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CASE REPORT

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Tardive dystonia associated with olanzapine therapy

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Abstract A 21-year-old man with the diagnosis of paranoid schizophrenia was admitted to our clinic with cervical dystonia developing at the end of the first year of olanzapine therapy. The present case suggests that tardive dystonia in this patient is most likely associated with olanzapine administration as this is the main antipsychotic he received. Regarding the few case reports of olanzapine-associated tardive syndromes, patients taking olanzapine should be carefully screened for the appearance of tardive movements.

Key words Tardive dystonia • Olanzapine • Atypical • Neuroleptic

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Introduction

Extrapyramidal symptoms (EPS) and tardive syndromes are commonly associated with the use of traditional neuroleptics. The mechanism of action is believed to be through the blockage of nigrostriatal dopamine tracts that results in an increase in cholinergic activity [1]. Both tardive dyskinesia and tardive dystonia are thought to be the clinical manifestations of a supersensitivity response to chronic dopamine blockage [2].

Olanzapine, a second-generation atypical antipsychotic, is associated with low risk of EPS [3]. Moreover, it has also been reported to improve the symptoms of tardive dystonia [4]. However, recent studies suggest that some patients developed tardive movements while taking olanzapine [5–7]. We report the case of a patient with a diagnosis of paranoid schizophrenia who experienced tardive dystonia while receiving olanzapine.

Case repot

A 21-year-old man diagnosed with paranoid schizophrenia sought outpatient treatment two years ago for blunted affect, severe anxiety, hallucinations and persecutory delusions. He had taken pimozide (2 mg daily) for two months, which was switched to olanzapine monotherapy (10 mg daily) in June 1999. Olanzapine was titrated to 15 mg daily, and in few days he experienced an occulogyric crisis relieved by biperidine. Following this episode the patient described cervical dystonia developing progressively over 3–4 days at the end of the first year of olanzapine therapy.

The patient was admitted to our clinic in December 2000, for an involuntary movement of the neck to the right of 5 months duration. On observation, the patient's head was turning intermittently to the right, and soon after he was in marked stress with severe torticollis. Frequent blinking was also detected. He experienced very mild relief with trick

maneuvers on involuntary neck movement and no muscle hypertrophy could be observed. The patient had no history of perinatal distress, cranial or peripheral injury or electroconvulsive therapy. He lacked any family history of dystonia or other movement disorders. Cranial and cervical magnetic resonance imaging examinations were unremarkable and there were no imaging or clinical signs suggesting Wilson's disease. As other causes of dystonia were ruled out, a diagnosis of tardive dystonia was made.

Olanzapine treatment was discontinued, and clozapine was initiated on a daily dose of 25 mg and was titrated to 100 mg daily due to the persistence of severe anxiety and persecutory delusions. In the first month of follow-up, he felt significantly less stressed with mild improvement in his neck dystonia.

Discussion

In this case, tardive dystonia was most likely associated with olanzapine administration as the other antipsychotic, pimozide, was administered for a limited period at a low dose. Moreover, the patient developed an acute extrapyramidal syndrome (occulogyric crisis) followed by cervical dystonia while he was taking olanzapine (15 mg daily).

Studies of the new antipsychotic medications, namely atypical antipsychotics, point to a lower risk for the development of tardive syndromes [3]. Serotonergic blockage is thought to play a role in the reduction of risk for EPS associated with atypical agents. When serotonergic activity is blocked, dopamine release increases and balances out the dopamine blockage effect at post-synaptic receptor sites, resulting in few or no EPS [1]. As an atypical neuroleptic agent, olanzapine is beneficial for tardive dyskinesia [4]. On the contrary, there are a few case reports of tardive dyskinesia and dystonia associated with olanzapine therapy [5–7]. Olanzapine has a D_2 receptor occupancy higher than that of clozapine and similar to that of risperidone, which may have accounted for the development of tardive dystonia [8].

In the present case, diagnostic exclusion of idiopathic cervical dystonia was made by lack of muscle hypertrophy and family history, no demonstrable dystonic head tremor, and very mild improvement with trick maneuvers [9]. The presence of frequent blinking in this case may be considered in favor of tardive blepharospasm, although not completing the diagnostic criteria of this syndrome [10]. On the other hand, this finding may be considered to be a sign of drug-induced parkinsonism. This differentiation is important since extracervical involvement (frequent blinking) reinforces the diagnosis of secondary cervical dystonia [9]. Both clinical features and neuroleptic medication exposure contributed to the diagnosis of a tardive form of cervical dystonia in this case.

In conclusion, the present case serves to illustrate, once more, the possibility of a tardive syndrome that may develop with olanzapine. Therefore, until further data are available, careful assessments are required for movement disorders in patients receiving atypical neuroleptic medication.

Sommario *Un uomo di 21 anni con diagnosi di schizzofrenia paranoica è stato ricoverato presso la nostra struttura con una distonia cervicale sviluppatasi al termine di un anno di terapia a base di olanzapina. Il caso clinico qui illustrato suggerisce una possibile associazione tra la comparsa di distonia tardiva e la somministrazione di terapia antipsicotica a base di olanzapina. In letteratura è stato descritto un numero limitato di casi di sindromi tardive correlate alla somministrazione di olanzapina. Tuttavia, la comparsa di distonia tardiva dovrebbe essere accuratamente tenuta sotto controllo in pazienti trattati con questo farmaco.*

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