Psychogenic movement disorders: the role of psychological assessment

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Psychogenic movement disorders

- “Movement disorders that are believed to result from a psychological or psychiatric rather than a primary neurological disturbance”
- Some psychogenic movement disorder diagnoses are compatible with DSM-IV conversion disorder criteria classification.

Lang, 2011
CONVERSION DISORDER

- 1 or more symptoms or deficits affecting voluntary motor or sensory function that suggest a neurological or other general medical condition.
- Psychosocial factors are judged to be associated with the symptom or deficit because the initiation or exacerbation of the symptom or deficit is preceded by conflicts or other stressors.
- The symptom or deficit is not intentionally produced or feigned.
- The symptom or deficit cannot, after appropriate investigation, be fully explained by a known general medical condition or the direct effects of a substance, or as a culturally sanctioned behavior or experience.
- The symptom or deficit causes clinically significant distress or impairment in functioning, or warrants medical evaluation.
- The symptom or deficit is not limited to pain or sexual dysfunction, does not occur during the course of somatization disorder, and is not better accounted for by another medical disorder.
Overall prevalence

- 3.3% of consecutive movement disorder cases over a 71 month period (Factor, 1995)
  > 10% of newly encountered non-parkinsonian movement disorder patients

- 4% of new movement disorder patients (New York)

- 4.1% PMD Baylor College of medicine

- More commonly seen in middle aged adult women and young
## PMD Prevalence: Breakdown by Condition

<table>
<thead>
<tr>
<th>Psychogenic Movement Disorder</th>
<th>Columbia Presbyterian Medical Center (per cent)</th>
<th>Toronto Western Hospital (per cent)</th>
<th>Cleveland Clinic Florida (per cent)</th>
<th>Albany Clinic (per cent)</th>
<th>Total (per cent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dystonia</td>
<td>82 (53)</td>
<td>34 (20)</td>
<td>14 (25)</td>
<td>8 (21)</td>
<td>136 (33)</td>
</tr>
<tr>
<td>Tremor</td>
<td>21 (13)</td>
<td>52 (30)</td>
<td>18 (32)</td>
<td>15 (54)</td>
<td>106 (26)</td>
</tr>
<tr>
<td>Myoclonus</td>
<td>11 (7)</td>
<td>34 (20)</td>
<td>4 (7)</td>
<td>4 (14)</td>
<td>53 (13)</td>
</tr>
<tr>
<td>Parkinsonism</td>
<td>3 (2)</td>
<td>14 (8)</td>
<td>0</td>
<td>2 (7)</td>
<td>19 (5)</td>
</tr>
<tr>
<td>Gait disorder</td>
<td>14 (9)</td>
<td>7 (4)</td>
<td>1 (2)</td>
<td>0</td>
<td>22 (5)</td>
</tr>
<tr>
<td>Blepharospasm/Facial movements</td>
<td>4 (2)</td>
<td>0</td>
<td>4 (7)</td>
<td>1 (4)</td>
<td>9 (2)</td>
</tr>
<tr>
<td>Tics</td>
<td>2 (1.3)</td>
<td>0</td>
<td>2 (3.6)</td>
<td>0</td>
<td>4 (1)</td>
</tr>
<tr>
<td>Stiff Person</td>
<td>1 (0.6)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Others</td>
<td>14 (9)</td>
<td>30 (18)</td>
<td>13 (23)</td>
<td>1 (4)</td>
<td>58 (14)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>152</td>
<td>171</td>
<td>56</td>
<td>28</td>
<td>407</td>
</tr>
</tbody>
</table>

*Columbia Presbyterian Medical Center (listed all types of PMD) (Williams et al., 1995); Toronto Western Hospital (listed only predominant PMD) (A.E. Lang, personal observations); Cleveland Clinic Florida (listed only the predominant PMD. 1998-2002) (N. Galvez Jimenez, personal observations); Albany Clinic (Factor et al., 1995).
Economic impact of pseudoneurologic syndrome is tremendous.

Patients with somatization have overall health care expenditures 9x that of unaffected persons,
  > > 82% of patients with somatization stop working because of their health problems.
- A cost of $20 billion/Y in health care expenditures
  > Not counting time lost from work and disability payments.
  > Even a modest improvement in recognition and treatment of somatizing disorders could reduce health care costs significantly.
Clues to diagnosis of pseudoneurologic syndromes

- Neurologic syndrome precipitated by stress
- Occurs or worsens in the presence of others
- Signs of other psychiatric illness (panic attacks, depression)
- Histrionic personality
- History of multiple surgeries (e.g., appendix, gallbladder, adhesion, nerve entrapment)
- No serious injuries sustained despite falls or "seizures"
Clues to Diagnosis of Pseudoneurologic Syndromes

- Denies psychologic etiology of symptoms
- Normal neurological exam
- Symptoms persist despite specific medical treatment
- Alexithymia: inability to describe feelings in words
- Vague, bizarre, inconsistent description of symptoms by patient
- Striking inconsistencies on repeated examination
- Nonanatomic distribution of abnormalities
Phenomenology of psychogenicity in movement disorders

The presence of **inconsistent** movement phenomenology

- Variability
- Distractibility
- Entrainment
The diagnosis SHOULD NEVER be one of exclusion.

When PMD is suspected, workup can exclude a possible underlying organic illness, but positive criteria are needed.

Positive inclusive criteria for PMD may prevent unnecessary investigation.
Diagnosis of PMD

- Suspected with
  - Abrupt onset
    - Most of the times after a minor accident
  - Quick progression to development of disability
  - Static course
  - Alternations between remissions and paroxysmal exacerbations
  - Incongruity with organic counterparts
When PMD suspected

- Investigation of prior
  - History of emotional, physical, or sexual abuse
  - Personality factors
  - Psychiatric history
  - Drug dependence
  - Recent family stressors
  - Work related injuries
  - Litigation
  - Possible secondary gain
Fahn and Williams (1988)
PMD criteria

- **Documented**: persistent relief by psychotherapy, suggestion or placebo has been demonstrated, which may be helped by physiotherapy, or the patient was seen without the movement disorder when believing him- or herself unobserved.

- **Clinically established**: the movement disorder is incongruent with a classical movement disorder or there are inconsistencies in the examination, plus at least one of the following three: other psychogenic signs, multiple somatisations, or an obvious psychiatric disturbance.

- **Probable**: the movement disorder is incongruent or inconsistent with typical movement disorder, or there are psychogenic signs or multiple somatisations.

- **Possible**: evidence of an emotional disturbance.
Behavioral symptoms +/-

- Anxiety
- La belle indifference
- Overdramatization
- Secondary gain
- Improvement by suggestion
- Atypical physical signs
Psychogenic tremor: Clinical characteristics

- Abrupt onset: 78.7%
- Distractibility: 72.4%
- Variable amplitude and frequency: 62.2%
- Intermittent occurrence: 35.4%
- Inconsistent movement: 29.9%
- Variable direction: 17.3%

Precipitants
- Personal life stress: 33.9%
- Physical trauma: 23.6%
- Major illness: 13.4%
- Surgery: 9.4%
- Reaction to medical treatment or procedure: 8.7%
Coexisting with psychogenic tremor

- Coexisting organic neurological disorder 33%
- Depression 50%
- Associated anxiety 30%
- Evidence of secondary gain 32%
- Maintenance of disability status 21%
- Pending compensation 10%
- Pending litigation 9%
Psychogenic tremor

- Can range from rest, postural, and kinetic tremor to bizarre “shaking” or repetitive “jerking” or “seizure-like”
- Can be classified into
  - Long duration (continuous or intermittent)
  - Short lived or paroxysmal (lasting less than 30 secs)
  - Continuous tremor with superimposed paroxysmal episodes
Clues to psychogenic tremor from history

- Selective disability
- Spontaneous and intermittent remissions
- Triggered by injury, stress, loud noise, or other precipitants
- Poor response to medication
- Recovery with psychotherapy
Clues to psychogenic tremor on exam

- Variability of frequency, amplitude, direction, location of movement
- Distractibility
- Entrainment
- Suppressibility
- Deliberate slowing
- Exaggeration with attention and decrease when attention is withdrawn
Other clues on exam

- False weakness
- Midline sensory split
- Lateralization on tuning fork to forehead
- Pseudowaxy flexibility
- Pseudoptosis
- Pseudoclonus
- Hoover sign
- La belle indifference
Psychogenic dystonia

- Typically dystonia is a patterned movement with a direction, and is sustained
- Psychogenic dystonias are
  - Persistent
  - Tonic
  - Often fixed or quickly become fixed
  - Contractures since early beginning
Historical Clues

- Abrupt Onset
- Minor trauma preceding it
- Static course
- Purely paroxysmal
  - Exclude paroxysmal attack
- Spontaneous remissions-cures
- Multiple somatizations-undiagnosed conditions
- Other psychiatric diagnosis(es)
- Primary or secondary gain
- Employed in healthcare
Psychogenic dystonia

Figure 6  A patient with paraplegia and psychogenic/functional dystonia of 14 years duration before (left and middle panels) and after (right panel) treatment with psychotherapy. Reproduced from Purves-Stewart and Worster-Drought.19
Psychogenic parkinsonism

- 2-6% of psychogenic movement disorders
- Duration of symptoms before dx is quite variable 4 mo-13 y
- Onset is usually sudden
- Associated to psychological trauma, work related injuries or accidents.
- Very early get to disabled state
Bradykinesia

- TRUE
  - Slowness in initiating movement
  - Progressive reduction in the speed and amplitude of the repetitive movement
  - Early fatiguing and arrests in movement
  - Bradyphrenia, hypomimia

- PSYCHOGENIC
  - extreme effort, sighing, grimacing
  - Whole body movements to perform a simple motor task
  - Psychomotor retardation
Psychogenic gait

- Exaggerated effort or fatigue
- Emotional quality: often with sighing
  - Signals disability and distress
- Extreme slowness
- Whole body convulsive shaking with knee buckling
- Fluctuations with periods of normality
- Onset is typically abrupt
- Unusual postures: camptocormia w/o other features
- Bizarre movements
Hysterical gait

- Sudden buckling of the knees (usually without falls),
- Swaying with the eyes closed with a buildup of sway amplitude and improvement with distraction.
- Patients with a hysterical gait tend to drag the foot when walking rather than lift it.
- No leg circumduction
- Remarkable ability to do rapid postural adjustment
  - Lurching wildly in all directions
In patients with psychogenic dystonia, specific cerebral abnormalities have been found (Vuilleumier, 2001, 2005).

This suggests that emotions (emovere: to move) could modulate movement through interactions between limbic and sensorimotor networks.
Conversion tremor compared with voluntary tremor was associated with right temporoparietal junction hypoactivity and lower functional connectivity between the right TPJ, sensorimotor regions, and limbic regions.

This was hypothesized to underlie why individuals with psychogenic tremor experience it as involuntary.

Voon et al., 2010
It is important to be careful in diagnosing PMD

- 42% of patients with unexplained medical symptoms have neurologic disease
  - Neurological diseases can lead to psychological and personality changes
- Illness belief
  - The stronger belief with physicality of disease the poorer the prognosis
CASE STUDIES: data removed to protect patient privacy
Psychologists can add to the assessment of psychogenic movement disorders by exploring the life stressors that might be contributing to the symptomatology. Treatment will depend on the underlying issues driving the symptoms, which generally fall into the anxiety and conversion disorders spectrum.