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Treatment of severe neuroleptic-induced tardive torticollis

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Abstract

Background: The aim of this paper is to describe a case of severe neuroleptic-induced tardive torticollis successfully treated with a combination of clozapine, clonazepam and botulinum toxin-A.

Case Report: The patient, a 30-year old man with a seven-year history of delusional disorder experienced severe right torticollis with painful tightness of the neck and elevation of the shoulder. At this time he was receiving haloperidol 20 mg, trifluoperazine 5 mg, zuclopenthixol 20 mg and biperidine 4 mg daily. The combination therapy with clozapine and clonazepam and the long-term use of botulinum toxin-A resulted in a complete remission of dystonic movements.

Conclusions: The present observations provide evidence indicating that this combination therapy may be of benefit in patients with severe neuroleptic-induced tardive torticollis.

Background

Tardive dystonia (TDt) is an uncommon complication of antipsychotic treatment characterized by twisting and sustained muscle spasms that cause repetitive movements or abnormal postures. It is a persistent and painful disorder with no satisfactory treatment. The remission rate is considered to be only 10%. TDt can affect any body area. The muscles of the head and the neck are usually affected producing retro-, latero, - ante- or torti-collis [1–3].

We here describe a patient with severe tardive torticollis successfully treated with clozapine, clonazepam and botulinum toxin A (BTX) who remains well after four years while on clozapine monotherapy.

Case report

Mr A, a 30-year-old man with a seven year history of delusional disorder was treated with a variety of neuroleptics including haloperidol, trifluoperazine, perfenazine, pipamperone, thioproperazine, zuclopenthixol, in high doses and various combinations. He experienced severe extrapyramidal symptoms and received therapy with anticholinegrics for many years. Abnormal involuntary movements of his neck and head were first noticed in July 1996. At this time he was receiving haloperidol 20 mg/day, trifluoperazine 5 mg/day, zuclopenthixol 20 mg/day, biperiden 4 mg/day.

His condition progressively deteriorated. Three months later he experienced right torticollis with painful tightness of the neck and elevation of the shoulder. His axial dysto-

nia followed by dextroscoliosis was disabling, interfering with activities of daily living. He was unable to work and to drive a car. All neuroleptics were stopped. No improvement was noticed with anticholinergics and benzodiazepines. He was admitted to Eginition Hospital, Athens, in October 1997. Extensive laboratory evaluations including serum ceruloplasmine, urinary copper, CT and MRI of the brain were normal. He was diagnosed as suffering from neuroleptic induced tardive dystonia (torticollis) according to Burke et. al. Criteria [4]. Mr A. was assessed on admission regarding both his dystonic movements and his mental state using the Tsui Scale (TS) [5] and the Brief Psychiatric Rating Scale (BPRS) [6] respectively. The TS evaluates the amplitude and duration of sustained movements of the head, the presence and the severity of shoulder elevation as well as the severity and duration of tremor. The score of the scale ranges between 0 and 25. He scored 18 on the TS and 65 on the BPRS.

Because of previous reports on clozapine's beneficial effect on both psychotic symptoms and neuroleptic-induced movement side-effects incuding TDt [2,7–9] a trial with clozapine up to 400 mg per day began at November 1997. One month later his psychopathology improved (BPRS = 41). There was, also, a mild improvement in the dystonic movements of his neck (TS = 14). Then, clonazepam up to 3 mg per day was added to clozapine. Forty days later both his mental state and dystonic movements further improved (BPRS = 34, TS = 10). However, during the next two months his condition remained unchanged.

In April 1998, 300 units of BTX were injected locally into the right affected muscles with further substantial improvement. One month later the patient was discharged from the hospital receiving clozapine 350 mg/day and clonazepam 3 mg/day. He scored 6 on the TS and 26 on the BPRS. Because the effect of the BTX is, usually, temporary the injections were repeated every month for the next three months and every three months for the next year. There were no reports of adverse effects such as dysphagia, neck weakness, fatigue, e.t.c. During that time-period his condition further improved and his pharmacotherapy was gradually decreased.

In May 1999 he scored 3 on the TS and 19 on the BPRS. He was receiving clozapine 250 mg/day and clonazepam 2 mg/day.

Four years later the patient showed no abnormal movements and his mental state improvement was also maintained. He was working regularly and had many social relationships and activities. During that period he was receiving clozapine 200 mg/day as monotherapy.

Discussion

The treatment of TDt is very difficult. Several pharmacological or other somatic interventions have been tried with poor results. Pharmacotherapy interventions are of some benefit in only 50% of patients. Besides, only few patients have been considered to make a full recovery of TDt in a long-term follow-up examination [10]. There are reports that the atypical antipsychotic clozapine has special therapeutic effect on TDt [8–11]. The efficacy of clozapine on TDt may be due to its anti-D1 action rather to its built-in anticholinergic action [12,13]. Clozapine has higher affinity for D1 and lower affinity for D2 dopamine receptors. Trugman et al [13] proposed that repetitive stimulation of the D1 receptor by endogenous dopamine, resulting in sensitization of the D1-mediated striatal output in the presence of D2 receptor blockade, is a fundamental mechanism mediating tardive dystonia. Moreover, the combination therapy with clozapine and the antispasmodic agent clonazepam proved to be effective in some patients [14,15]. It should be noted that, there are no case reports showing improvement of TDt with other atypical antipsychotics, except three cases successfully treated with olanzapine [16–18].

Several reports of the use of BTX for the treatment of TDt have been published [19–23]. Treatment with BTX injections is considered as the foremost treatment option for TDt [3]. BTX injected into the contorted muscles causes a permanent blockage of neurotransmission at the motor endplates by inhibiting acetylcholine release from nerve endings. Most of the patients show marked to moderate benefit but their improvement is transient usually, lasting a few months [19–23].

In the case reported here, the combination therapy with clozapine and clonazepam and the long - term use of BTX resulted in a complete remission of dystonic movements. Moreover, maintenance treatment with a low dose of clozapine proved to be prophylactically effective as refers to both psychotic symptomatology and TDt.

Our observations provide evidence indicating that this combination therapy may be of benefit in patients with severe TDt. Given the persistent and disabling nature of TDt and the fact that it is usually treatment resistant, combination with clozapine, clonazepam and long-term BTX treatment appears promising. More long - term case studies need to be carried out on the usefulness of this combination as well as on the prophylactic potential of clozapine and other atypical antipsychotic drugs.

Competing Interests

None declared.

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