almost completely. A few patients seemed to have forgotten significant material in their lives, but as soon as an association was made, this material returned.

During the whole period of confusion, behavior and feeding require close supervision. While in maximum regression, bed-care is necessary because of wetting, soiling, and faulty co-ordination. Patients at this time are likely to fall and injure themselves.

Our comparison of results with regard to "regressive" versus other forms of shock therapy is based on our ability to obtain improvements and remissions. As to duration of results, time alone will give the answer. However, it is our feeling that the results of this treatment are more lasting in these refractory cases than the results of insulin or the other therapies.

In conclusion, we wish to emphasize that the cases presented had recently received standard therapy with little or no improvement, and, although we did not obtain remissions in all, 24 showed improvement of considerable degree and have retained it to the present. Some were apparently hopeless, and lobotomy had been recommended. It seems appropriate to point out that 15 regressed to wetting and soiling; of these, 66 per cent are in remission (AB Group—Table 2) whereas in the 10 where no wetting and soiling occurred, only 22 per cent were in the AB Group. We, therefore, feel that a deep regression is the best procedure. This technique is a valuable asset to psychiatric therapy, where less drastic measures have failed.

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