Phenomenology of Psychogenic Movement Disorders in Children

Joseph Ferrara, MD and Joseph Jankovic, MD

Parkinson's Disease Center and Movement Disorders Clinic,
Department of Neurology, Baylor College of Medicine, Houston, Texas

ABSTRACT

Objective: To assess the frequency and phenomenology of psychogenic movement disorders (PMDs) in children.

Background: Little is published regarding pediatric PMDs, despite the fact that PMDs often arise during childhood.

Methods: Retrospective chart and video review of all children (<18 years) diagnosed with PMDs in our clinic.

Results: 3% of children had a PMD. Of these patients, 78% were girls, but the female preponderance was seen only in patients ≥13 years. Two-thirds of children with PMDs exhibited multiple phenotypes, including tremor (65%), dystonia (43%) and myoclonus (37%). An immediate PMD trigger was evident in 69%.

Conclusions: Pediatric PMDs are most common in females, especially after adolescence. The majority of children exhibit multiple phenotypes, the most common being tremor followed by dystonia and myoclonus.

INTRODUCTION

Psychogenic movement disorders (PMDs) are heterogeneous disturbances of motor function that are not fully explained by organic conditions and which occur in association with underlying psychiatric disease.

While the mean age of patients with PMDs is 37 to 50 years in most case series,[1-4] conversion disorder—including PMDs—may arise during childhood. Indeed, conversion disorder affects 2-15% of children attending outpatient pediatric neurology clinics.[5-8] Despite these observations, surprisingly little has been published regarding the frequency and phenomenology of PMDs in children.

METHODS

We reviewed the medical records of all 54 children (<18 years), 42 girls and 12 boys, diagnosed in the Baylor College of Medicine Movement Disorders Clinic with a PMD between 1988 and 2008. Video recordings were also reviewed to confirm clinical findings as needed. The association between age at onset and gender was determined using Fisher's exact test. The association between psychogenicity and movement disorder phenotype was determined using chi-square analysis. A two-tailed p-value <0.05 was considered significant.

RESULTS

Population

Of all patients diagnosed with a PMD in our clinic, 5.7% were <18 years old. Of 1,722 children seen in our clinic, 54 (3.1%) had a PMD as per Fahn and Williams criteria.[2] The mean age at symptom onset was 14.2 years (± 2.11, range 7.6-17.7 yrs.), and the mean symptom duration preceding evaluation was 11 months (± 12, range 0.5-48 m.). 78% of patients were girls, but the female preponderance was significant only in patients ≥13 years (P = 0.019).

Phenomenology	N (%)*
Tremor or shaking	35 (65)
Dystonia / fixed dystonia	23 (43) / 6 (11)
Myoclonus or jerking	20 (37)
Astasia-abasia & gait disorders	12 (22)
Convergence spasm	6 (11)
Disrupted speech	4 (7)
Athetosis	1 (2)
Apraxia of eyelid opening	1 (2)

*Cumulative frequencies exceed 100% since 36 (67%) children had multiple PMD phenotypes.

Distribution	N (%)
Symmetrical	22 (41)
Asymmetrical	32 (59)
Dominant > nondominant	28 (88 of asymm.)
Nondominant > dominant	4 (12 of asymm.)

Psychogenic dystonia comprised 10% of our clinic's total (organic and psychogenic) pediatric dystonia population, while PMDs accounted for 27% and 32% of children with tremor and myoclonus, respectively.*

*chi-square = 24.4; degrees of freedom = 2; P-value <0.01).

In 28 (52%) patients, comorbid anxiety, depression or persistent irritability was reported by the child or parent. Three (6%) children had a history of suicidal ideation, and 2 had a history of suicidal gesture or attempt. Associated somatic or neurological complaints were documented in 49 (91%) children.

Clinical Characteristics		N (%)
Onset of symptoms	Acute	49 (91)
	Subacute	5 (9)
Immediate PMD trigger	Present	37 (69)
	Injury or accident	19 (35)
	Social stressor	8 (15)
	Minor medical illness	5 (9)
	Exertion	5 (9)
	None	17 (31)
PMD modeling	Suspected	6 (11)
	Not suspected	48 (89)
Selective disability	Present	23 (43)
	Absent	31 (57)
Course at evaluation	Static	43 (80)
	Progressive	11 (20)
PMD frequency	Episodic	33 (61)
	Continuous	14 (26)
	Continuous with remissions	7 (13)

DISCUSSION

The mean age of our patients at symptom onset was 14 years; all but 10 children were 13 or older, and no child was younger than 7. This data suggests that PMDs are either more common during adolescence or that PMDs in younger children are short-lived and do not require referral to a subspecialty clinic.

Girls comprised 78% of our PMD cohort, which is consistent with data regarding gender differences from both adults with PMDs[1-4,9] and children with conversion disorder in general.[10-15] Studies of conversion disorder in children show that the degree of female preponderance increased after adolescence.[10,16,17] Our work supports this finding: we found no gender discrepancy in children age 12 years or less, compared with a female-to-male ratio of 5.3 to 1 in children age 13 years and older.

In adults, the most common PMD phenotype is either tremor[1,3,18,19] or dystonia,[2,4] followed by myoclonus and gait disorders. Data regarding the most common PMD phenotypes in children are sparse, but tremor, myoclonus, dystonia and gait disorders all have been reported. In our PMD cohort, two-thirds of children exhibited multiple phenotypes, the most common being tremor followed by dystonia and myoclonus. Psychogenic dystonia accounted for a significantly smaller proportion of total dystonia patients (organic plus psychogenic) when compared with tremor and myoclonus. Convergence spasm was seen in only 11% of our PMD cohort but is a noteworthy feature because it is rarely due to an organic process.[20] In patients whose PMD exhibits clear laterality, the dominant side is usually affected, which is in contrast to psychogenic sensory disturbances and weakness which may preferentially affect non-dominant limbs.[21]

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