# COMPLEX TOURETTE'S DISORDER WITH OCD TREATED WITH LITHIUM

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**Abstract**

Tourette's disorder is a complex neuropsychiatric condition, and consequently treatment options are also different.. A complicated case of Tourette's disorder was seen at our clinic. Treatment with standard medication was not successful. A trial of lithium seemed to provide significant cessation of both neurological as well as psychiatric symptom

## Introduction

Tourette's disorder in a complex neuropsychiatric disorder with unclear etiology. The occurrence of other neurological as well as psychiatric comorbidities can make the diagnosis of this condition and options of psychotropic treatment complicated. While Tourette's disorder is characterized by chronic motor and vocal tics of duration greater than 1 year, the presence of other movement disorders as well as psychiatric symptoms can confound the diagnosis. Accordingly treatment rendered may not be effective, and sometimes may result in exacerbation of symptoms.

A 19-year-old white male presented at our clinic with a 6 year history of symptoms. He was referred by his primary care physician, after treatment by a pediatrician and subsequently a neurologist and psychiatrist proved to be ineffective and resulted in a marked exacerbation of his symptoms. He had dropped out of high school, experienced significant social anxiety, and was unable to seek training at a trade school or function within his family. The condition started when he was approximately 13 years old with social anxiety, obsessive thoughts and a compulsive tendency to check and recheck the locking system at his parent's residence. He was also noted to have a nervous "cough". As symptoms progressed, he was noted to get increasingly anxious, moody and withdrawn and afraid to go to school due to peer ridicule. He was reported to have "mood swings" which were reported to be symptoms of "irritability" followed by episodes of dysphoria and withdrawal. He also had complex obsessive thoughts and his compulsive behaviors expanded to include multiple "doing, undoing " rituals. In addition his tendency to cough became more frequent and was accompanied by "throat clearing" sounds. He also showed a peculiar tendency to repetitively "nod his head", which was thought to be part of his obsessive-compulsive symptomatology.

Previous treatment tried with risperidone produced marked dysphoria and no relief of symptoms. A subsequent trial of clonazepam produced significant disinhibition in his mood and behavior. Subsequent trial of fluoxetine, fluvoxamine and clomipramine produced no benefits. A trial of methylphenidate was attempted with marked increase in his anxiety, obsessive thoughts, ritualistic behaviors as well as irritability, also making him briefly suicidal. An empirical of carbamazepine was then attempted with no benefit.

Upon initial presentation in our clinic he was noted to be a 19 year old Caucasian male who appeared his chronological age. His milestones of development were noted to be normal. There was no family history of tic disorders anxiety disorders or mood disorders

On examination he was noted to be in stable medical condition with temperature 98 degrees F, pulse 86 per minute and regular, height and weight at the $50^{\text{th}}$ percentile for his age.

On examination he was noted to be a slender Caucasian male who appeared his chronological age. There was no evidence of dysmorphia. He was left-handed, alert, oriented to time place and person. His affect was labile and his mood was anxious and dysphoric and congruent. His thought processes were somewhat circular with obsessive concerns about his mother. He described his obsessive concerns for his mother's welfare and his ability to reduce these concerns by performing his compulsive rituals. His thought content was prominent for normal sexual fantasies. There was no evidence of delusional thinking or auditory/ visual hallucinations. He showed limited insight into his problem. He exhibited poor self-esteem.

Motor tics were limited to a peculiar sharp downward jerking movement of his head which occurred in spurts and seemed to self-correct with a tapping movement of his fingers on the examination table. During examination he made multiple throat clearing sounds as well as coughing lightly. This made him very anxious. In addition, during the examination he was compelled to get up a few times and reached for the office door, touch it likely and then returned to the examination table .

Upon neurological examination, his cranial nerves I through XII were noted to be normal. His reflexes were bilaterally symmetrical and muscle tone and power was also noted to be bilaterally normal. His coordination and gait was normal. His physical examination revealed no abnormalities. His chest was clear, heart had regular rate and rhythm, S1 and S2 and his abdomen was benign.

Lab tests included a CBC, CMP, TSH, liver function tests, thyroid profile, serum copper and ceruloplasmin, vitamin B12, and D3 and a urine drug screen. These were all normal. MRI scan of the brain was normal as was an EEG. His presentation appeared to meet DSM-V diagnostic criteria for Tourette's disorder, and surprisingly also for cyclothymic disorder, OCD , chronic motor vocal tic disorder.

In our office, his last trial of medications methylphenidate and carbamazepine were discontinued. Upon return in one week he was initiated on a trial of lithium which was gradually increased over the course of 2 weeks to 1200 mg per day. Serum lithium level was noted to be 0.9 mEq per liter. 3 weeks after initiation of lithium therapy ,there was a marked decrease in his symptoms. His coughing and throat clearing were extinguished along with significant reduction in his obsessions as well as compulsive behavior. Over the course of the next 3 months his anxiety and moodiness also dissipated to quite some degree. He was able to return back to school and get a GED. He subsequently went on to finish trade school, and seek gainful employment. He was followed for 3 years with regular serum lithium levels and monitoring of her thyroid function, renal function as well as electrocardiogram. At last follow-up he was noted to be quite stable.

**Discussion**

Tourette's disorder is a well recognized condition. However the etiology of this condition is poorly understood. In addition the occurrence of atypical symptoms presenting as comorbidities can be misleading. Treatments targeting such symptoms may cause marked exacerbation of the primary pathology. In our experience the use of activating medication such as methylphenidate for "hyperactivity" or disinhibiting medication such as clonazepam for "anxiety" caused significant increase in the underlying pathophysiology. Similarly the use of traditional SSRI medications fluoxetine or fluoxetine, commonly used for treating anxiety and obsessive-compulsive disorders proved to be of no benefit, neither did the use of tricyclic medication clomipramine specifically used in clinical practice for obsessive-compulsive disorder. Empirical trial of carbamazepine proved equally unsuccessful.

Lithium has been tried previously in cases of comorbid bipolar disorder and Tourette's disorder with some benefit. In this particular case, there was no evidence of a primary affective disorder, yet lithium proved to be very successful in ameliorating motor , vocal as well as psychological "tics", It may have proved to be a direct benefit in stabilizing the patient's mood and anxiety as well.

**Conclusion**

Patients with underlying Tourette's disorder, may present with a bewildering array of neurological and psychiatric symptoms. Careful evaluation of the overall medical status, family history and especially the response to previous trials of medications may assist the clinician in making the correct diagnosis. Lithium may prove to be of substantial value in treating patients with Tourette's disorder who do not respond to trials of conventional medical treatment. The mechanism of action of lithium in such cases is unclear and open to postulation.

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