Lithium Carbonate as an Adjunct in the Treatment of Schizophrenia

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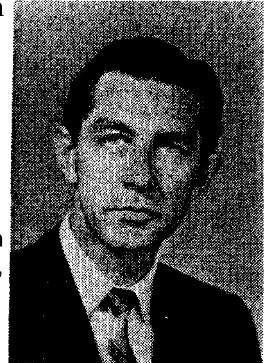
Introduction

Four cases are here described, out of a group of 19 schizophrenic patients, who received significant help from adding lithium carbonate to their treatment program. From these cases it seems that when the schizophrenic features of the illness are controlled with the mega vitamins and/or pheno-thiazines, the manic-depressive features become more obvious and can be properly treated.

The details of lithium therapy will not be described since this is adequately covered in many previous papers[1-4] and is included in the pharmaceutical description.

Four cases from the above group will be described. They are all chronic (i.e., ill for two years or longer) and the primary diagnosis of schizophrenia was made by someone other than myself. It will also be noted that in each case there had been an adequate trial of generally accepted treatments before lithium carbonate was started.



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It is generally agreed that lithium carbonate is of no value in the treatment of schizophrenia. The experience of the Twin Pines Medical Group, Belmont, Calif., with lithium carbonate since March, 1967, is in general agreement with the above statement. However, in 19 cases of schizophrenia, lithium carbonate has been a *valuable adjunct.* Now that lithium carbonate has been approved for general use, it seems appropriate to draw attention to this limited but valuable use in schizophrenic patients.

Case Histories

Case One: In December, 1966, I first saw this 19-year-old young man, when he was transferred from a state hospital, where he had been a patient for six months. He had been ill since the age of 12 and had been diagnosed as schizophrenic. He had had many hospitalizations, both private and public. During his previous hospitalization he

was allowed a few weekend visits, but each time he would return in a regressed, disorganized state which would last several days. Increased medication would be prescribed. The hospital staff was convinced that his mother's domineering attitude and actions caused the patient's relapses.

When I first saw him he was superficially pleasant but his content of speech was very restricted. There was no evidence of hallucinations or delusions. Behaviorally, he was on the apathetic side. There was no initiative in any sphere. He was taking thorazine, 500 mg. three times a day, Stelazine, 10 mg. three times a day, and Cogentin, 2 mg. three times a day. On an HOD he scored 85% on the Paranoid Score, 58% on the Perceptual Score and 28% on the Total Score.

During the next three months niacin, ascorbic acid and EST were added to his treatment. He developed two hyperactive, disorganized spells in the hospital, and one at home. They were three to four weeks apart and lasted one week, regardless of the dosage of medication, (thorazine, up to 6,000 mg. per day and/or daily EST). All three episodes were preceded by his watching football games on TV. Sports were his only interest, almost to an obsessive degree. His mother confirmed that all disturbed periods that she had seen developed during his watching various sports. In fact, during one of the patient's better periods he was able to reflect on this and confirm it. In the hospital on New Year's Day we witnessed the process. He was in fairly good control that morning. There were a series of football games on TV that day and with each one he became increasingly keyed up and excited *so* that by the end of the day he was completely out of control, for which increased medication had little or no effect and restraints were necessary. One week later, he was over it.

On March 28, 1967, his HOD was 82% on the Paranoid Score, 96% on the Perceptual Score, and 80% on the Total Score. By April, 1967, it seemed apparent that no treatment available was effective either in preventing or controlling the acute disturbed period. At this point he was given lithium carbonate, 250 mg. four times per day, in addition to the thorazine, Stelazine, niacin and ascorbic acid. No more acute disturbances have occurred since that time, which is now almost three years. He returned home, obtained a job on his own (he had never worked before), he finished high school, completed two years of a junior college and has held various part-time jobs to help pay his expenses. There has been no evidence of psychosis or neurosis despite several stressful situations. His medication has been constant for the past year at niacin and ascorbic acid, 3 gm. four times a day; Stelazine, 2 mg. per day; lithium carbonate, 250 mg. three times per day.

Case Two: This patient was first seen by me in February, 1967. She was age 33 at the time. She was a graduate of the University of California in home economics. She was married in 1955 and has two children. She was first hospitalized for schizophrenia in 1950 for six weeks and received insulin-coma treatment. In 1962 she was hospitalized for seven months for schizophrenia and received EST. In 1965 she was hospitalized twice for two months and one month; the treatment at that time was tranquilizers and psychotherapy. She was hospitalized again in November and December of 1966 and received EST; she was then started on niacin and ascorbic acid. It was noted that she had a marked improvement after the first EST, then gradually returned to her apathetic state as the EST was continued.

When I saw her in February, 1967, she was separated from her husband and two children, and the husband had filed for divorce. She had no interests or motivation; in fact, she could not take care of herself. In addition, she complained of being tired and fat. Her weight had increased from 125 pounds to 175 pounds during the past year, but mostly during the past six months. She was still taking niacin and ascorbic acid, 2 gm. four times a day; Stelazine, 5 mg. twice a day; and Orthonovum, 2 mg. a day because she had stopped menstruating. Her tolerance for cold had decreased. Her HOD at this time was within normal limits. Hypothyroidism and relative hypoglycemia were considered. The PBI was 4.4, cholesterol was 110, and the six-hour glucose tolerance test showed a fasting of 83 mg. %, a one hour of 186, two hour 197, three hour 203, four hour 215, five hour 149 and six hour of 103.

She was referred to an internist for treatment. He placed her on a 1,000 calorie diabetic diet which she didn't follow. She became progressively bored, apathetic and felt her condition was hopeless and made an abortive attempt to strangle herself, after which she was hospitalized. On examination she was depressed with psychomotor retardation. In addition to the obesity, now 183 pounds, she had excessive hair and it had a masculine distribution. EST relieved the acute depression but her general state left a great deal to be desired. She was referred to a university hospital for metabolic workup. No evidence of endocrine disturbance was found and the only recommendation was for her to lose weight, which she was not able to do.

Although she was no longer depressed, she was passive, sluggish and not functioning well. This continued for about two months. Her only medications were mega vitamins, B_3 and C, and occasionally thorazine. During a two-week period she began having difficulty sleeping but felt better, more alert, active and talkative. This gradually progressed into a typical manic state and hospitalization was again necessary. There was no evidence of delusions, hallucinations or perceptual distortions, except of time which was consistent with a manic state. At one point she became very childish, silly and giggly.

She was started on EST and lithium carbonate. After three EST she was out of her manic phase and looked and felt well. She was discharged on the following medication: lithium carbonate, 250 mg. four times a day; niacinamide and ascorbic acid, 1.5 gm. four times a day. Since then, a period of two and a half years, she has had no recurrence of either schizophrenia or manic-depressive reaction. She was able to reduce her weight to 125 pounds without difficulty. She has been able to live alone, take care of her children on extended visits, and is working. At present she takes niacinamide and ascorbic acid, 1 gm. three times a day and lithium carbonate, 250 mg. three times a day. The records of her previous hospitalizations indicate many delusions and hallucinations, yet I have seen none during my observations of her.

Case Three: This young man first became ill in 1965 during his last year in high school. It began with a marked change in his personality with general ineffectiveness at school and at home. He began to have auditory and visual hallucinations and was hospitalized for two months. He responded to phenothiazine medication and was able to finish high school, but his general state was one of apathy. He had two more hospitalizations because of disturbed episodes of a hypomanic nature with some hallucinations. I first saw him in April, 1967, when he was in a high state despite being on phenothiazines.

Niacin and ascorbic acid were added and in about three weeks he was back to his usual anergic state. The most appropriate diagnosis seemed to be chronic schizophrenia with recurrent hypomanic episodes. Later that year (1967) he had a GI disturbance which prevented his taking the vitamins and phenothiazine for a few days. He had a recurrence of perceptual distortions which disappeared when the medication was resumed. In October, 1967, he became typically manic again which could not be prevented or controlled by increasing the medication. He was hospitalized and started on lithium carbonate which was quickly effective.

For the past two years he has been on a combination of vitamin B_3 and C and a phenothiazine which controls the perceptual distortions and lithium carbonate which controls the manic episodes. He has had no further hospitalizations and for the past eight months has been in training at a trade school. A great deal of credit in this case belongs to the patient and his parents, who have learned to adjust the medications at the first sign of any change.

Case Four: This 41-year-old woman was first referred for hospitalization in May, 1965, at the age of 41 because of marked mental deterioration, especially during the prior four months. The history of her illness dates back to the birth of her only child, a daughter then 17 years of age. She immediately became disturbed and has been under psychiatric care continuously since that time. For 14 years she received psycho-analytically-oriented psychotherapy. During the latter part of that period she became alcoholic and for the past three years received help from an alcoholic clinic. She was given Antabuse, Parnate, Tofranil, Mellaril and Stelazine without benefit. She could no longer take care of herself or be cared for at home.

Although she had never been hospitalized before, she had the appearance of a chronic hospital patient. Her face was essentially expressionless and fixed. She had difficulty answering questions because of indecisiveness. She expressed a marked sense of fear and hopelessness and at times suspiciousness. Generally she was agitated, paced the floor and would say things to the other patients that would antagonize them, yet she was totally oblivious as to why they would become angry with her. At times her speech and actions were blocked for brief periods, suggesting a catatonic state.

The only treatment that she had not had was EST, so this was started. About the seventh treatment she began to improve in that she talked better and was more animated. She continued to improve through the 15th treatment, after which there was a leveling off; the treatments were stopped after the 19th. She was now more sociable but lacked self-confidence. She persistently functioned better than she thought she did. During discharge planning, she became tense and indecisive, so Mellaril was started. As more independent actions were encouraged, her strong dependency traits became more apparent. In spite of this, she continued to improve.

At the time of discharge she was far from well, but better than she had been in years and better than I had expected. During the first two months at home, she became increasingly anergic and gained weight. Physical examination and laboratory tests including a six hour glucose tolerance test were normal. Subsequently she developed a compulsion to drink, and did so. This was finally controlled with Antabuse and close supervision, but the previous problems persisted. In the latter part of 1966 she was started on niacin and ascorbic acid and increasing amounts of Cytomel. She had never been able

to assert much will power in refraining from eating, especially sweets. Mellaril was discontinued. There was a gradual improvement in her activities and interests, so after seven months she discontinued the niacin and ascorbic acid. She continued the Cytomel because she felt it helped control her weight.

Three months later her interests and activities increased progressively to a hypo-manic state. The Cytomel was decreased and the Mellaril started. Over the next three months she changed from hypomanic to depression, with psychomotor retardation, which did not respond to Norpramine. On December 5, 1967, she was started on lithium carbonate, 250 mg. four times a day, and two weeks later she felt normal. During the past two years since that time, she has continued on the lithium carbonate, Cytomel and small amounts of Mellaril. She has had one mild high period and one mild low period. She has progressively assumed more responsibility, so that she is now a part-time teacher's assistant in elementary school and works part-time in her husband's dental office. In addition, she has helped care for her aging and ailing parents. For all practical purposes, she appears to be living a relatively normal life, which is more than was ever expected by anyone, including the patient.

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