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THE EFFECT OF ELECTRIC SHOCK TREATMENT ON CHILDREN HAVING SCHIZOPHRENIC MANIFESTATIONS

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Following the wide use of electric shock therapy as treatment for mental disorders in adults, investigators and experimenters in this field naturally turned their attention toward children affected with similar disorders. This form of treatment was started on children over a decade ago at Bellevue Hospital. At Rockland (N. Y.) State Hospital Children's Unit this and other types of shock therapy have been tried, but in only a few selected cases, usually on chronic schizophrenics who had made no progress for years or were growing worse—and when all other measures of treatment had failed. Eventually, more and more children who had previously received electric shock treatment in outside hospitals arrived at the children's group, and as the scope of observation there increased, certain factors concerning the results of this form of therapy on children appeared. These will be described, discussed and evaluated.

Case Material Study

The subjects under study are composed of 32 cases; 25 boys and seven girls, all aged under 12 at the time of admission. The youngest child on admission was a boy a little over four. All children except one boy were of average intelligence and this child was too disturbed to be tested adequately, although his behavior, as recorded by the psychologist, suggested normal intelligence. All except two children had received electric shock therapy in city hospitals and had been included in a scientific study published by Bender.*

Diagnoses were changed after months of observation in a considerable number of cases. In fact, only nine children out of the entire group had final diagnoses of childhood schizophrenia; 20 were diagnosed primary behavior disorders, and three were classified as psychopathic personalities.

Group I. Schizophrenia

In this group of nine children with definite diagnoses of schizophrenia, the age of onset ranged from one to seven years; the age

*Bender, Lauretta: One hundred cases of childhood schizophrenia treated with electric shock. Trans. of Am. Neurol. Assoc., 165-169, June 18, 1947.

on admission from four to 11. There were six boys and three girls. In the follow-up study, it is noted that five have been discharged (four much improved, one improved) and have been making good adjustments on the outside where their progress has been followed for about two years. The three unimproved children continue to live in the hospital and are in regressed, deteriorated condition. All except two of the children in this group of 11 had received electric shock therapy before admission to the children's unit. Before admission, the majority had been described as having shown initial improvement for several months and then as having relapsed, or become worse; subsequently requiring admission to the children's group where they were treated for a year or more before showing much progress. It was felt that, because of this interval of relapse, and the long period of treatment before improvement, there was no question of a "delayed reaction" to electric shock, and that the improvement was due to other methods of treatment. (See Table 1.)

Table 1. Group I. Definite Diagnosis of Schizophrenia. Number of Cases: 9

Name	Age at onset Years	Age on admission Years	Sex	Length of hospital residence Years	Months	Follow-up	Condition
P. A.	6	8	F	1	6	Still in hospital	Unimproved
T. C.	6	7	M	9	7	Still in hospital	Improved
L. E.	7	9	M	2	1	2 years out of hospital	Much improved
R. F.	1	4	M	4	5	1 year out of hospital	Much improved
R. H.	6	11	F	2	7	2 years out of hospital	Improved
T. M.	2	8	F	2	3	2 years out of hospital	Much improved
N. R.	1	8	M	4	0	2 years out of hospital	Much improved
J. W.	3	10	M	3	2	Still in hospital	Unimproved
J. K.	2	10	M	3	0	Still in hospital	Unimproved

Age range on admission: 4 to 11 years

Conditions:

Much improved	4
Improved	2
Unimproved	3

Group II. Primary Behavior Disorders

Group II consists of 20 cases who, although diagnosed elsewhere as schizophrenic, were changed to final diagnoses of primary behavior disorders after long and careful observation in the children's group. It is quite true that the majority of these children showed some manifestations of schizophrenia, according to the history and outside records. However, according to observations at

Rockland, schizophrenic manifestations were not definite and were of minor consideration. For instance, these children merely showed such symptoms as tantrums, disorganized behavior, or some fantasy; or the Rorschach interpretation showed evidence of schizophrenia. On the other hand, they were in fairly good contact, and did not show any definite dissociation or loss of affect. Their emotional reactions were essentially adequate, and reasoning was mostly logical, connected, and relevant. There was no such marked distortion of almost the total personality as is usually found in schizophrenia.

The age of onset ranged from six to 10 years, and the age on admission from six to 11. There were 17 boys and three girls. As in the case of Group I, after receiving EST, the majority had been described, before admission to Rockland, as making initial improvements and then relapsing or becoming worse. Following admission to the children's group, they improved only after about six months to a year or more, with treatment under other psychotherapeutic methods than electric shock. Also, as in the case of Group I, some children had become severely disturbed or much worse following EST, one child going into a state of severe panic from which it took him months to recover. Thirteen of the entire group of 20 were finally much improved; five were improved; two unimproved. After one to four years of treatment, 13 children were discharged as much improved, and have remained very well adjusted for a follow-up period of one to two years. (See Table 2.)

Group III. Psychopathic Personality

This group is made up of three cases finally diagnosed psychopathic personality. As in the previous groups, they had received EST in outside hospitals and likewise relapsed and became worse, being admitted to the children's group a few months after receiving EST. The girl, aged four on admission, had symptoms characterized mainly by severe tantrums. She showed a decided improvement only after a long, four-year period of treatment. One boy showed considerable improvement after two years of treatment and was ready for release. The other boy made practically no progress, and the prognosis appears almost hopeless. (See Table 3.)

Table 2. Group II. Final Diagnosis of Primary Behavior Disorders.
Number of Cases: 20

(Children having schizophrenic manifestations but not definitely diagnosed as schizophrenia)

Name	Age at onset Years	Age on admission Years	Sex	Length of hospital residence Years	Months	Follow-up	Condition
H. B.	6	8	M	2	0	2 yrs. out of hospital	Much improved
E. B.	6	8	M	6	0	Still in hospital	Much improved
R. B.	7	11	M	2	10	Still in hospital	Much improved
C. B.	10	11	M	2	1	Still in hospital	Unimproved
L. F.	6	9	M	1	10	Still in hospital	Unimproved
R. C.	6	6	M	2	4	1 yr. out of hospital	Much improved
R. H.	5	9	M	4	1	1 yr. out of hospital	Much improved
E. H.	6	9	F	3	1	1 yr. out of hospital	Improved
G. H.	7	10	M	1	2	Still in hospital	Improved
G. M.	7	9	M	3	5	1 yr. out of hospital	Much improved
C. K.	8	9	M	2	2	Still in hospital	Improved
J. L.	7	11	M	1	10	3 yrs. in hospital	Much improved
R. L.	5	9	M	3	0	Still in hospital	Improved
P. M.	4	10	M	3	0	3 yrs., 4 mos. out of hosp.	Much improved
M. M.	7	7	F	1	10	3 yrs., 2 mos. out of hosp.	Much improved
K. M.	4	7	M	2	0	1 yr., 3 mos. out of hosp.	Much improved
L. M.	5	7	F	4	5	1 yr. out of hospital	Much improved
R. S.	7	10	M	2	5	1 yr. out of hospital	Much improved
J. T.	6	7	M	2	0	Still in hospital	Improved
R. B.	7	9	M	2	5	1 yr. out of hospital	Much improved

Age range on admission: 5 to 11 years

Conditions:

Much improved	13
Improved	5
Unimproved	2

Table 3. Group III. Diagnosed as Psychopathic Personality. Number of Cases: 3

Name	Age at onset Years	Age on admission Years	Sex	Length of hospital residence Years	Months	Follow-up	Condition
W. A.	8	11	M	2	6	Still in hospital	Much improved
A. S.	4	6	F	5	6	1 yr. out of hospital	Improved
P. A.	3	5	M	11	0	Still in hospital	Unimproved

Discussion and Conclusions

Until about 1942, very few children had been treated with electric shock therapy. At that time, this method of treatment was begun on children diagnosed as schizophrenic who were on the

children's ward, psychiatric division, Bellevue Hospital. In 1947, a study was presented by Bender,* of 100 cases treated with electric shock. Her conclusions, based on 98 of the cases, were that ". . . the initial schizophrenic process does not appear to be modified but that the child nevertheless benefits by improving in his capacity to deal with problems which are secondary to the schizophrenic process, especially anxiety, and secondary symptom formations." She believed, "There was no interference in the intellectual functioning." Complications were described as "minimal."

Bender believed the prognosis of schizophrenia in children appeared better with EST as a part of the treatment program, also that children could tolerate EST better than adults. However, it was noted in the follow-up of these 98 children that 35 were at that time in hospitals for the mentally ill, and 13 were in schools for mental defectives. In other words, about one-half of the total were in institutions and one-half at home.

In general, it may be stated that in all of the 32 children studied by the writers, the effects of EST were temporary, and resulted in no sustained improvement in the patterning of behavior. Relapses occurred in all cases, necessitating continued hospitalization.

Concerning the immediate or early reactions to shock therapy administered to children before their admission to the children's group, available reports have indicated transitory diminution of anxiety and overt aggressiveness in the majority of cases. In several cases, treatment was followed by initially increased excitement, confusion, and accentuation of difficulties in interpersonal relationships. A few children demonstrated an organic type of reaction, with memory disturbance and disorientation for brief periods.

One child of six who, prior to treatment, had been markedly withdrawn and was functioning largely on a fantasy level, showed a dramatic but short-lived improvement after a series of 40 electric shock treatments. However, several weeks later, she reverted to her pre-shock pattern of activity. Subsequent courses of histamine, and thyroid treatments, resulted in no apparent benefit. The two children of the writers' group who had EST at Rockland demonstrated but a transient response to this form of therapy. No appreciable changes have been observed in their general behavior;

*Bender: Ibid.

but one of the two developed a series of grand mal seizures a few days following the termination of treatment.

In a number of cases, parents have told the writers that their children were definitely worse after EST. In fact, many of these children were regarded as so dangerous to themselves or others that hospitalization became imperative. Also, after a course of such treatment one nine-year-old boy made what was interpreted as an attempt at suicide while at a convalescent home. A few months later, at the time of his admission to the Rockland children's service, he said that he had tried to hang himself because (referring to his fear of receiving more electric shock treatments) he was "afraid of dying and wanted to get it over with fast."

A 10-year-old boy with an IQ of 122, who had been reared in a disorganized, strife-torn home where he witnessed and was subjected to much physical violence, spoke of an intense desire to "kill" the physicians who had treated him, especially the one who had given him "electric shock therapy." He also showed great hostility toward his mother for consenting to this form of treatment. In fact, before his admission to Rockland, he made some sort of assault on his mother and then attempted to jump out of an apartment window.

Another boy, W. A., aged 11, (IQ 130) who at the age of seven had been exposed to sexual experiences by an irresponsible, alcoholic father, described his reaction to EST a year after treatment as follows: "When I heard the word 'shock' I thought they would put me in something like an electric chair. I was scared to death of them! I thought maybe I'd die, but after I woke up I wasn't so scared any more. But I felt like a bunch of rocks were going around in my head; I mean I had a headache! I was just as tense as I was before, and I was mixed up about things as before. I don't think they did me any good, because when I came here I was just as bad as ever. I couldn't do any school work so good any more."

E. H., a nine-year-old girl (IQ 107), who had felt severely rejected at home, and who at the age of seven had played truant and had engaged in sexual practices with older boys, expressed considerable resentment over receiving shock treatments five years before, saying, "They are only for crazy people, and I hope I'm not crazy. I had awful headaches and then I went to sleep. Only

when I woke up I didn't feel like I slept at all. I think I'd have gotten better without them."

On returning to their homes within a few months after EST, a number of these children had recurrent, intensified symptoms, as they became increasingly disturbed and acted out their impulses. For example, an eight-year-old boy tried to strangle his sister, a seven-year-old girl beat her infant brother, and two pre-adolescent girls, who had histories of overt sexual activity with boys, apparently became less inhibited in resuming similar conduct.

During their residence at Rockland, follow-up psychometric testing disclosed no significant deviations from the pre-shock levels of intellectual functioning.

Sustained improvement in these children was reached only after rather prolonged treatment in the children's group. This treatment was based on other psychotherapeutic methods than EST in a psychiatrically-controlled environment. The therapeutic approach was mainly that of a play technique, both in individual interview situations and in group situations, as in the art therapy room and in the classroom.

In further consideration of forms of therapy to be employed for such children, it is the writers' opinion, without minimizing the importance of play therapy and similar psychoanalytic methods, that the treatment of most outstanding value has been transference or attachment, giving the child contact with suitable parental substitutes.

In this paper the group studied is not controlled. However, Clardy previously reported a study of 10 cases* who did not have convulsive types of therapy, where the rate of good adjustment was approximately 66 per cent, which appears to be much better than the results obtained at Bellevue with electric shock therapy as reported by Bender,** since only 50 per cent of her cases were much improved following treatment with EST.

It appears to the writers that one should be fearful of giving electric shock therapy to very young children—those four or five years old—for we have no good understanding of what pathology may take place in the child's brain or the later effect of shock treatment on the personality that is only in the developmental stage. It

*Clardy, E. R.: A study of the development and course of schizophrenia in children. PSYCHIAT. QUART., 25:1, 81-90, January 1951.

**Bender: Ibid.

seems that one would be justified in giving this treatment only when the child has remained in a chronic state, or is deteriorating, and when all other measures have failed.

Important consideration must also be given to the psychological influence of shock experience on the long-range emotional and social maturation of youngsters so treated in their formative years. Perhaps some clues have been given by the children's personal reactions and their interpretations as reported here.

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