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Case Series

Tardive Dystonia and its Management: A Case Series

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Abstract

Tardive dystonia is characterized by involuntary muscle contractions and its occurrence is more common with typical antipsychotics while it is rare with atypical antipsychotics. In this case series, three patients who were on antipsychotics for long duration developed tardive dystonia. Drugs with low dopamine receptor blocking propensity like clozapine and quetiapine were used. Also, other drugs like tetrabenazine, anticholinergics and benzodiazepines were used. Tardive dystonia is difficult to diagnose and is often underdiagnosed and misdiagnosed. It is difficult to treat, can be disabling involving the activities of daily living and may also lead to social embarrassment. Very few of the treatment possibilities are known to be effective for tardive dystonia. Thus, this side effect should be screened at regular intervals.

Keywords: Tardive, Dystonia, Antipsychotics, Dopamine Receptor Blocker, Involuntary Movement.

Introduction

Tardive dystonia is a movement disorder characterized by involuntary muscle contractions caused primarily by taking dopamine receptor blockers like antipsychotic medications. Dystonia is defined as a syndrome of sustained muscle contractions, frequently causing twisting and repetitive movements or abnormal postures [1]. Following diagnostic criteria were suggested: (1) the patient must have dystonia, as defined above; (2) the patient must have developed dystonia either during or within 3 months of a course of neuroleptic treatment; (3) Wilson's disease must be ruled out, and there must be no other neurological signs to suggest one of the many causes of secondary dystonia; and (4) there must be a negative family history for dystonia [2]. Patients may develop tardive dystonia after varying periods of exposure to antipsychotics, ranging from a few days to many years [2,3,4]. The most common site for tardive dystonia is the cranial and neck region, but involvement of the arms is also common [2.3]. Here we present the description of presentation and management of three cases of tardive dystonia.

Case Presentations:

Case 1:

A 27 years old married male presented with inability to close the mouth, difficulty in

speaking, slurred speech and excess salivation since the past two months. Patient was on medication since last five years for irritability, self-harming behavior, chaotic relationships with mother and wife, frequent changes in job, sleep disturbance. There was history of father's death in childhood. Initially he was treated with lithium 400mg/day, oxcarbazepine 300mg/day, paliperidone 3mg/day and aripiprazole 10mg/day. After five years of treatment, he started having difficulty in speaking and abnormal deviation of face while trying to speak with change in voice. Later he stopped taking medications but his complaints persisted.

He was treated with tetrabenazine 50mg/day, trihexyphenidyl 6mg/day and diazepam 5mg/day after which he showed some improvement in his symptoms. But during periods of stressful life situations, patient would frequently visit the hospital with increased severity of symptoms even while on medication. He was diagnosed as having tardive dystonia with cluster B personality.

Case 2:

A 42 years old married male was brought by relatives with euphoric mood, grandiose delusions, pressured speech, decreased need for sleep and history of wandering tendency for 2 months. Past history of similar episodes was present, but no treatment was sought. Patient was diagnosed as bipolar 1 disorder currently in mania and was started on sodium valproate 1gm/day, haloperidol 10mg/day, diazepam 5mg/day and trihexyphenidyl 2mg/day.

Patient had developed acute dystonia which was treated with increasing the dose of trihexyphenidyl to 6mg/day and adding promethazine 50mg/day. After a few days, the patient stabilized and was shifted from haloperidol to risperidone 4mg/day.

He was in remission state on sodium valproate, risperidone and trihexyphenidyl for a period of one and half years after which he developed tardive dystonia in form of sideways bending of trunk which did not resolve even after completely stopping risperidone for one month. Later clozapine was added and was titrated upto 100mg/day to control his manic symptoms which had worsened after stopping risperidone. Addition of clozapine also resulted in significant improvement in dystonia.

Case 3:

A 32 years old unmarried male presented with sideways bending of neck since last three months. He had auditory hallucinations, persecutory and referential delusions, self-muttering and gesturing, poor self-care, sleep and appetite disturbances for which he was being treated with trifluoperazine 10mg/day, olanzapine 10mg/day and trihexyphenidyl 4mg/day for seven years.

He was diagnosed as schizophrenia with tardive dystonia and was shifted from trifluoperazine and olanzapine to quetiapine which was titrated up to 400mg/day for control of schizophrenia symptoms but dystonia persisted. Later tetrabenazine 50mg/day and clonazepam 1mg/day were added which led to moderate improvement in dystonia.

In all the three cases, neurological examination, MRI Brain, EEG, ophthalmic slit lamp examination, ultrasonography of abdomen, blood examination including liver function tests were unremarkable. Also, there was no family history of dystonia or any other abnormal involuntary movement disorders. History of diabetes mellitus and hypertension was present in the mother of third case, hence quetiapine was preferred over clozapine in that case.

Discussion

In our cases, antipsychotic drugs with higher dopamine receptor blocking propensity were either stopped or replaced by those with lower propensity like clozapine and quetiapine. Other drugs used were tetrabenazine, trihexyphenidyl, diazepam and clonazepam.

Previous studies found clozapine to be useful in management of tardive dystonia. A study found that four out of seven patients who had tardive dystonia experienced a more pronounced benefit. After discontinuation of clozapine in two patients, tardive dystonia recurred in one [5]. Another series of five patients showed positive results of clozapine for tardive dystonia within 10 days to 3 weeks. Improvement ranged from 50% to complete resolution. Two patients treated for at least 1 year did not experience a recurrence of tardive dystonia after clozapine discontinuation [6]. In another study, three patients responded to combined treatment with clozapine and clonazepam [7,8]. Some other reports did not show benefit of clozapine [9,10], or worsening of tardive dystonia on clozapine addition [11].

Some studies found tetrabenazine useful in tardive dystonia. A study noticed a response in three out of seven patients treated with tetrabenazine alone and ten out of 16 treated with a combination of tetrabenazine and other agents [3]. A case series of four patients reported successful treatment of tardive oculogyric crises [12] and another reported improvement in 16 out of 39 patients [13]. A large open label study observed that tetrabenazine may be more effective in tardive dystonia than in idiopathic dystonia (82% of patients with TD versus 62.9% of those with idiopathic dystonia achieving marked improvement) [14]. In a case report, tetrabenazine doses up to 75 mg daily led to remission of tardive cervical and truncal dystonia after 4 weeks of treatment [15].

In a tardive dystonia cohort study, out of 54 patients treated with anticholinergics, there was mild benefit in 16, moderate in 6, and marked in 2 [13]. In addition, another study found some benefit in 7 out of 18 patients treated with anticholinergics (benztropine, trihexyphenidyl, procyclidine, and ethopropazine) [2]. Other case studies showed response in three out of eight patients and in four out of nine treated with 10–32 mg daily of trihexyphenidyl alone or in combination with other agents, respectively [3].

In a case series, 2 out of 6 responded to diazepam (dose of 15–30 mg in responders) in combination treatment, 1out of 4 and 1 out of 6 responded to clonazepam (dose of 10–12 mg in responders) alone or in combination respectively, and 1 out of 9 to lorazepam (dose of 12 mg in responders) in combination treatment [3]. In a double-blind randomized placebo-controlled trial, scores during treatment with clonazepam were significantly decreased compared to baseline and placebo administration [16].

Other treatment modalities who have shown some benefit in previous studies were baclofen, botulinum toxin, deep brain stimulation and ablative surgeries [17]. Thus, we conclude that tardive dystonia is difficult to treat as very few treatment options are available to psychiatrists.

Conclusion

With the help of the cases reported we conclude that it is important to identify the troublesome side effects like tardive dystonia associated with the use of antipsychotic drugs in patients. It is very difficult to treat as very few treatment options are available which have reasonable effect. Thus, rational use of antipsychotic drugs and regular screening for its side effects and their prompt and adequate treatment is important to enhance the patients' overall outcome.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his clinical information to be reported to the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

References

1. Barbeau, A; Calne, D.B.; Fahn, S.; Marsden, CD.; Menkes, J.; and Wooten, G.F. Ad Hoc Committee of the Dystonia Medical Research Foundation. February 1984.
2. Burke, RE, Fahn, S, Jankovic, J, Marsden, CD, Lang, AE, Gollomp, S, *et al*. Tardive dystonia: Late-onset and persistent dystonia caused by antipsychotic drugs. Neurology. 1982; 32(12):133546.
3. Kang, UJ, Burke, RE, and Fahn, S. Natural history and treatment of tardive dystonia. Mov Disord. 1986; 1(3):193–208.
4. Lohman, T.; Ebel, H.; Ferbert, A.; and SaB, H. Tardive dystonias induced by very short-term therapy with low- dose neuroleptics. Neurology, Psychiatry and Brain Research, 1995;3:189-192.
5. Lieberman, JA, Saltz, BL, Johns, CA, Pollack, S, Borenstein, M, and Kane, J. The effects of clozapine on tardive dyskinesia. Br J Psychiatry. 1991; 158: 503–10.
6. Grover, S, Hazari, N, Kate, N, Chakraborty, K, Sharma, A, Singh, D, *et al*. Management of tardive syndromes with clozapine: A case series. Asian J Psychiatr. 2014; 8:111–4.
7. Blake, LM, Marks, RC, Nierman, P, and Luchins, DJ. Clozapine and clonazepam in tardive dystonia. J Clin Psychopharmacol. 1991; 11(4):268–9.
8. Shapleske, J, Mickay, AP, and McKenna, PJ. Successful treatment of tardive dystonia with clozapine and clonazepam. Br J Psychiatry. 1996; 168(4):516–8.
9. Carroll, BJ, Curtis, GC, and Kokmen, E. Paradoxical response to dopamine agonists in tardive dyskinesia. Am J Psychiatry. 1977; 134(7):785–9.
10. Caine, ED, Polinsky, RJ, Kartzinel, R, and Ebert, MH. The trial use of clozapine for abnormal involuntary movement disorders. Am J Psychiatry. 1979; 136(3):31720.
11. Mendhekar, DN, and Andrade, C. Prochlorperazine-induced tardive dystonia and its worsening with clozapine in a non-mentally ill patient with migraine. Ann Pharmacother. 2011; 45(4):545–6.
12. FitzGerald, PM, and Jankovic, J. Tardive oculogyric crises. Neurology. 1989; 39(11):14347.
13. Kiriakakis, V, Bhatia, KP, Quinn, NP, and Marsden, CD. The natural history of tardive dystonia. A long-term follow-up study of 107 cases. Brain. 1998; 121(11): 205366.
14. Jankovic, J, and Beach, J. Long-term effects of tetrabenazine in hyperkinetic movement disorders. Neurology. 1997; 48(2): 358–62.
15. Rauchverger, B, Isakov, V, and Jabarin, M. Olanzapine-induced tardive dystonia successfully treated by tetrabenazine. J Neuropsychiatry Clin Neurosci. 2007; 19(4):4845.
16. Thaker, GK, Nguyen, JA, Strauss, ME, Jacobson, R, Kaup, BA, and Tamminga, CA. Clonazepam treatment of tardive dyskinesia: A practical GABA mimetic strategy. Am J Psychiatry. 1990; 147(4): 445–51.
17. Testini P and Factor SA. Treatment of tardive dystonia: A review. *Dystonia* 2023; 2:10957.