CASE REPORT

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Lithium treatment of four 'affect-related' disorders

Lithium carbonate has been shown[1-3] to be an effective therapeutic and prophylactic agent for bipolar affective disorder, and also for a wide spectrum of other psychiatric and medical conditions. With the advent of carbamazepine as a psychotherapeutic agent, the focus of psychiatric research has shifted away from promising alternative uses of lithium. This shift is unfortunate, especially when we consider the specific "affect-related" conditions of explosive-aggressive personality disorder, alcohol dependence, and cocaine abuse.

The literature[4-12] regarding the use of lithium in explosive-aggressive personality disorder (now referred to as intermittent explosive disorder) invariably shows positive results. Patients in this diagnostic subgroup most favorably treated with lithium have been described as possessing the following attributes: mesomorphic body build[4]; asocial or antisocial personality traits[5-7]; moderate mood fluctuations and paranoia[6,8-10] but an extremely rapid and affectively intense response to provocative stimuli[7,8]; a long history of violent outbursts[5,7-9] experienced as ego-alien and ego-dystonic,[6] and directed against significant others, including family members,[11,12] and self[8]; and role models consisting of brutal and often alcoholic parents.[7,12] An excellent review of the topic has been provided by Sheard.[7]

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The literature is not so definite, however, regarding substance abuse. The use of lithium in the treatment of alcohol abuse is controversial,[2] and warrants further evaluation. Studies[13-15] of the therapeutic use of lithium for cocaine abuse are sparse, and consist mostly of anecdotal animal experiments demonstrating the behavioral antagonism of the two agents. The continuity of substance abuse disorders with bipolar affective disorders has been proposed,[16,17] and this has led to clinical trials of lithium in drug-related states, including cocaine abuse[16],[18] and cocaine-induced psychoses.[19,20] Two isolated case reports[18,20] also discuss the direct antagonism of cocaine "highs" by lithium.

We present a case report of a single individual successfully treated with lithium carbonate, manifesting the multiple psychopathology of bipolar disorder, intermittent explosive disorder, and alcohol and cocaine abuse. To our knowledge there are no reports in the English-language literature of similar cases with lithium successfully employed to treat three or more psychiatric conditions simultaneously.

Case report

A 29-year-old man with no prior psychiatric history appeared subsequent to an episode of violent rage and "loss of control," during which he physically assaulted his girlfriend of eight years and demolished their two automobiles. He claimed that he and his girlfriend were initially involved in a minor altercation over their budget when he inexplicably "exploded," and then engaged in a session of heavy drinking. He had a long history of violent outbursts of a similar nature (occurring independently of any alcohol consumption) beginning at age 9, when he had been struck on the head

with a baseball bat. These episodes had occurred approximately once a month until six months ago when they escalated to two to three times per week. He claimed to us that he felt extreme remorse over his behavior, but he continued to act impulsively. He denied any prodrome for these "attacks." They are *unrelated* to any manic-like symptomatology, or any type of substance abuse.

The patient also related a long history of hyperactivity, hypersexuality (desire to have relations with his girlfriend up to eight times per night), spending sprees, racing thoughts, pressured speech, and feelings of grandiosity (communications with extraterrestrials, a sense of being "special") and elation, alternating with severe episodic depressions characterized by dysphoric mood, "crying spells," decreased sleep and appetite, feelings of hopelessness and helplessness, and pervasive loss of interest in his usual activities. In addition, he said that he had been a "binge drinker" (three six-packs of beer or one pint of whiskey per night at varying intervals) since age 14 when his parents had divorced, and a cocaine abuser of four years' duration. He claimed that he "broke" his one- to two-gram per day cocaine habit two months ago because he was experiencing vague auditory and visual hallucinations, but still had the desire ("craving") to try it again.

The family history was notable for bipolar illness and alcoholism in the father, and a suicide by an older brother. No history of epilepsy or other medical conditions in the patient or his family could be obtained.

The mental status and physical examinations and all laboratory data (including thyroid and renal function tests, ECG, and EEG) were within normal limits, except for the manic-depressive features noted above. The patient was started on haloperidol, 5 mg po bid, and lithium carbonate, 300 mg po tid. The hospital course was unremarkable and the haloperidol was discontinued after one week. He was discharged five days later with a lithium level of 0.54 mEq/L, and weekly follow-up visits with the first author (JF) were scheduled.

After ten months, the patient reported *no* violent outbursts or exaggerated mood fluctuations. He stated that he was "able to stand back and consider the consequences of my actions, instead of just exploding." Even in the throes of frustration (one court appearance, financial setbacks, arguments with his girlfriend), he said that he "didn't even feel like exploding" and had a significantly increased level of "patience." His girlfriend emphatically stated, "This is the best he has been in four years!" He also reported total loss of his "cravings" for cocaine.

He was started on disulfiram, 500 mg/d po, during the fourth follow-up session, after revealing that he "gets drunk after imbibing much less alcohol now; but it's not the same drunk—alcohol has lost its buzz... it doesn't even taste good any more." The lithium level was maintained at between 0.5 and 0.8 mEq/L except during the second week, when it dropped precipitously owing to noncompliance to 0.18 mEq/L, and the patient experienced partial recurrence of his problem (he felt "like exploding," and pounded on his front door with his fists after engaging in another "alcoholic binge"). During session 2, we therefore increased the lithium dosage to 600 mg po tid. No further problems have been noted after maintenance on this dosage. Both the patient and his girlfriend express extreme satisfaction with the results.

Discussion

Our case is unusual in that it exemplified the use of lithium in the treatment of four conditions simultaneously, but it is replicative in that closely similar results have been obtained by other clinicians. Our patient satisfied all the prerequisite criteria for favorable treatment outcome in intermittent explosive disorder; the effects of the lithium therapy were noted after as brief a time as one week[5]; and his subsequent report of acquiring the ability to contemplate his actions before "exploding" parallels a variety of other observations that have been noted in other patients with similar patients.[5,7,8,11]

Of special interest, however, is the effect lithium produced in our patient's substance abuse behavior. We know of no other case report in which lithium evidently counteracted the "buzz" and taste of alcohol or decreased the threshold of drunkenness (Klein and associates[21] reported a similar finding with monoamine oxidase inhibitors). Lithium by itself of course does not cure alcoholism, but it may motivate the patient to accept disulfiram therapy, thereby functioning as a useful therapeutic adjunct. Additionally, our patient's self-report supports a potential ameliorative effect of lithium on the craving for cocaine. This finding, when combined with the outcomes of the studies cited in the introduction, provides evidence that lithium might have a role in the treatment of cocaine abuse. A definitive study of this issue is indicated.

Lithium's efficacy in treating the four seemingly unrelated disorders (the deleterious effect of the diminution in lithium therapy during the second week owing to noncompliance seemingly indicates that the lithium and not some extraneous factor was responsible for the results) raises the question of the possible presence of a single underlying psychopathologic defect.

We espouse Flemenbaum's contention[16] that all these conditions "are only a clinical manifestation or 'end product' of a basic affective disorder." Each syndrome can be considered the result of emotional lability alternately directed externally (intermittent explosions or mania) or internally (depression or substance abuse). Lithium appears to control these bidirectional fluctuations.

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All of these propositions are tentative at present, but they may provide the clinical insight needed to inspire future trials of lithium in disorders with similar underlying psychodynamic and biologic features. Conclusions drawn from a single case study are, of course, tentative at best, but we hope that this report will focus research efforts toward further examination of its properties. □

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