

SPA/APPA 2021 Virtual Meeting Medical Student/Resident Poster Presentation

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Abstract Title: Chronic Tic Disorder and Comorbidities

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Introduction/Background: 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.

Description: A 14-year-old female presented with a 7-year history of progressively worsening motor tics, reaching peak severity in Summer 2020. Tics were exacerbated by stress and ameliorated by relaxing or focusing activities. At the initial appointment, tics consisted of clapping her hands together, followed by her hitting herself in the forehead with the palm of her hand or fist. She also reported occasionally unintentionally punching friends. She endorsed slow auditory processing, dislike of loud noises and bright lights, and sensitivity to being touched by people or things such as tight clothing. She reported intrusive thoughts such as repeatedly checking the mailbox to ensure proper closure and applying lotion immediately after washing her hands. She also complained of insomnia, spending an average of 1.5 hours to fall asleep. Apart from tics, her mental status exam was normal. She was started on Clonidine 0.1mg at night to lessen tic severity and assist with sleep. At follow-up, patient stated decreased premonitory urges with a significant reduction in severity and frequency in her tics. She is no longer hitting herself in the head and noted the ability to proactively prevent tics by applying deep pressure on her body. At both visits, she insisted on treatments that lessened the severity and frequency of her tics rather than effectively stopping tics altogether as she feels her tics are part of her identity.

Discussion and Conclusion: 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. In addition, 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. In addition, sensory sensitivities have been observed in patients with tic disorders due to interoceptive 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:

1. Murphy, Tanya K. et al. Practice Parameter for the Assessment and Treatment of Children and Adolescents with Tic Disorders. *Journal of the American Academy of Child & Adolescent Psychiatry*, Volume 52, Issue 12, 1341 – 1359.
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.