Tardive Dyskinesia Associated with Paliperidone Palmitate

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Dear Editor,

Paliperidone is an atypical antipsychotic drug formed by one of the active metabolites of risperidone, 9-hydroxirisperione (1). The drug demonstrates its effects by antagonizing central dopamine type-2 (D2) and serotonin type-2 (5HT2A) receptors. It could be used in acute stage and maintenance treatment of schizophrenia, and schizoaffective and bipolar disorders. In this letter, a case of male patient, who developed tardive dyskinesia due to paliperidone palmitate, is scrutinized.

The case was a male, 39 years old, divorced, unemployed, and high school graduate patient. His relatives brought him to our clinic. Anamnesis reflected one month long introversion, hypersomnia, tremors and skidding movements in hands and arms that decrease with a day-long sleep, involuntary trepidation and movements of the tongue, lip-smacking and pursing complaints. His relatives also stated that he was hospitalized at an external center 8 years ago with the diagnosis of bipolar affective disorder – manic episode due to nervousness, aggressiveness, absurd speech and behavioral complaints that commenced as a result of a stress factor. They have mentioned that he received inpatient treatment in the external center and in our service 5 more times after the initial treatment. The patient had used drugs with the active ingredients of risperidone consta, diazepam, and clonazepam in different periods. During the last 2 years, the patient was on 1000 mg/day valproate and 600 mg/day quetiapine containing drugs, but 75 mg/once a month depot paliperidone palmitate was added to his regimen 5 months ago at our clinic due to drug incompatibility. His relatives stated that after the 5th doze of paliperidone palmitate, involuntary movements in the patient’s legs and arms have started, and therefore they brought him for examination. In his initial examination, he was conscious, cooperative, and oriented. Psychiatric examination demonstrated that his self-care was decreased, his association of ideas was dispersed, and the answers he gave to questions asked were reduced. His affection was unsuitable, his reality testing was tainted and he had thoughts that he could be harmed and had auditory hallucinations in perceptual area. In his physical examination, oromandibular dyskinesia and distinct choreiform movements and tremor symptoms were identified in both lower and upper distal extremities. When he was assessed using Abnormal Involuntary Movements Scale (AIMS), he scored as 17 points. The severity of movement disorder was scored as 4 by AIMS. Hemogram, routine biochemistry, electrolyte and thyroid panel tests conducted as a result of internal and neurological consultation requests resulted in normal findings. Brain CT imaging did not reveal any pathologies. Parallel to the findings, the patient was diagnosed with drug-induced tardive dyskinesia. In the assessment conducted with Naranjo’s adverse drug reaction (ADR) probability scale, the result was 8 points (highly probable). His treatment was rearranged as Aripiprazole 5 mg/day, propranolol 20 mg/day, valproate 1000 mg/ day, and clonazepam 1 mg/day. Aripiprazole dosage was gradually increased to 30 mg/day. Clinical observation of the patient showed that involuntary repetitive movements continued until 8 weeks after the termination of paliperidone treatment. In the follow-up examination conducted 3 months after the discharge of the patient, movements of dyskinesia were not observed. However, his relatives reported that these movements were still observed in the patient, albeit rare.

Depot form of paliperidone is a preaprate, which is preferred in patients with treatment incompatibility and applied as an intramuscular injection. Clinicians frequently use it during the recent years. In a study, it was determined that extrapyramidal side effect ratio for the tablet form of paliperidone was the same with placebo (2). In a study conducted with the depot for paliperidone for 52 weeks, EPS ratio was reported as 6%, and it was determined that the most frequent EPS side effect was tremors. In the same study, tardive dyskinesia was
Tardive dyskinesia is choreiform, athetoid, or rhythmic, abnormal and involuntary movements that last at least for 4 weeks in the tongue, jaw, body, or the extremities. It was reported in the literature that tardive dyskinesia development rate with the depot form of paliperidone, paliperidone palmitate, was less than 0.2% (4). It is not completely known with which mechanism antipsychotic drugs cause tardive dyskinesia. However, it was reported that hypersensitivity in striatal dopamine receptors, reduction in gamma-aminobutyric acid cycle and free radical induced neurotoxicity and changes in D1 and D2 receptor ratios could be responsible for this movement disorder (5). There are studies, which argued that aripiprazole could have positive contributions due to its partial agonist characteristic in the treatment of tardive dyskinesia and its regulatory effect on dopaminergic system (6). Thus, paliperidone treatment was terminated and replaced by 5 mg/day aripiprazole treatment in our case. Monthly follow-up examinations demonstrated that dyskinesia did not disappear completely, but was reduced considerably. The objective of this article is to scrutinize a patient, who developed tardive dyskinesia due to paliperidone palmitate use and to draw attention to the possible risks of this drug to cause tardive dyskinesia, albeit rare.

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