Repetitive Movements: Chorea and Tics

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Tics

- Spontaneous, brief sudden movements or sounds that interrupt normal actions
  - Simple or Complex
- Key aspect: Preceded by an urge or discomfort that is relieved by doing the tic (burning in eyes, dry throat)
- Key aspect: suppressibility
- 25% of children have tics, boys more frequently than girls
- Wax and waning course
- Worsened by sleep deprivation, illness or stress
https://www.youtube.com/watch?v=e8HtTb0Vk_o
Causes of Tics

- No other neurologic or developmental concerns: transient tics or primary diagnosis of Tourette's disorder
- Exacerbated by stress, excitement, boredom, fatigue or heat
- Secondary causes: infection (PANS) trauma, cocaine and neuroleptic exposure
- Infection often group A beta-hemolytic streptococcal infections
Tic Diagnoses

- Tourette’s Syndrome
- Persistent Chronic Motor/Vocal Tic Disorder
- Provisional Tic Disorder (less than one year)
Medications for Tics

- Treatment Algorithm
- Ignore when possible
- Suppress when necessary
- Psychotherapy to learn habit reversal
- Medications (in addition to treatment for cause)
- Alpha-agonists: clonidine and guanfacine
- FDA Approved: Pimozide and haloperidol
- Off-label: Risperidone, SSRIs when co-morbid anxiety/OCD
- Clonazepam
- Botulinum toxin type A
- Ongoing investigations- N-acetyl cysteine
Chorea

- Involuntary, abrupt, irregular, purposeless movements. Travel from one part of the body to another, can occur during rest and sleep
- In case of Sydenham’s Chorea from Group A beta-hemolytic strep
- Onset is acute, usually 4-8 weeks post-strep infection (could be as long as 8 months after)
- Typical age is 8-9 years old and female predominance
- Wide spectrum of disability from mild to severe
- Speech differences
- Other medical: cardiac, arthritis
- Obsessive compulsive symptoms
Video of Chorea

- https://www.youtube.com/watch?v=-Os3T6Yz7w0
Causes of Chorea

- Inherited
- Medications (oral contraceptives, neuroleptics, anticonvulsants, amphetamines)
- Immune/Infectious (ie. Sydenham Chorea- most common cause in children, Group A beta-hemolytic strep )
- Metabolic
- Neoplasms
- Brain injury- vascular, cerebral palsy
- Rule out other causes to dx SC- MRI, lumbar puncture
Treatment of Chorea

- Sydenham's chorea: penicillin and penicillin prophylaxis until age 21 years old
- No FDA approved medications
- Valproic acid often first-line and risperidone, carbamazepine, methylprednisone
Stereotypies

- Repetitive, non-purposeful gestures or movements of hands. Often rhythmic pattern and prolonged
- Partially suppressible
- Commonly associated with ASD, OCD, schizophrenia, sensory deprivation i.e., blindness
- Age of onset younger
- Less responsive to pharmacotherapy
Video of Stereotypies

- https://www.youtube.com/watch?v=iDuAugAykcc
Managing the Differential Diagnoses

- Who do you go see?
  - Pediatrician->Neurologist->Immunologist/PANS->Psychiatrist and/or Psychologist
- What do they want to know from you…just a start…
- When did movement start
- How did it start- abrupt or gradual
- Any other changes you noticed in your child? Speech, behavior, appetite, etc.
- What can/does your child tell you about the movement
- Recent illnesses in child or family?
- Anyone other relatives have similar movements or neurologic, immune or developmental disorders?
- Child’s developmental history
References

What about OCD?