

LITHIUM IN AGGRESSION

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SUMMARY

Aggression is psychological and social menace. The safety of the patient as well as other members of the society is jeopardised due to severe acts of aggression. Hence control of aggressive behaviour gets a priority over various other symptoms. Various treatment modalities have been tried to control the act of aggression. We carried out this study to find out antiaggressive effect of lithium carbonate. Twenty resistant patients of varied psychiatric diagnosis showing aggressive behaviour completed this six weeks out door trial. They were started on lithium after initial assessment and were called once a week for evaluation with their relatives for total period of six weeks. Their lithium dose was adjusted and they were assessed on an aggression scale. We found clinical improvement in seventy percent of our cases. Our conclusion was that lithium has a definite role in controlling aggression.

Aggression though not easily defined is always a psychological and social menace. In animal observation⁷ aggression has been related to predatory, fear induced, irritable, territorial, maternal, sex-related, intermale and instrumental conditions (Freedman et al, 1975). In human beings, aggression has been associated with genetic factors, sex, testosterone level, mental retardation, epilepsy, encephalitis, brain tumors, organic psychosis, schizophrenia, affective psychosis, personality disorders, alcoholism and various other conditions. As safety of the patient as well as others is jeopardised due to aggression, control of aggressive behaviour in any condition, gets a priority over all other symptoms. Various methods including isolation, admission, E.C.T., antipsychotic drugs, tranquilisers,

hormones, psychosurgery behaviour therapy etc. have been tried for the control of aggression. Lithium carbonate is a new introduction in this field. A large number of reports have claimed that lithium has an antiaggressive effect even in patient not suffering from affective psychosis. These claims have covered a wide variety of patients of different clinical diagnosis in various situations. Lithium has shown its efficacy in non-psychotic imprisoned violent offenders (Johnson and Johnson, 1978), mixed group of hospitalised patients showing aggressive behaviour (Johnson and Johnson, 1978), patients of Huntington's Chorea showing aggression (Leonard et al, 1974) and in mentally retarded showing aggressive behaviour (Dak, 1980; Johnson and Johnson, 1978, Worral, 1975).

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AIMS

To evaluate antiaggressive effect of lithium carbonate.

MATERIAL AND METHOD

This study was carried out at the out-patient department of psychiatry of K.E.M. Hospital, Bombay. Patients, suffering from different psychiatric illnesses, but showing marked aggressive behaviour which was not controlled by the appropriate treatment with antipsychotics, E.C.T. antiepileptics, tranquilisers given for adequate duration of time, were included in this study. The patients stayed in their home atmosphere being in the same social surroundings before and during the treatment. One relative of the patient was taken into confidence at the onset of study. He was requested to keep records in his own language, of the patients' overt aggressive behaviour shown in course of one week. He would then accompany the patient to the hospital once a week for the total six weeks of trial.

These patients were started with 500-750 mg. of lithium carbonate in two to three divided doses. Every week the lithium dose was adjusted according to clinical judgement, emergence of side effects and serum lithium estimation which was done fortnightly. The side effects if any were noted at the same time. The patients were assessed every week on an 'Aggression Scale' with the help of relatives' data. The scale had two parameters; (1) the frequency and (2) the severity of aggressive outbursts shown by the patient during the last week. Each parameter was scored on a scale from 0 to 7. The aggression score for the week was obtained by multiplication of the two scores (Aggression score of the week = Frequency score x severity score). The clinicians global impression about aggressive behaviour was recorded

each time. Kidney function test and hemogram, pre and post trial period were recorded. The results at week 0 and week 6 were compared and analysed using paired 't' test.

RESULTS

The demographic data of these patients is shown in Table 1. Table 2 shows underlying psychiatric diagnosis of these patients, for which they underwent adequate treatment, before they were declared resistant and included in this trial.

As shown by Table 3, 14 out of 20 patients showed moderate to marked reduction in aggression as shown by clinical global impression scale at the end of the

TABLE 1. *Age and Sex Distribution*

Total No. of patients completed	20
Sex	
Male	13
Female	7
Age	
Range	13-38 yrs.
Mean	24 yrs.
Drop out	4

TABLE 2. *Psychiatric Diagnosis*

	Mental retar- dation	Epilepsy	Schiz.	Person- ality dis- order
Nc. of patients.	13	4	2	1

TABLE 3. *Clinical Improvement*

	Improvement at the end of trial			
	Nil	Mild	Moderate	Marked
No. of patients.	3	3	7	7

trial. The comparison between the initial aggression score and that at sixth week showed significant statistical difference ($t=3.26, p<.01$).

The lithium carbonate dose ranged from 750 to 1200 mg. and serum lithium level ranged from 0.75 to 1.2 mEq/lt. The patients accepted the tablets regularly as judged by relatives data and periodic serum lithium estimation. There were no serious side effects noted during the trial and kidney function tests and hemogram remained unchanged at the end of the trial in all the patients.

There were four drop outs from study. All the patients dropped out within first two weeks of study, for reasons not known to us.

DISCUSSION

It is difficult to define aggression and even more so to quantify it. All the studies cited were carried out on indoor patients and used different methods to quantify aggression. We devised our own scale to measure acts of aggression. Our study, in contrast to ones quoted, was carried out on outdoor basis and that too

on treatment resistant cases. We found that seventy percent of our patients showed moderate to marked improvement. The reduction in aggression score was also found to be highly significant. We consider our results very encouraging.

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