Chronic Tic Disorder and Comorbidities

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Introduction

- Chronic Tic Disorders (CTD) are long-lasting neuropsychiatric disorders of childhood that present with a waxing and waning pattern in severity and frequency.
- CTD have an estimated prevalence of 0.5% to 3% and male predominance with a gender ratio of approximately 2:1.
- Patients with CTD may present with vocal and/or motor tics that are preceded by premonitory urges.
- Pathophysiology is not entirely understood, but evidence suggests improper modulation of motor programs at cortical and subcortical areas in the brain. CTD is associated with many neuropsychiatric conditions including OCD, ADHD and ASD.

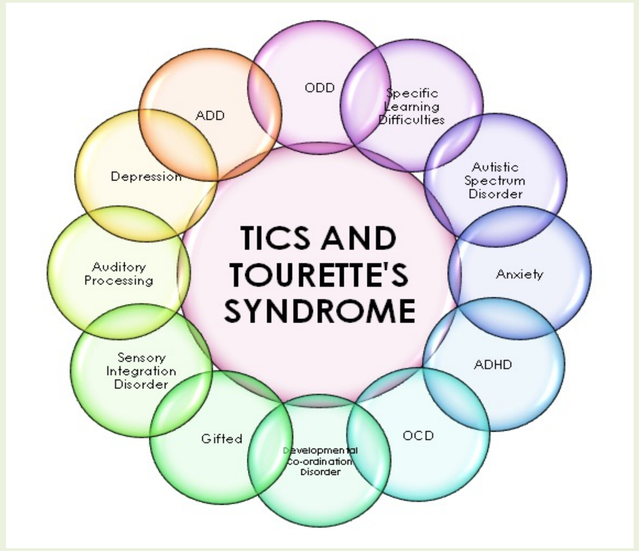

Figure 2. Many comorbidities may coexist with CTD.
Source: LANC.uk

Case Report

The patient is a 14-year-old Caucasian female who presented with a 7-year history of motor tics, that progressively worsened reaching a spike in severity a year ago. The tics were exacerbated by stress and ameliorated by relaxing or focusing activities. Her tics at initial appointment consisted of clapping her hands followed by hitting herself in the forehead with palm of hand or fist. She also endorsed slow auditory processing, dislike of loud noises and bright lights, and sensitivity to being touched by people or things, including tight clothing. She also displayed some obsessive-compulsive symptoms, including intrusive thoughts, checking mailbox to ensure it was properly closed, and applying lotion immediately after washing her hands.

She also complained of insomnia, taking on average 1.5h to fall asleep. Apart from tics, her mental status exam was normal. She was started on Clonidine 0.1mg QHS to improve sleep. On follow up appointment, patient stated premonitory urges were decreased after taking Clonidine and she could prevent tics by applying pressure on her body. Patient reported she is not hitting herself in the head anymore and severity and frequency have significantly reduced. Patient on both visits refused further treatment for tics as she believed they were a part of who she was.

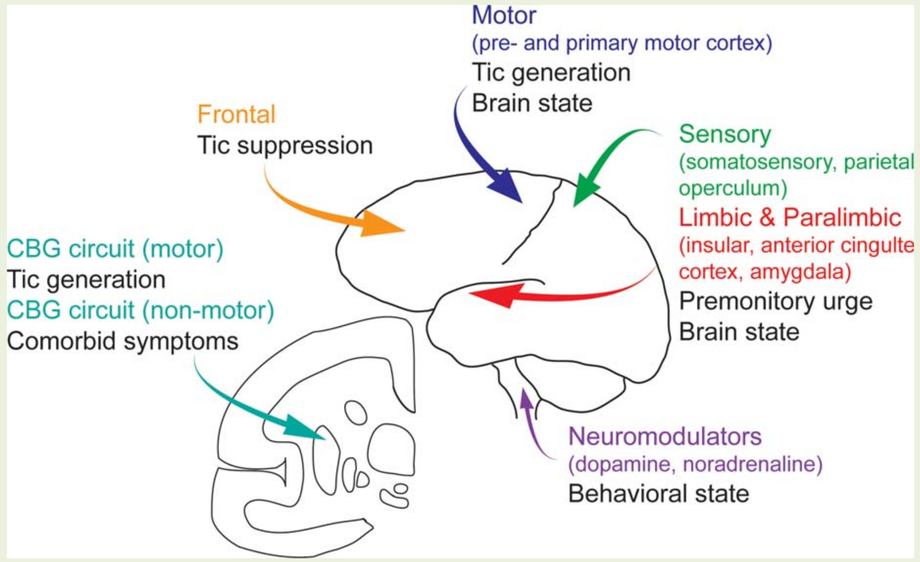

Figure 1. Brain pathways involved in tic disorders. CBG circuit is also associated with ADHD, OCD/OCB [3].

Discussion

- Many patients with chronic tic disorders present with comorbid conditions such as ADHD and OCD/OCB.
- Studies have shown that these conditions are associated with abnormalities in the cortico-basal ganglia pathway, suggesting how tics can be actively suppressed by the frontal cortex. Hence tics can be exacerbated by stress and ameliorated by concentration and relaxation.
- Tics must be discerned from stereotypies, especially when suspecting ASD. Stereotypy can also occur in tic disorders; however, stereotypy is not preceded by premonitory urges and symptoms do not wax and wane in severity and frequency.
- Differentiating between compulsions and tics may prove difficult. Tics may be misinterpreted as a feeling of relief rather than a means to alleviate distress from a compulsion.
- Sensory sensitivities have been observed in patients with tic disorders due to interceptive awareness, which is associated with enhanced activity of the insula, motor, and cingulate cortices.
- In all, this case demonstrates the necessity to discern comorbid conditions when suspecting Chronic Tic Disorders.

References

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2. *American Psychiatric Association. The diagnostic and statistical manual of mental disorders (5th ed.; DSM-V). Arlington, VA: American psychiatric Association: 2013.*
3. *Yael D, Vinner E, Bar-Gad I. Pathophysiology of Tic Disorders. Volume 30. Issue 9. 1171-1178. doi: 10.1002/mds.26304.*

Glossary of terms

ADHD – attention deficit hyperactivity disorder, TD – Tic Disorder,
OCD – obsessive-compulsive disorder, ASD – autism spectrum disorder,
OCB – obsessive-compulsive behavior., CBG – cortico-basal ganglia