HAS FEAR ANY THERAPEUTIC SIGNIFICANCE IN CONVULSION THERAPY?

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It is not uncommonly believed that convulsion treatment produces its successes mainly or entirely through the fear which it engenders. This opinion, more often implied than definitely stated, has been crystallized by McCowan (1), who boldly wrote:

"No reasonable explanation of the action of hypoglycæmic shock or of epileptic fits in the cure of schizophrenia is forthcoming, and I would suggest as a possibility that as with the surprise bath and the swinging bed, the 'modus operandi' may be the bringing of the patient into touch with reality through the strong stimulation of the emotion of fear," and "that the intense apprehension felt by the patient after an injection of cardiazol, and so feared by the patient, may be akin to the apprehension of the patient threatened with the swinging bed. The exponents of the latter pointed out that fear of repetition was an important element in success."

The little experimental and statistical work on the subject that I can trace does not support the role of fear as a therapeutic agent.

Blaurock *et al.* (2) divided a number of cases into three groups. To the first group they administered convulsive doses of cardiazol; to the second similar doses, but too slowly for convulsions to occur; for the third group they substituted normal saline, of course without the patients' knowledge. All their subjects had previously experienced induced convulsions and were therefore apprehension-sensitive. The authors found that marked effects on the vital signs (blood-pressure, pulse, respiration) and on the blood pH and CO_2 were not secured unless a convulsion occurred.

They conclude that the influence of the treatment is produced through the fit rather than by fear or by the pharmacological action of the drug.

Cohen (3) induced definite and often prolonged states of fear in 19 patients by means of ten successive daily injections of cardiazol, administered too slowly to produce fits. A month after this course the 16 patients of the group whose mental state was unaffected were given ten successive daily cardiazol fits. The clinical results showed that "the procedure with 'induced fear' was of less therapeutic value than that characterized by convulsions."

Low *et al.* (4) studied the fear reaction of 66 cardiazol treated cases. They report: "30 were labelled as 'always fearful,' of these 10 recovered and 20

https://doi.org/10.1192/bjp.86.362.484 Published online by Cambridge University Press

failed to recover. Of 26 patients who were ' usually fearful,' 11 recovered. Of 10 patients who either were ' indifferent ' or ' spontaneously asked for treatment,' 9 recovered. Patients who subsequently recovered exhibited less fear of the treatment than those who did not recover." Cohen (3) confirms this view from his experience of 146 schizophrenic patients.

This paper attempts no more than to record the degree of fear engendered by convulsion therapy in 275 cases treated at Bexley Hospital, and to discover whether there is any obvious correlation between the emotional reaction and the success of the treatment.

Method of Assessment.

In compiling this record two assessments incurring an observer's judgment have been necessary—that of the amount of fear experienced by each patient, and that of the result of the treatment. Such judgments are apt to be vitiated by the predilection of the observer, and statistics compiled from them are valueless unless the strictest precautions are taken to eliminate any possible bias. Bearing this in mind, the assessments of the degree of fear of the treatment were assigned to the sisters and nurses, who not only had charge of the patients during their course of treatment, but were present during the convulsion-episodes. They were thus in a position to observe the patients' reactions between the fits as well as immediately prior to each injection. They were asked merely to categorize the amount of fear displayed by each patient in + or — terms according to Table I. The staff concerned were not aware of the object of the inquiry, and the patients' subsequent fate was not considered at the time.

The assessment of the result of treatment has been mainly in my hands; consequently it may err on the side of optimism, although I have tried to conform honestly with Muller's criteria of recovery, remission, etc. (Muller (5), Cook (6)). Whether or not I have altogether succeeded has little bearing on the present research, as the assessments were made, except in a few very recent cases, before this investigation was thought of, and therefore before any subjectively desired correlation could exert its influence.

Table I.—*Symbols Expressing Degrees of Fear.*

+++	Extreme dread with manifest terror even at the mention of the injection.
++	Considerable apprehension and agitation.
+	Definite but not excessive fear of the injections.
±	Normal reaction elicited by a course of mildly painful injections, i.e. a certain amount of dislike, but little or no actual fear.
—	Indifference.

TABLE II.—*Relation of Fear to Results of Treatment (Males).*

Degree of fear.	Recovered.		Remitted.		Temporary remission.		Improved.		Temporary improvement.		Not improved.		Total.	
+++	1		0		1		0		1		3		6	
++	5	12	0	3	1	3	3	8	8	15	9	17	26	58
+	6		3		1		5		6		5		26	
±	7	16	3	6	1	2	2	5	3	9	6	19	22	57
—	9		3		1		3		6		13		35	
Total	28		9		5		13		24		36		115	

TABLE III.—*Relation of Fear to Results of Treatment (Females).*

Degree of fear.	Recovered.		Remitted.		Temporary remission.		Improved.		Temporary improvement.		Not improved.		Total.	
+++	0		0		0		1		1		3		5	
++	10	21	3	4	0	2	2	3	3	10	12	30	30	70
+	11		1		2		0		6		15		35	
±	14	47	0	2	0	3	0	3	6	7	10	28	30	90
—	33		2		3		3		1		18		60	
Total	68		6		5		6		17		58		160	

TABLE IV.—*Relation of Fear to Results of Treatment (Males and Females).*

Degree of fear.	Recovered.		Remitted.		Temporary remission.		Improved.		Temporary improvement.		Not improved.		Total.	
+++	1		0		1		1		2		6		11	
++	15	33	3	7	1	5	5	11	11	25	21	47	56	128
+	17		4		3		5		12		20		61	
±	21	63	3	8	1	5	2	8	9	16	16	47	52	147
—	42		5		4		6		7		31		95	
Total	96		15		10		19		41		94		275	

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TABLE V.—*Relation of Fear to Results of Treatment in Recovered or Remitted and in Not Improved Cases.*

Degree of fear.	Recovered or remitted.		Total.	Not improved.		Total.
	Males.	Females.		Males.	Females.	
+++	1	0	1	3	3	6
++	5 } 15	13 } 25	18 } 40	9 } 17	12 } 30	21 } 47
+	9	12	21	5	15	20
±	10 } 22	14 } 49	24 } 71	6 } 19	10 } 28	16 } 47
—	12	35	47	13	18	31
Total	37	74	111	36	58	94

DISCUSSION OF RESULTS (Tables II, III, IV, V).

It will be seen at once that, while no definite correlation between emotional reaction and result of treatment can be established, there is a general tendency for greater success to attend the treatment of patients who showed little or no fear.

If doubtful results of treatment are omitted (Table V), we find that out of 111 patients who recovered or remitted, 40 (36 per cent.) showed definite fear, and 71 (64 per cent.) did not, while for the 94 patients who did not improve, the respective figures were 47 (50 per cent.) and 47 (50 per cent.). Extreme terror (+++) was noted only in 11 (4 per cent.) out of all cases, and of these 1 alone recovered.

Indifference was shown by 95 (34·5 per cent.) out of all cases, and of these 42 (44·2 per cent.) recovered.

Despite the direction towards which these findings point, it would be folly to argue from them that fear tends to inhibit recovery or that its presence contra-indicates convulsion treatment. Too many recoveries occur in the most agitated of cases for this to be seriously considered. It would appear more probable that some of the factors contributing to a bad prognosis are also conducive to the formation of morbid apprehensiveness. The word "morbid" is used advisedly, because in my experience states of grave fear are of the rarest occurrence, when insight is returning and remission on the way to completion.

FACTORS CONCERNED IN PRODUCING EXCESSIVE FEAR.

The degree of emotional reaction to convulsion treatment appears to depend mainly on four factors: (1) the general temperament of the patient, (2) the influence of the prevalent psychotic phase, (3) the degree of accessibility, (4) the amount of memory for the convulsion-episode. Of these, the second is probably the most important.

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1. *General Temperament.*

The timid, suspicious individual, particularly if he is also obtuse and obstinate, might be expected to show and in fact does show an apprehension which is above the average. Again, a number of people, many of them highly intelligent, are temperamentally unable to overcome their horror of general anæsthesia, quite disproportionate to the dictates of reason. Such subjects naturally experience a similar dread of convulsion therapy, with its even more rapid lapse into unconsciousness.

2. *Prevalent Psychotic Phase.*

Many patients appear to incorporate the unpleasantness of the convulsion-episode with imaginary horrors symptomatic of their psychosis. Such cases, whose interpretations may be inconceivably terrifying, are amongst the most apprehensive and least accessible to explanation. On the other hand some are so preoccupied with bizarre ideas of a fearful nature that they scarcely notice any external unpleasantness.

The influence of the particular phase of the illness upon the patient's emotional reaction to treatment is well shown in some cases who have undergone more than one series of fits.

CASE 1.—A girl, aged 18, admitted in February, 1937, started a course of cardiazol convulsions in July, 1937, when she was highly excited and hallucinated. After six fits treatment was stopped owing partly to the violence of her agitation and apprehension, but mainly to the occurrence of regular post-convulsion maniacal states amounting almost to furore. Fits were restarted in March, 1938, when she had sunk into a semi-stuporose condition, in which she sat staring dully before her, was faulty in habits, and required hand-feeding and all other attentions. In this state she displayed no emotional reaction either before or after the fits, but her mental condition improved steadily and an uneventful recovery took place. She has now earned her living as a shop-assistant since her discharge in September, 1938, and remains very bright and alert.

CASE 2.—A married woman, aged 29, admitted in July, 1937, suffering from a schizophrenic paranoid reaction state, recovered after 13 fits, which she experienced without any signs of apprehension. In March, 1939, she was readmitted with a similar attack, except that she was considerably more suspicious and hostile. Twenty-five convulsions were induced with subsequent recovery, but this time she displayed a very definite fear of the treatment. This case demonstrates nicely that the result of treatment is not necessarily determined by the patient's emotional reaction.

3. *Accessibility.*

Except in cases of stupor or gross emotional apathy, the degree of fear tends to vary inversely with that of accessibility. Most of the very agitated (+++) patients were totally inaccessible, exhibiting a blind terror, which could not be influenced in any way. The effect of accessibility and insight was shown by a number of patients, who at first manifested every sign of dread, but as improvement set in began to realize that the injections were a form of treatment—not very pleasant, but apparently successful—and accordingly lost their agitation and the sharp edge of their fear. This observation, the truth of which is confirmed by my colleagues and by the nursing staff, does not coincide with Giorgi's statement (7) that as patients improve the aversion to treatment becomes increasingly greater. Such cases do occur, but in our experience the reverse is far more usual.

4. *Memory of Convulsion-episode.*

Patients differ considerably in their memory for the convulsion-episodes. Many can relate the whole course of events up to their loss of consciousness; a few on recovering consciousness ask when they are going to have the injection. The amnesia is variable, even in the same patient, but there are few who have not at least some vague idea of unpleasantness associated with the episode. In this connection my colleagues and I have failed to confirm the observation of Walk and Mayer-Gross (8) that triazol fits produce a more effective amnesia than cardiazol fits.

Even partial amnesia helps to allay subsequent apprehension, and a state of complete amnesia, sufficiently retrograde to include the preparatory phases, should go far to remove one of the greatest drawbacks to convulsion therapy.

Conclusions.

Quite apart from the indications of the statistics presented here, close personal observation of more than half of these 275 cases leads me to believe that fear of treatment plays no serious part in producing or accelerating remission. On the other hand, there is no valid reason for supposing that it inhibits recovery.

The question of the role of fear assumes a particular importance in connection with the recent introduction of electrically induced fits. By this method unconsciousness is nearly instantaneous and complete amnesia for the episode is claimed. If fear were in truth the basis of recovery and if it is abolished (except in those who have a temperamental dread of artificial unconsciousness, however produced) by electrical induction of fits, this method is foredoomed to failure. As it is, the results already claimed by workers in this field as well

as the findings of this paper tend to discredit the alleged curative role of fear in convulsion therapy.

Summary.

1. The degree of fear presented in 275 cases of cardiazol and triazol convulsion treatment is recorded and correlated with the result of treatment. The findings supply no evidence for assuming that fear exerts any curative influence.

2. Factors influencing the production of emotional reaction to the convulsion episode are discussed.

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