

MEDICATION MANAGEMENT OF TOURETTE SYNDROME AND CO-OCCURRING CONDITIONS

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QUESTIONS

- What are the signs and symptoms of Tourette's Syndrome?
- What are the co-occurring conditions of Tourette's Syndrome?
- How can we manage and treat these patients with Tourette's Plus Syndrome?
- How do you decide when to treat Tourette's?

OBJECTIVES

- Epidemiology
- Types
- Definitions
- Characteristics
- Diagnosis
- Prognosis
- Screening
- Management
- Society and culture

EPIDEMIOLOGY OF TICS

- ❖ Tics occur in 1 in 5 (20%) school-aged children at some time, but may not persist.
- ❖ Combination of tics and TS occur in more than 1 in 100 (1%) school-aged children in the United States.
- ❖ It is estimated that 50% are going undiagnosed.
- ❖ Male : Female Ratio = 4:1
- ❖ TS affects all races, ethnic groups and ages

TYPES OF TICS

❖ Motor Tics

Motor tics are movements. Simple motor tics include but are not limited to: eye blinking, facial grimacing, jaw movements, head bobbing/jerking, shoulder shrugging, neck stretching, and arm jerking. Complex motor tics involve multiple muscle groups or combinations of movements and tend to be slower and more purposeful in appearance.(e.g., hopping, twirling, jumping).

Vocal/Phonic Tics

Vocal (phonic) tics produce a sound. Simple vocal tics include but are not limited to sniffing, throat clearing, grunting, hooting, and shouting. Complex vocal tics are words or phrases that may or may not be recognizable but that consistently occur out of context. In 10-15% of cases, the words may be inappropriate (i.e., swear words, ethnic slurs, or other socially unacceptable words or phrases). This type of vocal tic, called coprolalia, is often portrayed or mocked in the media as a common symptom of TS.

WHAT ARE TICS?

- ❖ Transient Tic Disorder
 - ❖ Motor **or** Vocal tic < 6 months
- ❖ Chronic Tic Disorder
 - ❖ Motor **or** vocal tic > 1yr
- ❖ Tourette's Syndrome
 - ❖ Multiple Motor 2+ **AND** 1 vocal tic > 1yr

WHAT IS TOURETTE'S SYNDROME?

Tourette syndrome (TS) is a hereditary neurodevelopmental disorder that affects children, adolescents and adults[1]. The condition is characterized by sudden, uncontrollable, involuntary movements and/or sounds called tics.

CHARACTERISTICS OF TOURETTE'S SYNDROME (TS)

- ❖ 2+ motor tics AND at least 1 vocal (phonic) tic > 1 yr
- ❖ Wax and wane in frequency
- ❖ Onset before the age of 18.
- ❖ Tics are not caused by the use of a substance or other medical condition.

DIAGNOSIS

- ❖ Genetics
 - ❖ Associated with SLITRK1, HDC gene
- ❖ Hereditary
 - ❖ 47% of pts with TS have a +Family Medical History (FMH)
 - ❖ 25% of patients have that +Family Medical History in both parents
- ❖ No diagnostic testing
- ❖ However, some test might be done to rule out other diseases or syndromes
 - ❖ Myoclonus, tremors, chorea, dystonia, akathisia, dyskinesias and ballism

UNIQUE
DIAGNOSTIC
CHARACTERISTICS
FOR
TOURETTE'S
SYNDROME

- ❖ Urge
- ❖ Suppressibility
- ❖ Vocalizations
- ❖ Presence in the awake only state

❖ Videos are Always Helpful

PROGNOSIS
FOR
TOURETTE'S
SYNDROME

- ❖ Onset between the ages of 5 and 7 years,
- ❖ Initial tic = a motor tic starting in the head or neck region.
- ❖ Peak in frequency and severity between the ages of 8 and 12 years and can range from mild to severe.
- ❖ Improvements by late adolescence, with some becoming tic-free.
- ❖ A some people with TS continue to have persistent, severe tics into adulthood.

PROGNOSIS
FOR
TOURETTE'S
SYNDROME

- ❖ Tics can range from mild to severe
- ❖ Self-injurious and debilitating
- ❖ Tics regularly cycle with a change in
 - ❖ Type,
 - ❖ Frequency
 - ❖ Severity
- ❖ Due to internal and external factors:
 - ❖ Stress, anxiety, excitement, fatigue, and illness.

SCREENING FOR COMORBIDITIES

People with TS often have other mental, behavioral, or developmental conditions that may be present prior to the onset of tics. While tics are the primary symptoms, these co-occurring conditions may cause more problems and can be more bothersome than the tics themselves.

Among people diagnosed with TS, it is estimated that 86% have been diagnosed with at least one of these additional conditions.

SCREENING FOR COMORBIDITIES

The most common co-occurring conditions are ADHD and OCD behaviors.

•**Attention Deficit/Hyperactivity Disorder (ADHD):** Problems with concentration, hyperactivity, and impulse control.

•**Obsessive Compulsive Disorder or Behaviors (OCD/OCB):** Repetitive, unwanted intrusive thoughts and/or repetitive behaviors. These thoughts lead to compulsions, which are unwanted behaviors that the individual feels he/she must perform repeatedly or in a certain way.

SCREENING FOR COMORBIDITIES

•**Behavioral or Conduct Issues:** Impulsivity, aggression, rage, oppositional defiance or socially inappropriate behaviors.

•**Anxiety:** Excessive worries or fearfulness, including excessive shyness and separation anxiety.

•**Learning Disability:** Reading, writing, mathematics, and/or information processing difficulties that are not related to intelligence.

•**Social Skills Deficits and Social Functioning:** Trouble developing social skills; maintaining social relationships with peers, family members, and other individuals; and acting in an age-appropriate manner.

•**Sensory Processing Issues:** Strong sensory preference and sensitivities related to sense of touch, sound, taste, smells, and movement that interfere throughout the day.

•**Sleep Disorders:** Trouble falling or staying asleep.

MANAGEMENT



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- Time
- Behavioral Therapy
- Medication Management
- Surgical Intervention

WELCOME TO TOURETTE'S CLINIC

◆ Everett is a 14 yr old boy with Tourettes Syndrome since 12 yr old presenting with increase in his vocal tics with chirping after an illness x 2 weeks. He feels them a moment prior to the chirp.

WELCOME TO TOURETTE'S CLINIC

◆ What should we do next for Everett?

EVERETT'S
MANAGEMENT

- ❖ 1st do no harm
- ❖ Watchful waiting
- ❖ Nothing is a treatment

WHEN DOES
HABIT REVERSAL
THERAPY
WORK?

- ❖ When there is an identified URGE?
- ❖ Premonitory sensory urges prior to tic execution are common, and this phenomenon helps to distinguish tics from other hyperkinetic movement disorders.

WHAT
IS
BEHAVIORAL
THERAPY?

- ❖ Habit Reversal Therapy
 - ❖ Teaches awareness
 - ❖ Creates a competing voluntary response
- ❖ Comprehensive Behavioral Intervention for Tics (CBIT)
 - ❖ HRT +
 - ❖ Relaxation training
 - ❖ Functional interventions
 - ❖ Awareness of environmental triggers
 - ❖ 8 sessions
 - ❖ After completion, ~50% has a reduction in tic severity and improvement in function which lasts upto 6months.
- ❖ GOAL: Reduce the severity and frequency of tics

WELCOME TO TOURETTE'S CLINIC

❖ Payton is a 13 yr old boy with Tourettes Syndrome since 7 yr old presenting with ADHD doing poorly in his academically and socially.

Horizontal lines for notes.

WELCOME TO TOURETTE'S CLINIC

❖ What should we do next for Payton?

Horizontal lines for notes.

WHEN IS MEDICATION MANAGEMENT OFFERED?

- ❖ AFFECTING Quality of Life (QoL) or Activities of Daily Living (ADLs)
 - ❖ Bullying
 - ❖ Conduct marks at school or work
 - ❖ Causing pain
 - ❖ Causing distress
 - ❖ Dysfunction to the patient

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MEDICATION MANAGEMENT

- ❖ Off label uses
 - ❖ Alpha agonists
 - ❖ Guanfacine
 - ❖ Clonidine
- ❖ FDA approved uses
 - ❖ 1st generation antipsychotics
 - ❖ Haloperidol (Haldol)
 - ❖ Pimozide (Orap)
 - ❖ 2nd generation antipsychotics
 - ❖ Risperidone (Risperdol)
 - ❖ Aripiprazole (Abilify)
 - ❖ Ziprasidone (Geodon)

MEDICATION MANAGEMENT

- ❖ Second-line therapy includes antipsychotic
 - ❖ Aripiprazole, (Abilify)
 - ❖ Risperidone (Risperdal)
 - ❖ Ziprasidone (Geodon)
- ❖ Possible side effects of metabolic syndrome, tardive dyskinesia, etc

WELCOME TO TOURETTE'S CLINIC

❖ Giovanni is a 17 yr old boy with Tourettes Syndrome since 8 yr old presenting with focal facial tics preventing him reading and walking with OCD behavior.

WELCOME TO TOURETTE'S CLINIC

❖What should we do next for Giovanni?

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MEDICATION MANAGEMENT

❖ Botulinum toxin injections can be used in patients with bothersome focal tics.

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MEDICATION MANAGEMENT

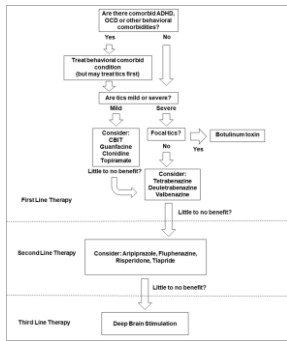
❖ Deep Brain Stimulation (DBS) for refractory complex tics

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MEDICATION MANAGEMENT

❖ Deep Brain Stimulation (DBS) for refractory complex tics combined with OCD behaviors.

MEDICATION MANAGEMENT



From: Current Management of Tics and Tourette Syndrome: Behavioral, Pharmacologic, and Surgical Treatments



SOCIETY AND CULTURE WITH TOURETTES SYNDROME

Billie Eilish

Dan Akyroyd

SOCIETY AND CULTURE WITH TOURETTES SYNDROME+

- Howie Mandel - OCD
- Jamie Grace Harper – ADHD, OCD, GAD, Echolalia
- David Beckham – OCD
- Mozart – OCD



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 Jessica Frey, Irene A. Malay. Tourette Syndrome Treatment Updates: a Review and Discussion of the Current and Upcoming Literature. *Current Neurology and Neuroscience Reports*. 10.1007/s11910-022-01177-8, (2022).

THANK YOU!!!

Questions????
 Please feel free to reach me at THeard@NeurAbilities.com for additional questions.
 Schedule appts at NeurAbilities at 856.346.0005
