

A Case of Aripiprazole-Related Acute Dystonia in an Adolescent Patient

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ABSTRACT

A case of aripiprazole-related acute dystonia in an adolescent patient

Acute dystonic reaction (ADR) is an extrapyramidal side effect, which is more commonly seen with the use of typical antipsychotics and more rarely seen with the use of atypical antipsychotics. This reaction is a movement disorder characterized by involuntary, sustained, twisting and rotating muscle contractions, which leads to temporary postural abnormalities. Here, we will present a 15-years-old subject with aripiprazole-related ADR. This case was presented since aripiprazole-related ADR in adolescents is very rare in literature.

Key words: Acute dystonia, adolescent, aripiprazole

ÖZET

Ergen bir hastada aripiprazol kullanımına bağlı gelişen akut distoni olgusu

Akut distonik reaksiyon (ADR) tipik antipsikotiklerle daha sık, atipik antipsikotiklerle nadir görülen ekstrapiramidal bir yan etkidir. Bu reaksiyon; istemsiz, süreğen, bükücü ve döndürücü tarzda kasılmalarıyla karakterize, geçici anormal postürlere yol açan bir hareket bozukluğudur. Biz bu olguda 15 yaşında aripiprazol kullanımına bağlı bir ADR olgusunu paylaşacağız. Bu olgu literatürde çocuk ve ergenlerde aripiprazol kullanımına bağlı çok az ADR vakası olması nedeniyle sunulmuştur.

Anahtar kelimeler: Akut distoni, ergen, aripiprazol



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INTRODUCTION

Acute dystonic reaction (ADR) is an extrapyramidal side effect, which is defined as involuntary muscle spasms and contractions typically involving the muscles of the neck, jaw, eye, mouth, and/or tongue. ADRs are rarely seen with the use of atypical antipsychotics. Atypical antipsychotics are used to treat conduct disorders, pervasive developmental disorder, self-mutilative behaviours along with mental retardation during the childhood, stereotypical behaviours, irritability, agitation, hyperactivity and aggression (1-3). Aripiprazole, a new antipsychotic agent, is a chinolinon derivative with high affinity for 5-HT_{1A}, 5-HT_{2A} ve 5-HT_{2B} serotonin receptors as well as dopamine D₂ and D₃ receptors. Pharmacologically, it acts as a partial agonist for D₂

ve 5-HT_{1A} receptors and as an antagonist for 5-HT_{2A} receptors (4). Because of these properties, it causes less EPS, movement disorders such as dystonia, and metabolic disorders such as lipid or glucose metabolism disorders than the other antipsychotics cause (5,6). There are some publications for the efficacy of aripiprazole in the pediatric and adolescent patients with schizophrenia, bipolar disorder, attention deficit hyperactivity disorder (ADHD), pervasive development disorder, Tourette disorder, tic disorder, obsessive compulsive disorder and behavioral disorder (7-13). This paper presents aripiprazole-related ADR in a subject with borderline mental capacity with inappropriate sexual behaviors. This case is important because it is one of the rare aripiprazole-related dystonia cases in adolescents reported in the literature.

CASE

A 15-years-old, male 8th year student was presented to our clinic by his parents because of his sexually explicit impulsive behaviors at an extent to impair his social relations in his school and home environment. His anamnesis revealed that these behaviours have increased especially for the last year, along with the onset of his adolescence. The parents of the patient declared that he had tried to open the trousers of his friends, to touch their bottoms and to open their shirts in the classroom. Due to these behaviors, his teacher has not allowed him to share his school desk with another student. His sexually explicit behaviors firstly began at the age of eight, as trying to open the shirts of his friends. The child was followed-up with the diagnosis of nocturnal enuresis, encopresis, behavioral disorder and ADHD in the Department of Pediatric Psychiatry of another university between 2003 and 2012. In WISC-R test performed in 2005, verbal point was 68, performance point was 79 and total point was 72. According to his medical history, he was delivered by normal spontaneous vaginal delivery on term after a healthy gestational period. His development steps were retarded for his age. In addition, he was diagnosed with diabetes mellitus (DM) type I when he was 2 years old. There was major depression in his father's medical history. Risperidon is a modality which is commonly used to ensure the impulse control in this kind of cases (14). However, due to negative effects of risperidon on blood glucose regulation in DM (15), he initiated to receive aripiprazole, which is a safer agent in terms of metabolic side effects (16). Aripiprazole was started at a dose of 5 mg/day, which was increased to 10 mg/day at the end of one week. The parents discontinued the medicine and consulted to our out-patient clinic upon onset of contractions in arm, neck and back region and a fixed stare 3 days after the dose increased to 10 mg/day. In physical examination, torticollis, oculogyric crisis, contractions in arms and legs-tonus increase were present in the case. However, in neurological and systemic examinations, no positive finding was detected. The patient was administered 5 mg intramuscular (IM) biperiden injection followed by

biperiden oral 2 mg/day for one week upon improvement of dystonia findings and aripiprazole was discontinued. Afterwards, dystonia symptoms did not relapse and additional anticholinergic treatment was not required. It was decided that child was going to be followed with interviews since the parent did not accept any other psychotropic drug.

DISCUSSION

Aripiprazole is an agent associated with less EPS due to its partial agonist characteristics, so much so that, in the literature, some studies suggest it may be potentially useful in treating tardive dyskinesia and dystonia at low doses (17). However, it should be noted that there are also aripiprazole-related ADR, acathisia and parkinsonism case reports in the literature (18-21). The majority of these case reports relate to adult patients. Our case is one of a limited number of aripiprazole-related ADR in adolescents cited in the literature.

Risk factors for the development of antipsychotic-related dystonia include smaller age, male gender, previous history of acute dystonia, the first episode of the mental disorder, first encounter with the antipsychotic drug, high potency of the antipsychotic drug and the initiation of the therapy at a high dose (22). In our case, among these risk factors, first encounter with the antipsychotic drug, smaller age and male gender were present. In our case, ADR was evaluated according to the side effect probability scale of Naranjo et al. (23). In this scale, a score ≥ 9 is considered as definite; a score between 5 and 8 is considered as probable; a score between 1 and 4 is considered as possible and a score of 0 is considered as doubtful. When we evaluated our case according to this scale, our case had a total of 7 points, with the pre-existence of aripiprazole-related dystonia case in the literature (1 point), the absence of a causal factor that could lead to ADR other than the drug (2 points), the resolution of the side effect after the administration of a specific antagonist (1 point), the occurrence of the dystonia after the administration of the suspected drug (2 points) and the confirmation of the side effect with objective evidences (1 point) (in our case, dystonia was confirmed

by neurological examination). These information suggest that ADR most probably resulted from the use of aripiprazole. In addition to this, absence of history of antipsychotic use that may cause a dopaminergic hypersensitivity state in our case supports this idea.

We planned to use a drug with safe metabolic side effect profile to establish impulse control as the patient had DM. Although risperidone is a good choice for treatment patient's impulsive behavior, the metabolic side effects of risperidone are higher than those of aripiprazole (15). Thus, aripiprazole was considered to be more appropriate.

In our case that developed ADR with aripiprazole,

we used biperiden 5 mg IM. Along with the treatment, patient's contractions were recovered within half an hour. Intramuscular agents are the agents of choice for the treatment of acute dystonia. In addition to biperiden, diphenhydramine and benzotropine are also among the anticholinergic agents which can be used to treat ADR (24).

Consequently, it should be noted that although aripiprazole is a good antipsychotic agent with its safety profile, it may lead to extrapyramidal side effects. We think that new studies about the risk for extrapyramidal side effects observed with the use of aripiprazole are needed to guide the clinicians.

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