Tourette’s disease with impulse control disorder

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ABSTRACT

We report a case of Tourette’s disease (TD) with impulse control disorder which is rare; these type of patients are prone to rage attack and explosive outbursts in the childhood and adolescence which can be detrimental. Hence, a case is reported to understand the phenomenology of its co-morbidity in TD.

Key words: Impulse control disorder, obsessive compulsive disorder, Tourette’s disease

INTRODUCTION

Gilles De La Tourette’s syndrome is a motor disorder. The literature concerning this rare syndrome alternatively knows it as maladie des tics, which was mainly descriptive since it was first mentioned by Itard (1825) and later by Gilles De La Tourette’s Syndrome in 1885. The prevalence of Tourette’s disorder was 4.9 per 10,000 males and 3.1 per 10,000 females.[1] The most common co-occurring disorders with Tourette’s disorder are Attention Deficit Hyperkinetic Disorder (ADHD) 50–60%; Obsessive Compulsive Disorder (OCD) 30–70%, but there is no report regarding prevalence of impulse control disorder (ICD).[2,3] However, ICD is described as a rare one.[4] The children with Tourette’s disorder are prone to rage attacks due to underlying brain dysfunction.[5,6] Hence, the clinician should be aware of the possibility of co-morbidity of Tourette’s disease (TD) with ICD. In Tourette’s disorder, there is triad of multiple motor tics, Coprolalia 2–6%[7] and childhood/adolescent onset.[8,9] Shapiro and Shapiro (1992)[10] described impulsion, a manifestation of rage, which is interchangeable with intermittent explosive disorder. Stein et al. (1993)[11] confirmed a relationship between levels of 5-hydroxyindoleacetic acid (5-HIAA) in cerebrospinal fluid (CSF) and impulsive or aggressive behavior. There is a defect in the serotonergic system, which acts as an inhibitor of motor activity (Staner, 1998)[12] and positron emission tomography (PET) scan shows decrease in glucose metabolism in the prefrontal and frontal cortex of patients with impulsive acts (Raine et al 1994).[13]

To our knowledge, this is the first case report from India which delineates the co-morbidity of TD with ICD.

CASE REPORT

Mr. X, a 17-year-old, unmarried male and a 11th class student, reported in the outpatient clinic/Department of Psychiatry, Government Medical College, Patiala. History dates back to 1 year when the patient had symptoms of sudden involuntary body movements of head turn and shoulder shrug with isolated episodes of vocalization of obscene phrase “bloody kill him”. The patient had history of coprolalia but no history of echolalia or palilalia. The symptoms were of waxing and waning in nature, and there was no period of remission for more than 3 months during the consecutive 12 months of illness. For the last 3 months, the patient complained of irresistible urge to throw stones without any provocation or any other motive upon his neighbors and destroyed their property. He derived pleasure after acting out and did not try to escape from the scene or resisted his arrest. When he tried to control his rage of throwing stones, there was mounting of tension and increased restlessness.
DISCUSSION

Tourette’s disorder is the most notable of tic disorders. The cardinal features of Tourette’s disorder and other tic disorders are motor and vocal tics and childhood onset. In simple motor tics, there is a brief movement of individual muscle group like eye blinking, head shaking and shoulder shrugging, whereas in complex motor tics there is involvement of multiple muscle groups.

In our case study, the onset of motor tics was at the age of 15 years, which confirms the findings of Sandor et al. (1993), i.e., the onset of disease between the age of 1 and 21 years. It started as simple motor tics involving eye blinking and frowning, which gradually became complex with head turn, shoulder shrug, neck cracking and trunk bending.

Simple vocal tics include sniffling, grunting, throat clearing, snorting, and sucking, puffing, squeaking, barking and other meaningless sounds. Complex vocal tics may present as stereotyped words or phrases, palilalia (repeating one’s own words), echolalia or coprolalia. Though coprolalia is often incorrectly considered essential for the diagnosis of Tourette’s disorder, it is an uncommon symptom as it is seen in only 2–6% of the cases. In our case, the development of vocal tics (coprolalia) follows the usual pattern of development, i.e., motor tics. Coprolalia has, indeed, been regarded as hostile reaction toward the authority figures, especially within the family (Tobin and Reinhart, 1961 as cited in Enoch and Ball). The patient does not have sufficient outlets for his hostility; being afraid of punishment, his pent up feelings of hostility toward his father build up to the point where it is released in crescendo of explosive tics and obscene utterances. This view is supported by the fact that the father of the patient was strict, rigid and demanding with obsessive traits.

Tics are exacerbated by excitement or emotional stress and can be attenuated during periods of focused productive activity, attention and sleep. Tics are involuntary; yet because they are briefly suppressible and can be triggered by environmental stimuli, they may appear as volitional acts. In our case, it was triggered by emotional stress. Other movement disorders such as chorea and dystonia are continuous, whereas tics are intermittent. Complex tics are difficult to differentiate from mannerism, gestures or stereotypy. Mannerisms are often not impairing; stereotypy tends to occur exclusively in children and adults with developmental disabilities and mental retardation. Hence, it supports the diagnosis of Tourette’s disorder as assessed using DSM-IV-TR diagnostic criteria, i.e., both multiple motor and vocal tics; tics occurring many times a day for more than 12 months with no period of remission for more than 3 months; significant functional impairment as assessed on Global Assessment Of Functioning Scale (GAF score 61); onset before 18 years of age and absence of

within him. Anatomically, he felt intense discomforts on his palms, shoulders, midline abdomen and throat. There was involuntary body movement and vocalization (coprolalia). The movements were sudden, repetitive, non-rhythmic and purposeless. The body movements started from the face, eye blinking, frowning and grimacing of the mouth, further progressing down to involve neck with shoulder shrug and wringing of hands. These movements were exaggerated by excitement, emotional stress or anxiety and attenuated by focused attention or relaxation. For the last 2 months, the patient had an irresistible urge to stab his brother with a knife. Realizing his urge getting out of control, he asked for help. Though he did not complete or act upon the urge, yet found it irresistible, followed by ejaculatory words of coprolalia (bloody kill him!!). Neither was it a persistent idea, thought or an image nor he tried to substitute it with any other subsidiary thought or engaged in any ritual of undoing it. In the family history, his father was aged 45 years and illiterate. He persistently nagged the patient and was strict, rigid and demanding with obsessive traits. His mother was aged 40 years, illiterate, housewife with no abnormal pre-morbid personality traits. In personal history, the patient was full-term, wanted child, delivered through cesarean section and third in birth order. The weight of infant at the time of birth was 2.5 kg. He was breast fed, had mild physiological jaundice on 7th day and passed his developmental milestones normally. He was fully immunized and his schooling started at the age of 5 years, and had a normal peer group relationship. He was educated in government school till the age of 15 years and left it on financial grounds. After leaving the school, he worked as scooter mechanic under supervision. As assessed on Wechsler Adult Intelligent Scale (WAIS), his IQ was 95. He described his relationship with his brother as loving and caring and denied any conflict with him. There was no pre-morbid personality traits of borderline, antisocial, histrionic, narcissistic and anankastic (obsessive) personality disorder as assessed on International Personality Disorders Examination (ICD-10: IPDE). There was no history of mood disorder, anxiety disorder, ADHD, OCD, conduct disorder or learning disorder. There was no history of substance abuse or medical history of head injury, seizure, atherosclerosis, restless leg syndrome, Huntington’s chorea, Synkemals chorea, dystonia, Meig’s syndrome, blepharospasm or family history of involuntary movement disorders. The general physical and neurological examination was normal. The patient was assessed using DSM-IV-TR diagnostic criteria and diagnosed as a case of Tourette’s disorder with ICD specifier: intermittent explosive disorder. The global functional impairment as assessed on Global Assessment of Functioning Scale score (GAF score) was 61. He was treated with sertraline 50 mg/day and gradually titrated upward within 4 weeks to the target level of 150 mg/day in divided doses. Low dose of haloperidol was also given (less than 4.5 mg/day) and the dose of clonidine ranged from 0.1 to 0.3 mg/day in divided doses. As assessed on Yale Global Tic Severity Scale (YGTSS), there was 50% improvement.
substance abuse or medical/neurological cause of disease. The complex motor tics of Tourette’s disorder may be difficult to distinguish from the OCD compulsions. Both tics and compulsion are preceded by an intrusive urge followed by feeling of relief. However, OCD compulsion is preceded by fear and obsessional concern with the mental urge to do something repeatedly until it is felt “just right”, whereas in Tourette’s disorder there is a physical urge to perform a motor tic and not preceded by fear. An impulsion is an action performed until a sense of rightness is achieved, rather than compulsion which is designed to reduce anxiety brought by obsession. There is inability to resist the impulse, rather than the rapid transduction of thought to action as in OCD.

There is considerable evidence that there is a broad range of co-occurring clinical problems like mood disorder, OCD, impulse control, anxiety, ADHD and learning/conduct disorder. Up to 50% of clinically ascertained children and adolescents with Tourette’s disorder may be affected with problems of attention, concentration activity level or impulse control.[2,3] In some individuals, tics are preceded or provoked by a thought or physical sensation referred to as premonitory urges.[16] Budman (1998)[5] suggested that the clinical phenomenon of rage attack in children with Tourette’s disorder resembles intermittent explosive disorder which may reflect specific neurobiological disturbances. These rage attacks in Tourette’s disorder may be related to the presence of co-morbid disorder. The lifetime prevalence of intermittent explosive disorder is 6.3%; the age of onset is in teens and the incidence is more in males as compared to females.[17]

In our case, the patient described the aggressive episodes of throwing stones or an urge to stab his brother as spell or attack. These symptoms may appear within minutes and may remit quickly after the explosive act. It was preceded by the sense of tension or arousal and was followed immediately by a sense of relief or release of tension. The obsession in Tourette’s disorder has multiple concerns such as symmetry, violent, sexual images, urges, worries or loss of control,[14] whereas in intermittent explosive disorder, the behavior has no gratifying element. In addition, fear is the underlying drive in OCD that leads to compulsion which in turn decreases anxiety. In ICD, patient frequently describes heightened tension but not fear, preceding an impulsive behavior.[18] The aggressive acts of throwing stones toward neighbors and destruction of their property and an urge to kill his brother were without any premeditation. The act was senseless, impulsive and without any motive. These impulsive acts were performed in response to “instinctive, or involuntary, irresistible impulses”. There was failure to resist the aggressive impulse and the aggressive acts were not accounted by any another mental illness, personality disorder, psychotic, mood, conduct, ADHD and are not due to direct physiological effect of a substance or general medical condition (head trauma, seizure, Alzheimer’s disease). The essential feature of intermittent explosive disorder was the occurrence of urge for destruction of property. This supports the diagnosis of intermittent explosive disorder.

Therefore, more epidemiological research is necessary to extend these intriguing findings to provide estimates for a range of presentations that reflect the clinical reality of the Tourette’s disorder. It is important to know how often people with Tourette’s disorder have tics specific impairment or co-morbidity and are in need of medication.

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