

Memory loss

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INDICATIONS FOR SHOCK TREATMENT IN PSYCHIATRY¹

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As has previously been pointed out in this Society, developments in the practice of shock treatment in psychiatry have been very rapid in the course of the last 10 years.

The value of shock therapy in schizophrenia has been discussed by many authors, and it has been shown that the results from such therapy are dependent upon the duration of the illness previous to treatment as well as other factors. Some authors maintain that it is of no significant value in the treatment of such cases; and many have come to the conclusion that shock treatment should be employed primarily for the manic-depressive group, contingently in depressions of so-called endogenous character.

It is of interest in connection with the possibility of curing insomnia by electric shock treatment to consider whether such improvement in sleep can be thought to be due to lesions in the central nervous system. This possibility or risk in convulsion treatment had to be borne in mind from the very first, inasmuch as it was already known that epileptiform convulsions may be accompanied by cerebral changes of irreversible nature. This view was confirmed by anatomical examinations and had found expression in therapeutic practice, since the investigators of epilepsy believed that convulsions should as far as possible be avoided. The active students of the disease seem still to hold this opinion (Georg Henriksen, 1946).

As regards third degree cerebral changes following shock treatment, anatomical examinations have shown that such changes are regularly found in experimental investigations. Ziskind and Tyler have shown (1940) that by insulin shock the most varied degrees of decerebration can be produced—almost at will. Corresponding experiences in clinical practice are reported by J. L. Kinsly (1943). With respect to electric shock, which is perhaps the form now most employed, the results of the experimental investigations have

been confirmed in clinical study by means of electroencephalography. It is found that after a couple of shocks the patients often show changes in their EEG corresponding to those which are otherwise usually ascribed to pathological affections of the cerebral cortex (W. Grey Walter, 1944 and L. C. Cook, 1944). Likewise most of the theories respecting shock treatment group themselves around the view "that the convulsions exert their influence by putting groups of cerebral neurons out of action, either through anoxemia or in some other manner. And these views are supported by the concordances found between leucotomy and convulsion therapy" (L. C. Cook, 1944). The shock treatment must then be characterized as a diffused, fortuitously localized leucotomy.

The Danish investigators, P. Hencke and V. Zahle (1946), systematically examined the EEG from 25 patients before and after shock treatment. Four months or more after conclusion of the treatment the patients were subjected to psychiatric-neurological examination. Eight of them were found to have "recovered" (+++), 8 were "moderately improved" (++) , and 3 "slightly improved." On control examination more than 6 months after the treatment, 3 out of 17 (20%) were found to have had relapses.

The EEG was found to be altered already after the first shock. The alteration then increased and reached a maximum after 5 shocks. The patients were given 2 shocks per week in two series of 5 shocks. Only one of the 25 patients had no distinct dysrhythmia, while 9 showed slight, 8 moderate, and 7 pronounced dysrhythmia.

Where dysrhythmia existed before the treatment, the subsequent changes were still more pronounced. The authors conclude that the clinical results are best in cases where the EEG shows least changes. The dysrhythmia produced gradually subsides and disappears entirely in the course of 3 or 4 months.

Loss of memory (amnesia) was noted in 11 of the 25 patients: in 2 cases less than one month after the treatment, in 3 cases from 1 to 6 months, and in 6 cases more than 6 months later. The results of the treatment

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were less favourable in cases where loss of memory occurred, and as a rule the amnesia ran parallel with the dysrhythmia.

These findings and views we may find confirmed on clinical examination, without instruments, through the marked impairment of memory in a large number of patients after shock treatment (G. Tooth and J. M. Hackburn, 1939). It seems to be generally agreed that this deficiency can be detected on ordinary clinical examination in some patients for a couple of months after the conclusion of the treatment. (N.B.: The examination must then be made with a special view to this matter. Many of these patients will, like other persons with impaired memory, be somewhat reserved in conversation and therefore the defect may easily be overlooked on cursory inspection, just as all psychiatrists and neurologists know that presenile dementia may advance remarkably far without any changes being noted by the patient's associates—precisely because the person affected seeks to evade test situations.) But this impairment of memory should always be borne in mind in estimating the improvement or recovery following treatment. It ought to be judged with caution, like the regression of symptoms that may be seen in other affections of the cerebral cortex, for instance in alcoholic intoxication (or in penthotal). The recovery must in such cases be regarded with reservation until the memory has been restored to what it was before. Some authors are also inclined to think that defects of memory which are plainly observable during several months are due to changes which probably last longer.

It seems reasonable to draw herefrom the following conclusion: that contra-indications as regards shock treatment must be suggested not merely by fear of fractures or spinal inflections, but perhaps equally by a certain respect for the functions we assign to an intact cerebral cortex. This consideration should, among others, lead to our being especially cautious if that organ has beforehand been damaged or impaired.

The following conservative view of convulsion treatment is perhaps justified:

1. The shock treatment in psychiatry has as yet no satisfactory theoretical foundation.
2. The original view that the treatment is especially indicated in schizophrenic condi-

tions finds theoretically the best support. Moreover, the therapist is here allowed a certain degree of liberty to experiment, because the nature of the disease may justify rather drastic measures. There is much to gain and little to lose. But when this original view respecting the indications is abandoned and the same drastic treatment is proposed for patients in open psychiatric hospitals and in policlinic practice, the question demands to be taken into renewed consideration from the standpoint of *nihil nocere*.

3. As regards the treatment of melancholia and depression it must, firstly, not be forgotten that these conditions have on the whole a good prognosis (see Table 1).

TABLE 1

PROGNOSIS AND COURSE IN MANIC-DEPRESSIVE PSYCHOSES

(After Gunnar Lundquist, 1945)

	Number having only one attack	Prognosis for recovery from	
		First attack, percent	Second attack, percent
Manics	Half	92	..
Depressives	Two-thirds	80	..
Total		95*	85

* If the patients are under 30 years of age.

NOTE: Total number of patients: 319.

Period of observation:

For 20% of the patients: Less than 10 years.

For 42% of the patients: 20-30 years.

Secondly, it ought also to be noted that depressions are conditions that are brought about by widely different causes. If the psychiatrist in these cases adopts a simple and "energetic" procedure, it may happen that by producing epileptiform convulsions he casts a veil over the factors that created the background for the depression. The therapist and the patient may, in some cases, be at first impressed by the immediate result. But this impression is perhaps based merely upon the same form of optimism that we know of old from cases of impairment of the cerebral cortex in connection with the oblivion due to intoxication.

A mode of treatment must be said to be still in high degree *sub judice*, when (a) it has no satisfactory theoretical foundation, (b) when the choice of indications is roughly empirical, (c) when it is employed in widely different states which are in general charac-

terized by remissions and relapses, (d) if its permanent effectiveness has not been satisfactorily proved in any group of diseases, and (e) if in a considerable number of cases it is attended by distinct impairment of memory. It is therefore suited only for employment in hospitals, and it should not as yet be adopted in private practice, where economic considerations may influence the indications for shock treatment.

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