INTENSIVE ELECTRICAL CONVULSION THERAPY IN ACUTE MANIA.

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IT would seem that the overwhelming success of convulsion therapy in depressive syndromes has retarded recognition of the use of this treatment in states of excitement. Little has been written in this country on E.C.T. in mania, and apart from a report that the condition is refractory and frequently relapses, there is scant guidance on the subject. The object of this paper is to draw attention to the real value of E.C.T. in mania, when given in adequate quantity at the beginning, and followed up by frequent spacing of shocks to prevent relapse. For this purpose, "intensive therapy" is regarded as that which commences with several shocks daily until the excited state is suppressed, and by this method the most maniacal patient can be rapidly and dramatically brought under control.

There is nothing more disturbing in a psychiatric ward than the arrival of a patient in a state of wild excitement. Such a case tests the skill and patience of the nursing staff, and unsettles the other patients. Fortunately, these episodes are not common. Nevertheless, one feels the necessity for immediate action, as with an emergency, but all too frequently the result of the administration of narcotics is a few hours of peace between the outbursts of noisy excitement until the patient's frenzy has spent itself over a period of days or weeks.

Text-books are usually brief in dealing with the treatment of mania, and have not added much to the observations of Kraepelin (1906) that 12 to 16 grammes of sodium bromide daily might cut short a mild attack, but that stronger sedation combined with prolonged warm baths are necessary for the more severe cases. Prolonged narcosis combined with insulin has proved effective, but there is a need for rapid positive control in acute cases.

It is, perhaps, not so surprising to find a degree of reluctance to use E.C.T. in mania, for apart from the active resistance of the patient, there is probably a feeling that the apparent stimulative effect of a convulsion in melancholic and schizophrenic stupors must make it inappropriate for the excited patient. And certainly, the first treatment may appear to make the manic patient worse or, at any rate, have little beneficial effect. But it seems that we have in E.C.T. a therapeutic agent which can be used quantitatively with fine discrimination.

In maniacal states it is necessary to push E.C.T. to the stage where mental confusion is produced, and for this purpose treatments should be given at least once daily to begin with. The risk of producing irreversible brain damage or dysrhythmia is questionable, and has not been proved.

One must weigh in the balance the possible harmful sequelae of treatment

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with the harmful effects of the disease process if allowed to continue. On both sides there is a possibility of intellectual impairment, but in E.C.T. the memory changes are transitory. Perlson (1945) reports an investigation in a male schizophrenic aged 27, who recovered after receiving 248 shock treatments, with no evidences of intellectual impairment.

Apart from the so-called maintenance treatment of the chronic psychotic described by Moore (1943) and Caplan (1946), in which E.C.T. may be regarded as extensive rather than intensive, " confusional treatment " has been advocated by relatively few psychiatrists. C. H. Neyman (1944) places great stress on mental confusion as the therapeutic agent in states of excitement, and advises daily, or several times daily treatments in severe psychoses, until complete disorientation is produced. He states that no matter how great the excitement, this will, of necessity, cease under E.C.T.

Kalinowsky (1943) has always emphasized the importance of adequate treatment, and in his recent book (1946) he advises E.C.T. 2 to 3 times daily in states of acute excitement. Berger (1946), reporting on Japanese military psychiatry in Korea, found that in general, excited patients were given convulsions 2 to 3 times daily, while " gentle " patients received 2 to 3 shocks weekly. Fernandes and Polonio (1946) found induced convulsions to be life-saving in " delirium acutum " and " acute fatal catatonia," which is often acccompanied by pyrexia, tachycardia, leucocytosis and increased blood urea. They state that advanced cases respond dramatically to 1 or 2 fits daily for 2 or 3 days, and they remark that death is likely to occur more by under-treatment than by an excess. Of passing interest is the use made by Milligan (1946) of intensive E.C.T. in the intractable neurotic states.

We emphasized in a previous paper (Kino and Thorpe, 1946) that the effective use of E.C.T. requires individual adaptation to each case, and in general should be prolonged in schizophrenia, and intensive in mania. We mentioned that good results were achieved in mania by giving daily treatments, or even 6 to 8 treatments over a period of two days. In the present paper we wish to elaborate upon the latter statement.

The aim of E.C.T. in mania is the production of a degree of mental confusion just sufficient to suppress the abnormal level of psycho-motor activity, the intensity of treatment being in direct proportion to the degree of excitement. In milder cases it is sufficient to begin with one convulsion each day, but in the more acute states only multiple shocks for the first few days will calm the patient, leaving him with a transitory retrograde amnesia.

After the first treatment, the acute case quickly reverts to the previous state of excitement. Another convulsion is then given one to two hours after the first, and repeated at increasing intervals until it is judged that the degree of excitement has been definitely reduced. This may necessitate the administration of 3 to 6 treatments during the first day, at the end of which the patient usually complains of headache, but sleeps well during the night with the help of a sedative.

The treatment is continued on the second day with a reduced number of shocks, and on successive days is gradually tapered off to once daily, alternate daily, twice and once weekly, according to patient's condition, and tendency to relapse. There seems to be little danger in giving multiple shocks provided

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sufficient time is given for return of normal pulse and respiration, and for the patient to begin to regain consciousness (Sogliani, 1939). This we can confirm from our experience, even in patients on the verge of physical exhaustion from maniacal excitement.

A typical spacing of 24 treatments could be represented by the formula 32111 . . (24), where the figure in brackets indicates the total number of treatments, including those required at longer than daily intervals to maintain the patient in a quiet state. The complete course of treatment can be divided into three phases, the first phase, lasting two to four days, during which period the mental excitement is suppressed by multiple shocks; the second phase, extending over a period of four to 8 weeks, when maintenance of control will depend upon a judicious spacing of treatments; and a third phase of convalescence and rehabilitation, with cessation of shocks, and preparation for discharge home.

Often on the second or third day of treatment the patient will be found quietly eating a meal, or looking at a book, and conversation will be orderly and rational. Questioning will usually elicit the reply, " Where am I? What am I doing here? " and a retrograde amnesia will be found extending for a considerable period before the illness. The quiet co-operation of the patient will be appreciated by the nursing staff.

For the first few days after return to orderly mental functioning the patient is concerned with reorientation to recent events, and will welcome simple explanations and reassurance. The amnesia gradually recedes during the ensuing weeks. If the spacing of treatments is too long during this second phase a mild relapse of excitement may occur, which can usually be quickly brought under control by a temporary intensification of the treatment. A manic-depressive, on the other hand, may pass over to a period of depression. Many patients, however, show progressive improvement, to eventual recovery in two or three months' time. There is no evidence that this treatment has any influence on the tendency to second attacks.

The usual contra-indications to E.C.T. should be carefully considered, and one should be cautious in the early puerperal mania with its danger of pelvic thrombosis; but in our experience over a period of six years, during which some 20 cases have been given intensive treatment, all have tolerated it well. There have been no untoward complications of sequelae, and no evidence of persisting memory defects.

We have limited our observations to female patients, and since only 10 to 12 per cent. of admissions were manic, relatively few of these required intensive treatment. They were too few for statistical analysis, but most of them recovered. Of the recoveries, 12 have been selected as typical examples, and are summarized in the following table. One or two cases returned to hospital at a later date with second attacks, and one of these is included in the table. With regard to the mild relapses during the second phase, it is not unlikely that they could have been avoided with more experience in reaching the optimum spacing of treatments.

We feel that intensive E.C.T. has a definite place in the treatment of acute mania, and is worthy of closer attention.

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Intensive E.C.T. in 12 Female Patients with Acute Mania.

Case.	Age.	Admitted.	E.C.T.	Periodicity during 1st phase (total treatments).	Relapses during 2nd phase of treatment.	Discharged.
F. M. N—	66	2.6.41	24.7.41	23311..(18)	One	14.1.42
F. C—	46	13.7.41	14.7.41	2411..(12)	None	14.8.41
F. C—	51 (2nd attack)	27.12.45	29.12.45	2322..(50)	Two	6.6.46
M. P—	23	24.7.41	24.7.41	21111..(8)	None	14.8.41
K. W—	29	23.7.41	24.7.41	23311..(24)	One	11.12.41
V. Y—	32	17.12.41	18.12.41	211..(8)	None	14.1.42
G. L—	46	18.9.42	19.9.42	444..(20)	None	17.10.42
M. J. M—	26	24.1.45	25.1.45	221111..(13)	None	2.3.45
G. R—	31	8.6.45	9.6.45	4311..(20)	One	6.8.45
L. D—	42	2.2.46	4.2.46	3321..(20)	None	8.5.46
F. L—	16	6.7.46	7.7.46	4211..(26)	One	13.11.46
M. W—	47	12.9.46	13.9.46	3111..(15)	None	21.10.46
C. H—	49	19.9.46	19.9.46	211..(15)	None	10.12.46

Conclusions.

Intensive electrical convulsion therapy is a superior method of control in acute mania. The treatment is initiated by multiple shocks daily, and continued with gradual decreasing frequency.

With ordinary care, the treatment is in our experience without danger or undesirable sequelae.

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