Unexpected outcome (positive or negative) including adverse drug reactions

Risperidone associated tardive dyskinesia- a less common phenomenon

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Correspondence to Professor Amin Gadit, amin.muhammad@med.mun.ca**Summary**

A 51-year-old gentleman was admitted with a history of severe depression with marked agitation in the background of cocaine abuse. He had multiple medical problems like deep vein thrombosis, hepatitis C and tardive dyskinesia. Besides him being on antidepressant medication, risperidone was prescribed by his previous physician for a period of 2 years. Since commencement on this medication, he developed tardive dyskinesia that was never recognised and managed. This side effect caused additional anxiety to the patient and affected his social life. Upon admission, his medications were reviewed, risperidone was gradually withdrawn and procyclidine 2 mg twice daily was added. After being discharged from hospital, he was regularly seen in the out patient clinic. Within 3 months, his tardive dyskinesia improved tremendously, his quality of social life got better and by virtue of this, there was a faster remission in his depression and anxiety symptoms.

BACKGROUND

New atypical psychotropics are less associated with side effects like tardive dyskinesia. It is rare to see risperidone causing tardive dyskinesia as this drug is being liberally prescribed for psychotic symptoms. This patient was prescribed this medication for the reason of agitation that was associated with severe depression. I believe that it is important to remember that risperidone can cause tardive dyskinesia, though rarely. Clinicians should also be aware that side effect like this can further add to the mental health morbidity if not addressed appropriately. As per clinical observation, oro-facial features of tardive dyskinesia were manifested after administration of risperidone. Hence, a causal relationship is being assumed. In this case, after withdrawal of this particular medication, symptoms did disappear. This fact further strengthens the causal association.

CASE PRESENTATION

This patient, a 51-year-old Caucasian male, divorced 15 years ago, not working, came to the emergency department with features of agitation, suicidal ideation and with a plan. His symptoms were depression, insomnia, lack of appetite, hopelessness and helplessness. He was also abusing cocaine for the last 2 years. He denied any psychotic symptoms. He was prescribed paroxetine 40 mg and risperidone 3 mg for a number of years and had developed tardive dyskinesia. In the past, he was given a diagnosis of bipolar mood disorder with co-morbid substance use disorder in North America. He was also jailed in the past for assault-related charges. He had deep venous thrombosis and was put on warfarin and his international normalised ratio (INR) was monitored regularly. He also suffered from hepatitis C. His major stressors were: financial and social isolation. He did not know about any family history of mental illness. He worked in emergency care for 3 years in the past, was married but divorced and have three grown up children. On mental status examination, he was

found to be very depressed with marked suicidal ideation, affect was flat, there was psychomotor agitation, no psychotic features, cognitive functions were intact, insight and judgement were preserved. Oro-facial features of tardive dyskinesia observed included: jaw movement, chewing, grimacing, lip smacking and tongue motion inside the mouth.

INVESTIGATIONS

Blood work revealed hepatitis C positive. All other routine investigations were done. No specific investigations were desired.

DIFFERENTIAL DIAGNOSIS

- ▶ Major depressive disorder-based on symptoms, duration and presentation.
- ▶ Bipolar mood disorder by history-sufficient information including collateral was not conclusive for this diagnosis.
- ▶ Substance use disorder-this was an associated diagnosis based on a long history of drug abuse.
- ▶ Tardive dyskinesia- based on presentation and history-Neurology opinion was sought. The neurologist wrote in his remarks that 'the patient suffers from oro-facial tardive dyskinesia' he suggested 'withdrawal from risperidone'; no other notes were made by him.
- ▶ Borderline personality disorder on axis II deferred for now due to paucity for more information.

TREATMENT

He was commenced on venlafaxine XR which was gradually titrated up to 150 mg per day, paroxetine was cross titrated and discontinued. Risperidone was gradually discontinued.

Benzotropine 2 mg twice daily had been introduced. He was continuing on warfarin with INR monitoring by a physician.

OUTCOME AND FOLLOW-UP

His depressive symptoms went into remission within 3 months of treatment. Tardive dyskinesia has improved significantly. Interestingly, withdrawal from risperidone did not lead to the symptom of agitation or worsening anxiety. Benzotropine was perhaps instrumental in giving some periodic euphoric effect. In terms of movement disorder, the two steps taken were those of withdrawal from risperidone and addition of benzotropine. He is taking part in group activities. Currently is being followed up at the psychiatric out-patient clinic at monthly interval.

DISCUSSION

Tardive dyskinesia associated with risperidone has been reported previously by the researchers. Three cases reported in the literature showed early onset tardive dyskinesia during short-term risperidone treatment among three Japanese women. The dosage range was from 2–6 mg per day.¹ In the current case, the dosage was 3 mg per day.

Another study favoured risperidone over haloperidol in terms of tardive dyskinesia. The incidence was less common with risperidone than haloperidol which is a typical antipsychotic.² Another study looked at new onset tardive dyskinesia with both typical antipsychotic-haloperidol and atypical antipsychotic-risperidone. According to that study, lower incidence with risperidone versus haloperidol was not statistically significant owing to small number of subjects but may be considered clinically relevant given the concerning nature of tardive dyskinesia.³ In a preclinical research,⁴ it was established that risperidone, which is a second generation antipsychotic, is associated with a

lack of acute motor side effects at low doses (<6 mg/day). According to this study, a dosage of 6 mg or less per day will spare tardive dyskinesia. The current case report and an earlier quoted study does not support this. It appears that risperidone can cause tardive dyskinesia irrespective of the dosage. Clinicians should be aware of this possibility in order to ensure effective management of the patient.

Learning points

- Risperidone can cause severe tardive dyskinesia.
- Tardive dyskinesia can augment depressive symptoms and affect the prognosis negatively.
- It is beneficial to discontinue or change a psychotropic medication in the event of such a side effect.

Competing interests None.

Patient consent Obtained.

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