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CLINICAL EVALUATION OF PATIENTS WITH TICS DISORDERS AT MEDICAL COLLEGE &HOSPITAL, KOLKATA

Neurology

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ABSTRACT

Tics disorder, a variety of movement disorders, though uncommon in clinic population is not rare in community. We studied 28 patients (4.3%) suffering from various tics disorders in our Movement Disorders Clinic, Department of Neurology at Medical College, Kolkata over a period of three years. Nine patients were diagnosed to be cases of Tourette's syndrome. Male were 89.3% and 78.5% of the patients were in first two decades. All the patients had motor tics and 46% had vocal tics. ADHD and OCD were present in 35.7% and 28.5% of patients respectively. Family history was positive in one-third of patients. About 80% of the patients showed good to moderate response to treatment.

KEYWORDS

ADHD, OCD, Tics, Tourette's syndrome

Introduction

Tics disorder is a variety of movement disorder characterized by brief, repetitive and stereotypic intermittent movement (motor tics) or sounds produced by moving air through nose, mouth or throat (phonic or vocal tics). They may be fast, called clonic tics or slow and sustained, named as dystonic and tonic tics. Tics may be simple or complex. Simple motor tics involve only one group of muscles and cause jerk like movements. It can involve various body parts though most commonly affects face and eyelids. Complex motor tics consist of coordinated, sequenced movements resembling normal motor acts or gestures that are inappropriately intense and timed. They may be seemingly nonpurposeful, such as head shaking or trunk bending, or they may seem purposeful, such as touching, throwing, kicking etc. It is not an uncommon condition and often over sighted and ignored. Diagnostic confusion may arise from other movement disorders such as chorea, athetosis, dystonia and other stereotypies. This is relatively a benign condition, but co-morbid condition may put enormous stress on individual and family. Tourette syndrome, a distinctive type of tics disorder, named after the French neurologist, George Gilles de la Tourette in 1885 encompassed clinical features such as coprolalia, echolalia and echopraxia along with motor tics. Increased attention to Tourette syndrome was drawn after observing the beneficial effects of neuroleptic drugs. Various reports on Tics disorder are available in western literature but there are scanty literatures from the East.

Aims and objectives

In the current study, we proposed to study the clinical pattern of Tic disorders, its co-morbid conditions and therapeutic response to standard available drugs in Movement Disorders Clinic, Department of Neurology, Medical College, Kolkata.

Material and Methods

The study included 28 patients of tic disorder attending Movement Disorders Clinic (MDC), Medical College, Kolkata in the last three years 2015-2017.

Assessment included a detailed history about the age and sex of the patients, birth and developmental history, drug history, associated behaviour abnormalities, family history of tics, Tourette syndrome, obsessive compulsive behaviour and other psychiatric disorders. Detailed history of tics at present and past were taken. Tics were analysed on the basis of site, number, frequency, type, severity and interference with functioning. Video and audio recording of the patients were done whenever possible.

Complete neurological examinations of all patients were done. Neuropsychological testing to exclude cognitive impairment was done when indicated. Investigations included CT scan of brain, serum ceruloplasmin to exclude Wilson's disease and EEG to exclude myoclonic epilepsy. ASO titre was done both to exclude Sydenham chorea and also to note the exacerbating factors of tics.

Tourette syndrome was diagnosed according to DSM-V diagnostic criteria.

- Both multiple motor and 1 or more vocal tics have been present at some time during the illness, though not necessarily concurrently. (A tic is a sudden, rapid, recurrent, nonrhythmic, stereotyped motor movement or vocalization)
- The tics occur many times a day (usually in bouts) nearly every day or intermittently throughout a period of more than 1 year, and during this period there was never a tic-free period of more than 3 consecutive months
- The onset is before age 18 years
- The disturbance is not due to the direct physiologic effects of a substance (eg, stimulants) or a general medical condition (eg, Huntington disease or postviral encephalitis)

Obsessive Compulsive Disorder (OCD) and Attention Deficit Hyperactivity Disorder (ADHD) were diagnosed on the basis of DSM-V diagnostic criteria. The patients were put on medicines whenever required and were examined at regular intervals at our Movement Disorders Clinic.

Results

A total of 28 patients were studied. Total number of patients attending MDC during the same period was 650, so the percentage of patients with Tic disorder is 4.3%. Age range of the patients were 5-47 years. 85.71% patient were male. 78.57% patients were in first two decades.

Table 1 illustrates age and sex distribution of patients.

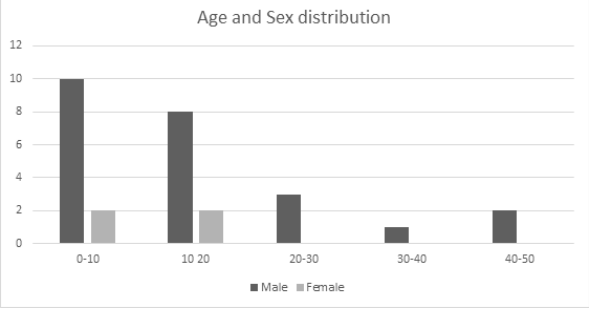

Table 1 Age and sex distribution of patients with Tic disorder

Primary		
a)	Sporadic	
	1. Chronic motor tics	6
	2. Adult onset (recurrent) tics	6
	3. Tourette syndrome	4
b)	Inherited	
	1. Tourette syndrome	5

Secondary
1. Infections-(encephalitis) 1
2. Developmental 6

Table 2 Classification of Tics disorder

Total number of patients =28
Motor tics – 28 (100%)
a)Simple – 19 (67.81%)
b)Complex -3 (10.75)
c)Both - 6 (21.5%)

Vocal tics – 13 (46.4%)
a)Simple -9(32.1%)
b)Complex- 4 (14.2%)

Table 3- Classification of Tics

ADHD
In Tic disorders 6 (21.7%)
In Tourette syndrome 4 (44.4%)

OCD
In Tic disorders 4 (14.2%)
In Tourette syndrome 4 (44.4%)

Positive family history of tics
In patients of Tics 10(35.5%)
In patients of Tourette syndrome 5(55.5%)

Table 4- Frequency of Co-morbid conditions in Patients of Tics disorder

	Name	Dosage
Tics	Haloperidol	0.5-15 mg
	Risperidone	1-3 mg
	Tetrabenazine	50-100 mg
Tics plus OCD	Fluoxetine	20-60 mg
	Sertraline	25-100 mg
Tics plus ADHD	Imipramine	25-75 mg
	Clonidine	0.1-0.3 mg

Table 5- Drugs used for treatment

Did not require treatment	1 (3.5%)
Did not turn up for follow up	6 (21.7%)
Good response	9 (42.8%)
Moderate response	8 (38%)
Poor response	4 (19%)

Table 6- Response to treatment

Discussion

Of the 28 patients in our study, Tourette syndrome was diagnosed in 9 (32.8%) patients according to diagnostic criteria. Most of the patients were males (85.71%), sex ratio (M: F) being 7:1.

Regardless of study methodology, male sex is consistently associated with TS risk.[1-3]The sex ratio of affected subjects from several studies varied from 1.6:1 to 10:1 with all studies finding higher disease prevalence in male than in female subjects. Most of the studies were community based. The sex ratio in clinic based studies have documented sex ratio which varied from 8:1 to 3:1.[4,5] These sex differences may be partially mediated by the effects of sex hormones on early CNS organization.[6] Of the 28 patients in our study, 2 (78.5%) were in first two decades, the age of the youngest patient being 5 years. Tourette syndrome has been described as early as infancy,[7] but for most affected persons, symptoms most commonly begin around the age of seven.[8]In most affected children, the frequency and severity of symptoms improved significantly by adulthood.[9]

Chronic multiple tic disorder (CMTD) appear either in childhood or adult life. Its course tends to be very stable and usually there is a single tic, motor or vocal, that does not vary in intensity. Recent genetic studies indicate that CMTD can be part of clinical spectrum of TS and a possible expression of the same genetic defects.[10]

In our study 28 patients (100%) had motor tics and 13 patients (46.4%) had vocal tics. Of the motor tics simple motor tics were the commonest and noted in 19 cases (67.8%). The facial tics were commonest, followed by presence of tics involving neck or shoulder, arm, trunk and legs, in that order. Vocal tics were initial symptom in 1(3.5%) case, though it has been reported as initial symptom in 12% to 37% of patients.[11] This might be ascribed to the lack of awareness of the patients who might have ignored the symptoms. Throat clearing was the most common vocal tic in our patients. Of the complex vocal tics 4 (14.2%) had coprolalia among which 1 had additional palilalia. The frequency of coprolalia has been reported to vary from 5% to 39% in various series.[12] Kurlan reported 17% of cases with coprolalia among 29 subjects suffering from TS or chronic motor tics.[13]Most commonly, coprolalia follows the onset of motor or phonic tics by an average of 4-7 years later.[14] The same pattern was noted in our study.

Of the co-morbid conditions ADHD was present in 6 (21.7%) among patients with Tic disorder and 44.4% among TS patients. Of all the conditions associated with TS, ADHD probably has the highest frequency.[15]This has led some writers assume that ADHD is part of the spectrum or continuum of TS. Cited rates of co-occurrence range from8-80%.[16]

Obsessive Compulsive Disorder (OCD) was present in 4 patients (14.2%) among patients with tic disorder and 44.4% among patients with Tourette syndrome. OCD has been reported in 20-60% of TS patients.[17]

Heredity is well described risk factor for TS with a proposed autosomal dominant mode of transmission.[18]Many studies have found a much higher prevalence of TS. Tic disorder, obsessive compulsive disorders, attention deficit disorders and a variety of behavioral disorders in the family members of patients with TS.[19] Eapen et al studied the families of 40 TS patients. Of these, 17.9% of first degree relatives had TS and 38.1% had either TS, tics or OCD.[20] In our study, positive family history of tics and OCD was present in 10 patients (35.5%). Of the 9 patients with TS, positive family history was present in 5 (55.5%).

Many studies including well controlled clinical trials indicate that haloperidol is a very effective tic suppressing medication with response rates approaching 80%.[21]In our study haloperidol was the most frequently prescribed drug for tics and Tourette syndrome. Sedation and cognitive dulling were principal side effects. Extrapyramidal side effects were noted when higher doses were advised in resistant cases. The dose range was 0.5-15 mg/day.

Risperidone, structurally unique benzisoxazole derivative, was used in doses ranging from 1-3 mg/day. In the doses used, it caused no significant side effects apart from mild sedation.

Tetrabenazine, a benzoquinolizine derivative that reversibly depletes presynaptic dopamine storage granules showed beneficial effects in 2 patients unresponsive to haloperidol, in doses ranging from 50 mg to 100 mg. Sedation was the most common side effect. Clonidine was used in our study in patients of tics with ADHD. The dose was slowly increase from0.05 mg. the maximum dose tried was 0.3 mg. it was characterized by delayed onset of action (4-6 wks). Sedation, irritability and dizziness were the common side effects. Imipramine in the the dose of 25-75mg was the other drug used in ADHD.Methylphenidate was used in one patient with ADHD, but had to be stopped due to exacerbation of tics. Fluoxetine in the dose range of 20-60 mg and sertraline in the dose range of 25-100 mg was used in case of tics along with OCD. Botulinum toxin was used in the treatment of TS. Monotherapy was the initial approach in our study. Each dug was given adequate trial in terms of dosage and duration. Side effects were monitored closely when combined pharmacotherapy was necessary. In addition to pharmacotherapy, behavior therapy, individual psychotherapy, parental guidance and educational consultation are adjunctive modes that may be helpful for individual patient. Though most of our patients responded well to treatment, multimodal treatment might have been helpful for the patients who responded poorly to pharmacotherapy alone.

Conclusion

Twenty eight patients of tic disorder were evaluated. Most of the patients were male. Majority of the patients were in first two decades. About one third of the cases were diagnosed to be cases of Tourette syndrome. Primary tic disorder was present in 75% of cases. All the patients had motor tics and about half of the patients had vocal tics. ADHD and OCD were present in a significant number of patients. Family history was positive in about one third of cases. About 80% of the patients showed good to moderate response to treatment. We

expect to study different aspect of tic disorder in greater detail in future.

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