





This study was conducted to evaluate the pattern of psychogenic dystonia including associated conditions and predictors of outcome in order to assess the long-term prognosis in this population of patients seen in the Baylor Movement Disorders Clinic between 1988 and 2002 with psychogenic movement disorders (PMD). Patients were contacted by telephone using existing contact information, internet search engines, operator assistance, and people finder to obtain telephone numbers. Data collected from a structured interview (telephone follow up) and detailed chart review (Visit 1) was entered into a database. The psychogenic dystonia subset was analyzed, examining the characteristics as well as outcome of patients with dystonia. Clinical features of the PMD were categorized using Fahn and Williams diagnostic criteria, McMaster's Health Index Questionnaire, treatment, and outcome measures including reason for improvement were recorded. The diagnosis of PMD was given in 4.1% (N = 517) of all patients during this study period, with psychogenic dystonia accounting for 17.2%. There were more women (n = 71) than men (n = 18) who were diagnosed with psychogenic dystonia. The average age at onset was 34.8 ± 13.8 years. The average duration of symptoms was 3.9 ± 5.1 years, with the average duration of follow-up being 3.6 ± 3.1 years. Of these 89 patients with psychogenic dystonia 62.9% had co-morbid psychiatric diagnoses, 74.2% had other neurologic symptoms and 25.8% had organic neurologic disorders. A clear precipitating factor was noted by 78.7% patients of which personal life stress, and trauma were the most common. Common clinical features of psychogenic dystonia include distractibility (58.4%), intermittent, episodic symptoms (42.7%), inconsistent movements (21.3%), and active resistance to passive movement (24.7%), and fixed posture (7.9%). Onset was abrupt in 85% patients. Pattern of dystonia was generalized in 20% patients, while focal dystonia was noted in 38.2% patients. Organic movement disorder was present in 20.2% patients with psychogenic dystonia. Associated psychogenic tremor was noted in 71.7% patients. Long-term outcome was available in 54 patients, while 24 refused interview, and 11 did not complete the questionnaire for outcome measures. Improvement was noted by 32 patients (59.3%), 13 had worsened (24.1%), and 9 remained the same (16.7%). Most common reason stated for improvement was effective treatment by the physician (39.6%). In this series of psychogenic dystonia patients, we have identified abrupt onset, distractibility, intermittent and episodic pattern, active resistance to passive movement, as the predominant characteristic features. Women seem to be more affected than men, depression and anxiety are the most common psychiatric co-morbidities. Improvement with time was noted in 59.3% patients and there is a positive correlation between clinical improvement and perceived effective treatment.

STUDY OBJECTIVE

The primary objective is to analyze the clinical features and long-term prognosis of patients with psychogenic dystonia.



Patients seen in the Baylor College of Medicine Movement Disorders Clinic between 1988 and 2002 with the diagnosis of PMD were identified from the database. All patients with PMD were initially contacted by phone and, if unable to reach, they were sent letters requesting an update of contact information. Telephone directory, internet search engines such as Yahoo.com, whitepages.com, and people search engines were used to locate the correct phone numbers. Once the patients were contacted data was collected using a structured telephone interview which included the emotional index of the McMaster's Health Index Questionnaire [1,2]. In addition to the structured telephone interview, data was collected from retrospective chart review. Extensive database included the information as shown in the results section. Attempts were made to verify whether the patients fulfill the Fahn and Williams criteria for PMD [3]. Statistical analysis was performed using Chi square, and spearman's rho on ordinal and nominal variables, ANOVA was performed for continuous variables. Backward logistic regression analysis was performed to assess the relationship between probability of same or worse outcome, as the dependent variable, and the various dependent variables. Data from the telephone interview and chart review was used for this analysis. The dystonia subset from the PMD database is analyzed and results are being reported in this paper. The dystonia specific data was collected, and this included distractibility, inconsistent movement, variable amplitude and frequency when associated tremor was present, active resistance to passive movement, suppressibility, fixed posture. Data was also collected on comorbid features including associated somatization, psychiatric or neurologic disorders, including presence of organic movement disorder.

Clinical Characteristics and Long-term Prognosis of Psychogenic Dystonia

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RESULTS

Table 1. Demographic Information

		n [N]	%
Population of patients with PMD (1988–2002)		[517]	
Pts with psychogenic dystonia		89	17.2
Sex	-	[89]	
Male		18	20.2
Female		71	79.8
Age, years ^		[89]	
Onset of symptoms	12.1-77.6	34.8	(13.8)
Male	13.9-77.6	41.9	(15.1)
Female	12.1-63.3	33.0	(13.0)
Initial visit	13.4-81.8	38.8	(14.6)
Male	14.4-81.6	46.7	(17.0)
Female	13.4-68.2	36.8	(13.3)
Employment status		[88]	
Employed		32	36.4
On disability		24	27.3
Retired		3	3.4
Unemployed		2	2.3
Litigation		1	1.1
Occuation		[87]	
Health-related		13	14.9
^Mean (SD) <i>Range</i> ; ≭ <i>p</i> < 0.	0001		

Table 2. Predisposing Factors

	n [N]	%
Precipitating event Any Personal life stress Trauma Reaction to medical	[89] 70 35 31 6	78.7 39.3 34.8 6.7
treatment/procedure Surgery Major illness Secondary gain Any Disability Compensation pending Litigation Relationship	6 2 [89] 26 17 4 7 3	6.7 2.2 29.2 19.1 4.5 7.9 3.4

Table 3. Psychogenic Dystonia

		n [N]	%
Duration, years ^		[89]	
Symptom	< 0.0-26.6	3.9	(5.1)
Follow-up	< 0.0-15.4	3.6	(3.1)
Diagnostic criteria		[89]	. ,
Definite		51	57.3🗡
Probable		15	16.9
Documented		13	14.6
Possible		10	11.2
PMD onset		[88]	
Abrupt		75	85.2*
Gradual		13	14.8
^Mean (SD) <i>Range</i> ; ≭	(p < 0.0001		

	n [N]	%
pecific clinical features of PMD	[89]	
None	3	3.4
Distractibility	52	58.4
Intermittent or episodic	38	42.7
Inconsistent movements	29	32.6
Variable amplitude & frequency	28	31.5
Active resistance	22	24.7
to passive movement		
Incongruous movements	19	21.3
Non-patterned	13	14.6
Labelle indifference	12	13.5
Suppressible	11	12.4
Give-way weakness	9	10.1
Deliberate slowing	7	7.9
Fixed posture	7	7.9
Variable direction	7	7.9
Preserved function with PMD	6	6.7
Suggestible	6	6.7
Rhythmical shaking	5	5.6
Sensory split	5	5.6
Irregular tremor	4	4.5
Entrainment	3	3.4
Position induced	3	3.4

Tremor (with dystonia) Generalized Focal
Head
RUE
LUE
Bilateral hands
RLE
LLE
Bilateral legs
Trunk
Dvstonia
Generalized
Focal
Cervical
Cranial
Foot
Hand
Voice
Blepharospasm

Table 6. Other Movement Disorders with Psychogenic Dystonia

Gait disorder Organic movement dis Myoclonus **Convergence** spasm Unspecified Blepharospasm (isolat Hemifacial spasm Tics Parkinsonism Stereotypy

Table 4. Clinical Features

Table 5. Dystonia Features

n [N]	%
[89]	
46	51.7
9	10.1
38	42.7
13	14.6
12	13.5
4	4.5
12	13.5
4	4.5
4	4.5
3	3.4
1	1.1
48	53.9
18	20.2
34	38.2
10	11.2
7	7.9
7	7.9
6	6.7
4	4.5
1	1.1

	n [N]	%
	[89]	
	35	39.3
sorder	18	20.2
	9	10.1
	7	7.9
	5	5.6
ted)	4	4.5
	4	4.5
	3	3.4
	1	1.1
	1	1.1

Table 7. Comorbid Conditions and Somatizations

	n [N]	%
Psychiatric	[89]	
None	33	37.1
Depression	44	49.4
Anxiety	18	20.2
Suicidal ideation	5	5.6
Anger	4	4.5
Panic attacks	2	2.2
Neurological	[89]	
None	23	25.8
Pain	28	31.5
Numbness or sensory	25	28.1
Organic neurological disease	23	25.8
Visual problems	17	19.1
Weakness	15	16.9
Muscle spasm	11	12.4
Seizures	8	9.0
Fibromyalgia	4	4.5
Complex regional pain syndrome	1	1.1
RSD	1	1.1
Somatizations	[89]	
None	16	18.0
Pain syndrome	46	51.7
Fatigue or exhaustion	40	44.9
Headache	35	39.3
Unsteadiness	30	33.7
Insomnia	29	32.6
Memory loss	24	27.0
Dizziness	20	22.5
Self-inflicted injuries	9	10.1
Sexual dysfunction	8	9.0

Table 8. Treatment

	n [N]	%
Treatment history		
Physician	[89]	
Internist/Family practitioner	81	91.0
Neurology	70	78.7
Psychiatry	27	30.3
Pain specialist	7	7.9
Movement disorder	6	6.7
Neurosurgeon	4	4.5
ER doctor	2	2.2
Therapist	[89]	
Physical therapy	13	14.6
Chiropractor	7	7.9
Psychotherapy	7	7.9
Biofeedback	5	5.6
Neuropsychologist	4	4.5
Treatment offered	[89]	
Medication (added)	78	87.6
Placebo (n = 20)		
Positive	19	95.0
Negative	1	5.0
Biofeedback/relaxation	37	41.6
Psychiatry	17	19.1
Psychology	12	13.5
Physical therapy	4	4.5

	n [N]	%
Social life	[40]	
Good	26	65.0
Satisfactory	5	12.5
Poor	9	22.5
Physical health	[40]	
Good	22	55.0
Satisfactory	10	25.0
Poor	8	20.0
Global outcome	[54]	
Better	32	59.3
Same	9	16.7
Worse	13	24.1
Reasons for improvement	[48]	
Did not improve	19	39.6
Perceived effective	19	39.6
treatment by physician		
Elimination of stressor	4	8.3
Use of specific medication	2	4.2
Stress management	2	4.2
Psychotherapy	1	2.1
Biofeedback	0	0.0
Lost to follow-up	[89]	
Refused interview	24	27.0
No response	18	20.2
Dissatisfaction	16	18.0
Seeing some other physician	12	13.5
Distance	10	11.2
Improved	9	10.1
* <i>p</i> < 0.0001		

Favorable Effective by the PMD featu No history medic

Poor outco History o Weaker p History of chirop

History of Poorer so Dissatisfa with th Somatizat

Predic

Positive his Positive his Dissatisfac Somatizatio

^ Not a reliable predictor of same/worse outcome



Table 9. Long-term Outcome

Table 10. Spearman Rho Correlational Analysis

es	ρ	p
outcome		
treatment physician	0.65	< 0.0001
ure of suggestibility	0 27	0.06
y of other	0.25	0.08
al conditions		
me		
fsmoking	0.55	< 0.0001
hysical health	0.35	0.03
f receiving	0.31	0.03
ractor treatment		
f alcohol use	0.30	0.04
ocial life perceptions	0.29	0.07
action	0.24	0.09
e physician		
tions of unsteadiness	0.23	0.09

CONCLUSIONS

- 1. The clinical presentation of psychogenic dystonia is variable, but abrupt onset, distractibility, intermittent and episodic pattern, active resistance to passive movement are the predominant features.
- 2. Women seem to be more affected than men.
- 3. Depression and anxiety are the most common psychiatric co-morbidities.
- 4. Long-term prognosis is good with improvement noted in 59.3% patients.
- 5. There is a positive correlation between clinical improvement and perceived effective treatment.

Key References

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Table 11. Logistic Regression Analysis

or Variable	β	Wald statistic	p	Odds rati	o 95% CI
story of smoking	3.80	10.89	0.001	44.52	(4.67, 424.29)
story of chiropractor treatment	2.66	3.52	0.061 ^	14.23	(0.89, 228.38)
tion with the physician	1.79	3.31	0.069 ^	6.01	(0.87, 41.49)
ons of unsteadiness	1.63	3.05	0.081 ^	5.11	(0.82, 31.99)