Carbamazepine and Psychotherapy in the Treatment of Schizoaffective Psychosis

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The authors describe the interactions between and the differential effects of carbamazepine and individual psychotherapy in the treatment of a schizoaffective patient. Carbamazepine's impact on the patient's affective life facilitated the establishment of a working alliance in psychotherapy. As the patient began to understand and differentiate aspects of his affective, cognitive, bodily, and interpersonal experiences, his life situation stabilized and his carbamazepine dose requirements diminished.

INTRODUCTION

During the past fifteen years, several authors have described the effects of carbamazepine on human behaviors [1–8]. Ballenger and Post studied the use of carbamazepine in patients with affective disorders and demonstrated its antimanic and prophylactic effects in patients with bipolar disorders [7]. Carbamazepine's antidepressant effects are less clearly documented [7]. Lipinski and Pope noted that lithium and carbamazepine may act synergistically in manic patients who have had a poor response to lithium alone [9]. There is also an extensive literature which explores the relationship between drugs and psychotherapy in the treatment of affective disorders, particularly depression [10–12]. To our knowledge there have been no case reports or controlled studies that have attempted to delineate the relationship between carbamazepine and psychological or social interventions in the treatment of lithium-refractory bipolar or schizoaffective patients.

Several years ago we began working with a young male schizoaffective patient, whose renal functioning had been severely compromised in association with prolonged lithium therapy [13]. He refused carbamazepine for a year but has been on the drug since 1980. This case report describes the interactions between and the differential effects of carbamazepine and his individual psychotherapy during the course of his inpatient treatment.

Brief Case History

Adam is a 33-year-old man, whose fourteen-year psychiatric history raises complicated diagnostic issues [14]. His clinical course is most consistent with a schizoaffective disorder, and it has been characterized by the initial appearance of depression followed by multiple hospitalizations for mania, as well as evidence of a formal thought

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disorder both in the presence and in the absence of an affective syndrome. The patient was the only male child in a wealthy family with four children. His birth and early childhood years were uneventful, except that he was noted to have Gilbert's disease. During latency Adam noted that his affective responses to stressful situations differed from those of others in his family. For example, when his dog died Adam stated, "I had no feelings at all." There was no history of psychomotor seizures. There was no documented family history of psychosis, affective disorder, alcoholism, seizures, or renal disease. Mother doted on her son yet related to him in a superficial, infantilizing, and controlling manner. Father attempted to protect his wife from emotional stresses and to maintain an outward appearance of family harmony. Adam experienced progressive alienation, self-doubt, and depression during high school. He also experienced brief periods of derealization and depersonalization but told no one of these symptoms. He left college during his junior year in a severe depression characterized by withdrawal and despair. During the next few years, depressive periods lasted from several weeks to months, alternating with months of hypomanic activity.

In the first of 16 hospitalizations Adam was admitted in a manic state and was begun on lithium. Over the ensuing eight years (1971–1978) his lithium blood levels averaged 1.5 mmol per liter. Adam's hospitalizations were usually precipitated by violent and psychotic behaviors, including mania, ranging in duration from a few weeks to several months. His compliance with lithium treatment as an outpatient was uncertain. When hospitalized for mania, Adam often required high doses of antipsychotic medication (chlorpromazine up to 3,500 mg per day) and seclusion during periods of psychotic decompensation. Although his manic symptoms usually responded to lithium within a few weeks, on other occasions he remained manic for up to three months. Prior to 1979, he had never received antidepressants.

In 1978 Adam had an open renal biopsy which revealed chronic interstitial nephritis. His lithium level was 2.0 mmol per liter and his serum creatinine was 4.1 mg/100 ml at the time of his biopsy. Eleven months earlier his serum creatinine had been 2.0 mg/100 ml. A right retrograde pyelographic examination was negative. It is not clear whether Adam had any evidence of renal dysfunction prior to the initiation of lithium treatment. Lithium was discontinued prior to the biopsy, and high doses of antipsychotic drugs were utilized during subsequent manic episodes which occurred each fall and winter. Electroconvulsive treatment was not attempted, and there is no evidence that psychological interventions were of any benefit. Evidence of early tardive dyskinesia was noted in 1979.

**Early Hospital Course**

Adam was an inpatient at the Yale Psychiatric Institute (YPI) for three years (1979–1982). The first seventeen months of his hospitalization were marked by a series of dramatic changes of clinical state, including assaultiveness, depression, suicidality, and higher-level functioning. During this period, a series of medication changes were ordered in response to changes in symptoms. The drugs utilized included thioridazine, chlorpromazine, haloperidol, thiothixene, amitriptyline, and tryptophan. Adam was also treated in individual, family, and group psychotherapy, although none of these interventions appeared to have significant effect on the course of illness. A number of behavioral interventions were also attempted, including seclusion, restraints, and wet packs. His admission diagnosis was bipolar disorder, mixed type. A sleep-deprived electroencephalogram was unremarkable, and a CAT scan with contrast revealed no
abnormalities. Serum creatinine levels ranged between 2.5 and 3.5 mg/100 ml, creatinine clearance was 44 ml/minute, and treatment with lithium was contraindicated. In the latter three months of this 17-month period, Adam became suicidally depressed. There was no significant response to amitryptiline.

**Carbamazepine and Individual Psychotherapy**

Although nearly three years of treatment will be summarized, our report will focus on an eight-month period, during which the patient was most symptomatic (July 1980 to February 1981). Since then, the patient’s clinical course has been relatively smooth. He has not had serious manic or depressive symptoms in four years, has been out of the hospital for nearly three years, has married, and works full time. He continues to be involved in intensive individual psychotherapy and takes carbamazepine, 600 mg per day (plasma level = 11.8, therapeutic range = 8–12 mcg/ml).

Adam was severely depressed when J.C. became his individual therapist (July 1980): “I have given up on life,” and alternated between a glazed, withdrawn posture and marked agitation. His thoughts were often blocked, and his speech was broken. He felt hollow, inept, and was generally unresponsive to others. He also expressed a strong fear of emergent homosexual feelings. He was fixated on the past and seemed to be victimized by tormenting fragments of memories from childhood and early adulthood. Carbamazepine was started three weeks after treatment began with J.C. The dose was progressively increased from 200–600 mg per day over a ten-day period. No side effects were observed, and a plasma level of 9.0 mcg/ml was attained within 20 days.

The therapist began to intervene in Adam’s depression, at first by acknowledging his feelings of worthlessness and later by focusing on present thoughts and feelings, including reactions to the therapist. The therapist later redirected Adam’s focus to his contact with others, particularly parents and peers. Both the therapist and the ward staff attempted to bring a high degree of clarity and structure to their work with Adam.

Adam’s depression began lifting during the tenth week of therapy, coincident with an increase in carbamazepine to 800 mg per day. Adam’s carbamazepine plasma level had dropped, and there was concern (because of past history) that he might become hypomanic. It is not clear whether the lifting of Adam’s depression was a drug effect, related to his psychological treatments, to the natural course of his illness, or to some combination of the above factors. He was able to go on trips outside the hospital for the first time in over a year. By mid-October, however, mild elevations in Adam’s mood were apparent. Progressive increments in carbamazepine, up to 1,400 mg per day, led to substantial stabilization in Adam’s mood but did not lead to significant changes in his drug levels. In therapy Adam seemed to take some distance from his hypomanic symptoms, and Adam’s struggles for independence became a focal point in therapy. Once again the therapist attempted to clarify and structure Adam’s thoughts and poorly differentiated affects.

As Adam’s depression lifted he became more involved with staff and other patients, and the therapist attempted to teach Adam to monitor momentary feelings. At first, Adam found it difficult to monitor such feelings and often attempted to describe them in metaphors or highly abstract analogies. He quickly learned, however, to articulate his feelings in a more spontaneous and less contrived manner. Within a month, Adam became more active and invested in floor activities. His thinking also seemed better integrated. He began to experienced positive affect. The emergence of positive affects
was, however, quickly followed by brief episodes of expansive and grandiose thinking, apparently in response to competitive, angry, and sexual feelings elicited in his contacts with peers and staff. These episodes were also associated with his parents' extended vacations. Unlike earlier experiences with mania, Adam described these episodes as fleeting with a sense of detachment rather than enmeshment in his feelings: "Oh, I'm having a crazy thought; isn't this interesting." He began to express overt anger for the first time in a controlled nonmanic state, at first in a forced, defensive manner by pronouncement and later in a more spontaneous fashion.

A significant decrease in the level of agitation was observed during the third month of psychotherapy and a reduction in anxiety during the fourth month of psychotherapy. The decrease in anxiety and an associated reduction in the level of Adam's egocentric thinking appeared to help Adam to maintain an interest in his new therapist, to develop a more substantial therapeutic alliance, and to better articulate his subjective experience of depression.

In the next two months, Adam began to consider the long-standing conflict of dependence/independence in relation to his parents. Adam wavered in his discussions about his parents and others between autocratic pronouncements of his feelings and thinking and greater appreciation of and yearning for mutual understanding. The therapist encouraged him to consider the apparent egocentricity of his understanding and also began to reconstruct a developmental scenario including Adam's style of coping with threats to autonomy and the long-standing repression of affect. Consistent with an earlier theme, Adam was asked to consider the reality of persistent grandiose notions of his competence, giftedness, and specialness (in periods in which he was not depressed). Toward the end of this period, he began to feel less anxious in the presence of others and more confident of his ability to modulate his affective responses to others.

They don't know it yet [parents], but the war is over. Like Taras Bulba [the movie], I've jumped the chasm on my horse. Looking back, it doesn't seem like such a big deal. It becomes more tolerable when you realize the game is the chess board, rather than a single piece you're working on at any given moment.

Adam did not require antipsychotic medication through the fall of 1980. His hypomanic symptoms had responded well to carbamazepine and he worked effectively both in psychotherapy and on the ward. Just before Christmas, however, a major problem arose which threatened the success of Adam’s treatment. His blood pressure, monitored since his admission, was in the borderline range (diastolic 85–90 mm Hg); it began to increase significantly at times with diastolic readings of over 100. Higher readings were often, but not always, associated with increased hypomanic activity. Renal consultation was obtained, and we pursued the question of whether carbamazepine caused elevated blood pressure. We learned that the drug manufacturer (Ciba Geigy Pharmaceuticals) had records of only four or five anecdotal cases of elevated blood pressure associated with its use [15]. In each case, the patient had a previous history of hypertension and the blood pressure returned to its pretreatment level when the carbamazepine was discontinued. The drug manufacturer suggested that we stop the medication. The drug was dropped by 200 mg increments and, within five days, at a plasma level of 5.0 mcg/ml and a dose of 1,000 mg, Adam became severely hypomanic. After consultation with our medical consultants and the family, the carbamazepine dose was raised to 1,400 mg and within three days Adam's mood normalized. His blood
pressure was stabilized with a regimen of lasix 80 mg/day, inderol 160 mg/day, and a low-salt diet. Adam’s creatinine clearance remained unchanged from admission values.

The onset of this medical problem, coupled with the fact of Adam’s parents and individual therapist taking extended vacations, seemed to trigger the onset of brief episodes of mania. During one such episode, Adam developed a theory of “lunatricity”: “the energy lost when forces beyond one’s control intrude and act upon one.” The clinical interventions in such episodes were:

1. increased dosage of carbamazepine from 400 mg three times daily to 1,400 mg/day
2. measured responses to pro- and antisocial behaviors, including greater freedom and responsibility as well as brief periods in seclusion
3. increased efforts to encourage expression of affect, particularly anger, insecurity, and dependency
4. an effort to help Adam understand manic episodes as reactive within the context of a larger conflict over dependence/independence

Although it is clear that Adam experienced unmistakable periods of hypomania during this period of his treatment, the duration of these episodes was brief. Also, the settings and apparent stimuli for such episodes became clearer; Adam was extremely sensitive to separations, to perceived challenges to his sense of independence and autonomy, and to decreases in his carbamazepine dosage. Adam began to integrate apparent psychotic levels of understanding, i.e., “lunatricity,” with more substantial forms of understanding, albeit overly symbolic and metaphorical. As a case in point, the “principle” of lunatricity was subsequently integrated in a new metaphor for Adam’s understanding of human relations:

I used to operate under the assumption that my universe was Ptolemaic—everything revolved around me, my parents, and my friends. I now understand that I need to understand things in relation to a Copernican universe. There are multiple centers—my parents are one, but only one center toward which I must relate a part of myself.

Thus a prolonged period of florid mania was averted by a conjoint management of medication, cognitive controls, and behavioral contingencies. Adam was successful in expressing anger toward his parents in a controlled manner for the first time in his hospitalization and, according to Adam, for the first time in his life. The expression of anger as a vehicle for developing a sense of separateness from his parents began to lead to a change in Adam’s assumptions about relating to others.

Adam’s carbamazepine dosage was stabilized at 1,400 mg per day and he became more involved in ward activities, achieved greater freedom within the hospital, and demonstrated less dramatic fluctuations in mood. He was urged to assume a greater role in charting his own future and in asserting his independence.

His initial responses to this challenge were somewhat grandiose and adolescent. He assumed the role of a staff member or the role of an entitled patient who was above the rules and regulations of the hospital. When confronted with the narcissistic and egocentric quality of his behavior, he began to seek guidance from his therapist and began to practice cooperation and mutuality. He expressed the wish to establish a single and sustained romantic relationship with a female. He had translated a set of
criteria for stability and mutuality (albeit in an artificial manner) from earlier explanations of the requirements for a successful treatment plan; clearly, he had begun to internalize a new set of criteria for his own life. Toward the end of this period, he became active in planning an eventual transfer to a more open hospital environment. This plan included working at a job outside the hospital.

A standard psychological test battery was administered shortly after his move to the open hospital environment. Despite considerable evidence of higher functioning and no overt evidence of psychosis, testing indicated the presence of an underlying schizoaffective psychosis with thought disorder, grandiosity, narcissistic character pathology, and prominent themes of depression, anger, and disturbed sexuality. Testing also indicated the presence of more reality-oriented defenses and adaptativeness, particularly in more structured settings. The testing confirmed, then, the precarious nature of Adam's recompensation and the need to continue a gradual, structured, and rational treatment plan including: (1) continuation of long-term hospitalization; (2) continuation of psychotherapy after hospitalization; (3) continuation of medical treatment with carbamazepine and medication for blood pressure; and (4) creation and maintenance of structured plans for gradual assumption of life outside the hospital.

DISCUSSION

Synergy Between Carbamazepine and Psychotherapy

Adam's treatment illustrates the importance of addressing all areas of a patient's pathology in a systematic and integrated manner. It emphasizes the clinician's need to view the patient from multiple perspectives, i.e., biological, familial, characterological, and so on, and to maintain an ongoing awareness of the patient's strengths and weaknesses. A variety of clinical interventions have been described; the choice and timing of specific interventions affected particular aspects of the patient's clinical course (e.g., carbamazepine to reduce manic symptoms).

Carbamazepine caused a rapid reduction in manic and hypomaniac behaviors. It has helped to prevent the eruption of major depressive or manic episodes for over four years. Adam was quite depressed when carbamazepine was initiated. Although it probably contributed to a reduction in his level of agitation, irritability, and anxiety and facilitated accessibility to psychotherapeutic intervention, symptoms of depression persisted for eight weeks after the drug was initiated. The patient's depression lifted during the fall of 1980. Adam usually became hypomanic during autumn. Medication coupled with the development of a solid working alliance in psychotherapy may have contributed to his emergence from depression. The carbamazepine's impact on his depression is unclear, but he had previously been inaccessible to psychotherapeutic interventions during depressive periods.

Evidence of impending mania became apparent in the patient's psychotherapy before manic behavior was noted on the ward. In addition, it was observed that a decrease in Adam's carbamazepine blood level was associated with impending manic activity. Carbamazepine dosages were raised rapidly in response to manic symptoms during the first several months of treatment. Increasing the carbamazepine dose led to increased drug levels and blocked or markedly reduced manic activity. Post et al. [16] have noted that there is no consistent correlation between carbamazepine plasma levels and its clinical efficacy as a psychotropic agent, except that the therapeutic range seemed similar to that necessary for anticonvulsant efficacy (6–12 mcg/ml). They have, however, demonstrated that cerebrospinal fluid concentrations of carbamaze-
pine's -10,11- epoxide metabolite correlate positively with the drug's antidepressant effect [16]. Although we obtained carbamazepine plasma levels only, we observed that Adam required carbamazepine levels in a high therapeutic range to block manic symptoms; moreover, as he was becoming manic, his "carbamazepine space" increased, i.e., it took higher doses to maintain a given plasma level at that time. A like phenomenon is seen with lithium treatment of manic patients.

Antipsychotic and antidepressant drugs were not used following the administration of carbamazepine. Although there was no clear evidence that the drug demonstrated any antidepressant or antipsychotic effect in this patient, Adam was more accessible in therapy and on the ward during both psychotic and depressive periods. He seemed to have more distance from his psychotic and depressive symptoms.

Adam's individual psychotherapy has focused on helping him to understand his affective and cognitive experiences, making him aware of the severity of his illnesses and teaching him to take responsibility for his medical care, teaching him about his coping style under stress, increasing his interpersonal skills, and fostering autonomous functioning. The therapist tried to help Adam organize, structure, and understand a variety of internal and external events through clarification, confrontation, and interpretation.

Adam seems to think more clearly on the carbamazepine, and this has enhanced his ability to utilize psychotherapy. As his life situation has stabilized, including work and a happy marriage, there has been no need to alter his carbamazepine dosage. Even during the autumn, when Adam is at great risk for mania, his mood has remained relatively stable and his carbamazepine plasma level has not fluctuated. Indeed, clinical efficacy has been maintained with lower dose levels. This change might suggest that the gains he has achieved in psychotherapy coupled with his increasingly stable life style have reduced his vulnerability to mood swings. It must be recalled that Adam experienced manic episodes, at least yearly, during the nine years prior to carbamazepine treatment. Since he has been on this drug, such symptoms have been transient and readily controlled. To the extent that both carbamazepine and psychotherapy stabilize various aspects of Adam's emotional and mental processes (biochemical vs. self-awareness and improved interpersonal functioning) they act synergistically.

**Issues in Psychotherapy**

Bruch views the process of differentiation of the schizophrenic person as faulty, "distorted and incomplete" [17: 347]. The patient has no sense of how to understand his own behavior and that of others. Once the therapist has raised "the possibility of establishing meaningful interpersonal communication" with the patient, several therapeutic tasks emerge [17: 347]. These include: helping the patient to discover "self-initiated behaviors," "unmasking areas of disturbed self awareness," and pointing out distortions in the patient's perception of the world [17: 348]. Careful exploration and clarification of the patient's relationship to the therapist and of the goals of therapy is central to this process [17]. This development of heightened self-awareness and discovery is primarily an educational process, which involves the patient's "becoming aware of bodily sensations and learning to correctly identify different bodily states" [17: 350]. It also involves developing an awareness of the relationship between changes in bodily sensations (e.g., in levels of energy) and the patient's cognitive and affective experiences. The process of differentiation must include the proper naming of bodily, affective, cognitive, and interpersonal experiences.
as well as an understanding of how behaviors, affects, and thoughts originate (i.e., in response to internal or external cues). Thus, the process of differentiation serves as a first step toward organizing the patient’s experiences. Adam’s course in treatment may be viewed along such a “differentiation continuum.” Developmental elements in this continuum include: (a) differentiation of self-other; (b) differentiation of dependence-independence; and (c) heightened self-awareness, understanding, and control over bodily states, affects, and cognitive processes leading in turn to increasing control over overt behaviors [17]. With increased awareness of and control over interpersonal interactions and life in general, external control measures of an inpatient holding environment such as physical restraints, wet packs, medication, and so on become less necessary. Differentiation of experience ultimately leads to hierarchic integration and finer regulation of experience.

Some patients, like Adam, with a biological element in their medical and psychiatric illnesses, may require medication to aid in self-regulation indefinitely. As internal states become more highly differentiated, clearly identified, and understood, however, the extent to which chemical regulatory agents are needed by the patient may be modified. In contrast to 1979 when he was unaware that he was experiencing intensified biological processes which triggered his affective lability, Adam’s current heightened awareness of internal experiences may now allow him to exercise some control over the intensity of these shifts. Indeed there have been fewer episodes of hypomanic behavior and, most important, the patient seems better able to regulate his energy level, affect, and behavior.

This is not to say that he does not require carbamazepine—he does. We are suggesting that Adam’s heightened self-awareness and control act synergistically with the carbamazepine. Interestingly, this man who has clearly been psychotic, even when not manic, has not required antipsychotic medication in four years. Without attempting to formulate a theory for this, exploration of the concept of “lunaticricity” and its evolution over time sheds some light on the way in which psychotic thought processes may be modified over time.

Initially expressed as a condensed symbolic metaphor for then-current conflicts with parents and increasing awareness of their influence in his life, the principle of “lunaticricity” was communicated to the therapist as a revelation. Adam believed that he had uncovered a principle at least as important as the theory of relativity; he considered himself to be a genius in the field of interpersonal communication. The “principle” incorporated a number of associations including a visual perceptual experience (the moon), a reference to his former home (which contains the syllable -lun) and an evaluation of his present state (lunatic). As a principle, Adam incorporated a recent conflictual experience (attempting to communicate anger to his parents) and a growing awareness of the past and present influence his parents have had in his life.

The concept of “lunaticricity” evolved slowly in the context of discussions of egocentricity and narcissism. Originally a principle expressing the release of energy in conflicted interpersonal situations, Adam twice revised the concept. In the first revision, lunaticricity referred to the energy available after the controlling factors in interpersonal relationships had been discovered. In the second revision, lunaticricity was juxtaposed to a new metaphor. Relationships must be understood in a Galilean rather than a Copernican universe; that is, controlling factors (people) do not derive from
simple relationships between the son (sun) and parents. Parents are only one center. People relate to multiple centers, e.g., friends, lovers, therapists, and the like. Whereas Adam formerly believed that parents revolved around his life, he came to believe that he interacted with a number of interpersonal centers. Therefore, the energy available in complex interpersonal relationships can be isolated to particular centers of activity. Several months later, Adam referred to the "principle" as an example of manic thinking that combined experiences of his struggles with independence, creativity, and inner control.

The evolution in the concept of lunaticricity thus shows a progression from manic, grandiose, and psychotic associations to ill-perceived conflicts, to the partial incorporation of a concept of more complex and stable interpersonal relations, to greater differentiation and organization of interpersonal experience, to a reality-oriented assessment of his own thinking. The progression reflects changes in Adam's metaphors for his relationships with others, including issues of control, energy level, and reality testing.

In the introduction to this paper the authors indicated that they wished to explore the differential effects of psychotherapy and carbamazepine during the course of Adam's treatment. In this discussion they have suggested that the more poorly differentiated, the more disorganized, the more chaotic a person's internal life is, the greater the need for external structure, control, and support in the patient's treatment. During the case presentation it has been indicated that no amount of external structure, support, or medication was of ongoing benefit to Adam prior to the use of carbamazepine. Although it was felt that carbamazepine was critical for psychological intervention, the fact that a change in psychotherapists occurred concurrent with its use makes it difficult to determine how beneficial the drug really was for Adam. Carbamazepine, in conjunction with a highly structured and clearly articulated series of psychosocial interventions, led to an immediate reduction in Adam's anxiety, however, and it allowed for the possibility of meaningful communication between Adam and his therapist. The authors believe that the drug provided the initial control necessary to regulate Adam's energy level, affective experience, behaviors, and psychotic thoughts. Knowing that this type of control was available provided an enormous degree of support, reassurance, and hope to Adam, his therapist, his family, and the hospital staff.

A developmental/historical perspective provided clear structure for Adam early in therapy, facilitating organization of past memories, current experiences, and expectations for change. This structure provided Adam with a foreground (moment-by-moment experience) and a background for understanding normal and abnormal development of thinking and affectivity. Focusing upon momentary affects, especially in the context of the therapeutic transference, facilitated greater differentiation of affectivity. Therapeutic interventions were increasingly perceived as helpful rather than intrusive and controlling manipulations. Consistent efforts to foster an ability to center and decenter his experience appear to have given him greater understanding and control of his inner experiences, affects, and behaviors.

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