


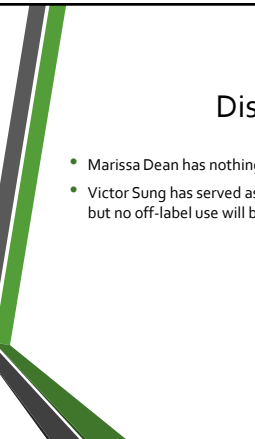
Case Studies in Movement Disorders

Marissa N. Dean, MD
Assistant Professor of Neurology

Victor W. Sung, MD
Associate Professor of Neurology




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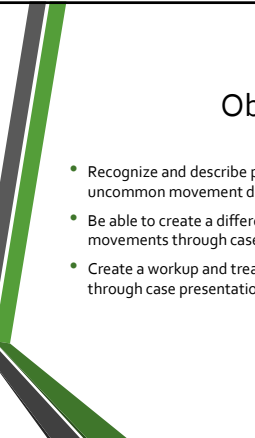


Disclosures

- Marissa Dean has nothing to disclose.
- Victor Sung has served as a consultant for Genentech and Teva, but no off-label use will be discussed.




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Objectives


- Recognize and describe phenomenology in common and uncommon movement disorders
- Be able to create a differential diagnosis for involuntary movements through case discussions
- Create a workup and treatment plan for movement disorders through case presentations



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Acknowledgments

- Patients and families for allowing the sharing of videos



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Case 1: Tremor



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Case 1


- 64 yo RH woman with tremor
- 20 years ago – tremor in right hand when using hand
 - Progressively worsened over time
 - Cannot use right hand for drinking, writing, utensils, computer mouse, or cross-stitching
- No tremor on left
- Occasional tremor in head – only notices when looking down
- Tremor in voice when singing – can touch front of neck, and the vocal tremor isn't as noticeable



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Case 1

- Review of systems
 - Stiffness in morning
 - Left hip and knee replacements – now with imbalance
 - No anosmia, change in taste
 - Constipation since childhood – takes daily stool softeners
 - No dream enactment
 - No changes in memory/cognition




Case 1

- Medical history - Hypertension, hypothyroidism
- Medications
 - Propranolol LA 120 mg daily – helps tremor, but less so now
 - Escitalopram 20 mg daily
 - Docusate-senna 4 tabs QHS
 - Furosemide 40 mg daily
- Family history – adopted; 1 of 2 daughters with tremor (37 yo)
- Social history – no tobacco, illicit drug, or alcohol use




Case 1 – exam

- Eye movements – normal
- Muscle tone – normal
- Reflexes – grade 2 throughout with down going plantar response bilaterally
- Sensation – normal




Case 1 – video



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Case 1 – group discussion

- What are the abnormal movements?
- Differential?
- Workup?




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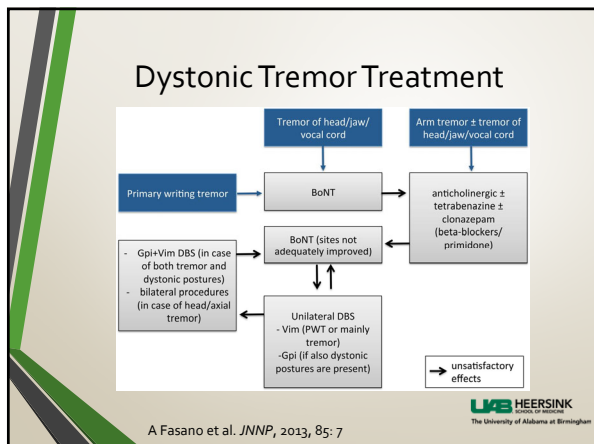
Dystonic Tremor

- Asymmetric postural/kinetic tremor in body region contiguous with area affected by dystonia
- Often irregular amplitude/frequency
- 3 main locations
 - Arm tremor
 - Head/jaw/vocal tremor
 - Primary writing tremor
- Dystonic arm/hand tremor can be initial presentation of cervical dystonia

A Fasano et al. *JNNP*, 2013, 85: 7



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Case 1 – take home points

- Unilateral tremor for >5 years – think dystonic tremor
- Essential tremor and PD tremor can both be asymmetric and unilateral early in disease


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Case 2: Dr. Sung case

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Case 2

- 56yo F with abnormal jerking movements
 - Began in L arm two years ago but now have spread to both arms, legs, trunk, tongue
 - Impaired balance and having some falls
 - Mood is irritable and mild depression
 - Difficulty concentrating and mild short term memory difficulties for the past year, has forgotten to pay a few bills
 - Sleeping only ~3 hrs/night




Case 2

- Medical history - RLS diagnosed 10 years ago
- Medications
 - Gabapentin 300 TID
 - Ropinirole 2mg HS
 - Ferrous sulfate 324 daily
- Family history
 - Mother died at age 63 with lung cancer but had abnormal movements the last few years of her life
 - Brother age 48 has started having abnormal movements and is undergoing eval
- Social history - No tobacco, alcohol, or illicit drug use




Case 2 – exam

- Eye movements – normal
- Muscle tone – normal
- Reflexes – grade 2 throughout with down going plantar response bilaterally
- Sensation – normal




Case 2 – video



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Case 2 – group discussion


- What are the abnormal movements?
- Differential?
- Workup?



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Approach to hyperkinetic movements

- Isolate the abnormal movement
- Tremor must be rhythmic and oscillatory
- If not tremor, must differentiate between chorea, tics, myoclonus
- Though all 3 often described as “jerks”
 - Tics / myoclonus much more rapid in onset of movement
 - Chorea: syndrome characterized by the continuous flow of random muscle contractions




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Cardoso, F. (2017). Chorea, Ballism, and Athetosis. In: Falup-Pecurariu, C., et al. (eds) Movement Disorders Curricula


Approach to hyperkinetic movements

- If thinking chorea,
 - Athetosis / chorea / ballismus on a spectrum based on amplitude
 - Athetosis term rarely used now as most recognize it as dystonia associated with a chorea
- If chorea, rule out HD and TD before exploring other causes
 - HD: MRI brain and HD genetic testing
 - TD: explore anti-emetic and anti-psychotic use (particularly for insomnia or mood)


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Cardoso, F. (2017). Chorea, Ballism, and Athetosis. In: Falup-Pecurariu, C., et al. (eds) *Movement Disorders Curricula*


Case 2 – video 2


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Case 2 – take home points

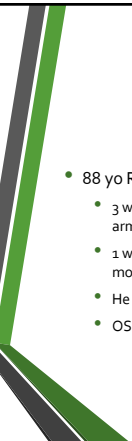
- Chorea is the most common of the non-tremor hyperkinetic movements
- RLS can lead to stereotypy and can cloud other abnormal movements
- VMAT2 inhibitors can treat all hyperkinetic movements regardless of etiology


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Case 3: Uncontrollable movements


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Case 3

- 88 yo RH man with right-sided uncontrollable movements
 - 3 weeks prior, family noticed subtle involuntary movements in right arm and leg
 - 1 week ago, had right hand trigger finger release surgery, and movements now constant
 - He can suppress the movements to some extent
 - OSH diagnosed RLS, now at UAB ED for another opinion

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Case 3

- Additional history
 - No dysarthria, dysphagia
 - No weakness, paresthesias, numbness
 - No change in vision
 - No changes in memory/cognition/mood
 - No recent change to medications

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Case 3

- Medical history – BPH
- Medications – tamsulosin 0.4 mg BID
- Family history – no movement disorders
- Social history – Drinks 2 beers nightly; no recent change




Case 3 – exam

- Eye movements – normal
- Muscle tone – normal
- Reflexes – grade 2 throughout with down going plantar response bilaterally
- Sensation – normal




Case 3 – video



Case 3 – group discussion

- What are the abnormal movements?
- Differential?
- Workup?




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Hemiballismus

- Intermittent sudden high amplitude flinging movements of one side of the body
- Classically associated with lesion to subthalamic nucleus but can be other basal ganglia structures as well
- Hemichorea vs. hemiballismus simply a matter of amplitude
- Most common causes are vascular and NKH
- Other causes: tumor, metabolic, infectious, demyelination


JS Hawley, WJ Weiner, *Parkin & Rel Disord*, 18: 125-129, 2012



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Case 3 – take home points

- Abrupt onset hemi-ballism or hemi-chorea – think structural etiologies
- Given amplitude, ballismus on one hemibody can passively move the unaffected hemibody
 - Need to look closely to identify that movements are actually unilateral in origin



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