Objectives

- Review a case of functional movement disorders and mass hysteria
- Describe the influence of stigma on the diagnosis and management of paediatric conversion disorders
- Summarize approaches to assessment and treatment models for paediatric functional movement disorders

Disclosure

- I have not had in the past 3 years, a financial interest, arrangement or affiliation with one or more organizations that could be perceived as a direct or indirect conflict of interest in the content of this presentation.
- I have received grant support in the past 5 years from the following organizations:
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  - Associated Medical Services
  - Arnold P. Gold Foundation
  - Children’s Health Foundation
  - London Community Foundation
LeRoy Schools Looking Into Mysterious Student Health Concerns

A classmate of a student who was recently diagnosed with Tourette Syndrome has come forward with symptoms similar to her classmate's. The school has been investigating these reports.


The Leroy 19
Patient R.S.

From parents:
- 15 year old girl with history of anxiety
- Brought to ED on 11/5/11 because of progressive deterioration due to severe uncontrollable head movements and vocal “yelp”
- Started approximately 1 week ago
- Recently consulted with Child Neurology, who discussed with parents likelihood that this was not organic in nature, explaining possible psychological factors – but agreed to possibility of inpatient admission for observation and further work up and started on clonidine 0.1 mg PO qHS with little effect.

Patient R.S.

From youth:
- Difficulty speaking initially, communicated via texting
- Stressors:
  - Socially awkward/anxious – difficulty fitting in with classmates
  - Parents fighting – concern for divorce
  - Had separated briefly earlier in the summer
  - Recently started dating for the first time
  - Friends….
DSM 5

1. Somatic Symptom Disorder
2. Illness Anxiety Disorder
3. Conversion Disorder
4. Psychological Factors Affecting OMC
5. Factitious Disorder

History

- The concept of hysteria is over two thousand years old
- Briquet (1850s) and Charcot (1880s)
- Modern concepts of this border zone between neurology and psychiatry
- “Conversion” first used by Breuer and Freud
  - transformation of unresolved psychologic conflicts and unassimilated emotions into physical manifestations
  - Primary Gain
  - Secondary Gain

Epidemiology of Pediatric Conversion Disorder

- Few firm numbers available
- Varied terminology
- Lack of confidence in diagnosis
- Tendency to code by symptom (at least in US)
- Prevalence has been estimated to be as low as 0.1% and as high as 31%
- Onset has been reported as in children young as 4 years, but most often presents during the peri-pubertal years
Clinical Features in Children

• Most young children present after a minor injury; older children are less likely to have a history of focal injury
• It is usually possible to identify a specific precipitant
  • In one study, a specific reason was identified in 40/47 children (Zeharia, 1999)
• The typical course is abrupt onset with resolution of symptoms within three months from the time of diagnosis
• Recurrence is uncommon, and when present may herald the development of a somatization disorder

Neurobiology of Functional Movement Disorders

• Impaired habituation to arousing stimuli and greater functional connectivity between amygdala and supplementary motor area (SMA) in subjects with Functional Movement Disorders (Voon et al., 2010).
• Subsequent study of 16 subjects with FMD showed greater activity in limbic structures (right amygdala, left anterior insula and bilateral posterior cingulate area) and decreased activity in the left SMA during a motor preparation task compared with controls (Voon et al., 2011).
• Left SMA had lower functional connectivity with bilateral dorsolateral prefrontal cortex regions during internally versus externally generated movements (Voon et al., 2011)

Conscious v. Unconscious Gain

FACTITIOUS DISORDER
FACTITIOUS DISORDER BY PROXY
MALINGERING
Is somatization normal?

Physiologic illness and somatization

A few words on stigma...
Historical Cues

- Abrupt, dramatic onset
- Static course
- Spontaneous remission or inconsistency over time
- Normal neurological examination (across examiners)

Clinical Cues

- Atypical symptoms with inconsistent character (amplitude, frequency, distribution, selective disability)
- Inconsistent with neuroanatomy and neurophysiology
- Paroxysmal symptoms
- Symptoms / signs increase with attention to the affected body part
- Symptoms / signs decrease with distraction
- Ability to trigger or relieve the features with unusual or nonphysiological interventions, e.g. body trigger points

Management

- An alliance between the physician and the patient is critical
- Limit testing to what is necessary to rule out realistic alternatives
- Helpful to emphasize the neurobiology of the disorder
- Identification of the precipitating stressor (usually possible in children) is helpful
- Granting permission to recover may be important
Management

- Schedule follow-up at regular intervals rather than “as needed” follow-up
- Be certain of the diagnosis if not the cause
- Physiotherapy and positive reinforcement appear to reduce or abolish symptoms in many cases
  - Prepare the therapist
  - Treat co-existing mood disorders

Treatment

Psychotherapy

<table>
<thead>
<tr>
<th>Author</th>
<th>Design</th>
<th>Intervention and control groups</th>
<th>Follow-up strategy</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewell et al., 1996</td>
<td>15% improvement in symptoms of anxiety</td>
<td>Cognitive behavioral therapy and relaxation training</td>
<td>12 months</td>
<td>10%</td>
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</table>

Cognitive Behavioural Therapy

- Situation
- Thoughts
- Physical Reactions
- Moods/Feelings
- Behaviour

Pharmacotherapy

Physical Treatments
the LeRoy girls

- Treatment varied across individuals, but included
  - CBT
  - Supportive psychotherapy
  - Education
  - Pharmacotherapy for co-existing anxiety
  - Alteration of social setting
  - Reduced media attention

the LeRoy Girls

- 5/19 have had complete recovery
- 6/19 improved by >85%
- 2 have not improved (involved in lawsuit)
- 5 lost to follow-up

http://blogs.buffalonews.com/a/2015/05/19/local-school-girls-suffer-from-serious-issues/
Acknowledgments

- Dr Jonathan Mink
- Dr Michael Scharf
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