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Aripiprazole Induced Acute Transient Bilateral Myopia: A Case Report

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Background: Aripiprazole is an atypical antipsychotic drug. Acute transient myopia is a rare response to systemic medication. Unspecified ocular side effects of aripiprazole have rarely been reported. To the best of our knowledge, only 3 cases of aripiprazole induced myopia and diplopia have been reported in the literature. The aim of this article is to present a case of aripiprazole-induced acute transient myopia.

Case Report: A 30 year-old woman underwent treatment for 5 days with aripiprazole and presented with bilateral painless blurred vision. The patient's uncorrected visual acuity was 2/10 in both eyes and her best corrected visual acuity was 10/10 in both eyes with a refractive error of -3.00 diopters using a standard Snellen chart. Adding 2 mgs of biperiden a day to her treatment regimen decreased her blurred vision symptoms. After discontinuation of aripiprazole treatment and cross-switching to Paliperidon palmitate (75 mg/month) her blurred vision completely resolved. The same side effect did not re-occur when checked on her 6-month follow up.

Conclusion: Ophthalmologists as well as psychiatrists must be aware of this myopic shift and should also ask these patients about medicine usage, especially aripiprazole. Ophthalmologists should consult the prescribing psychiatrist and stop the drug immediately to reverse this temporary condition.

Keywords: Aripiprazole, drug induced, myopia, transient

Aripiprazole (Apripiprazole; Otsuka Pharmaceutical Company, Tokyo, Japan) is a new atypical antipsychotic used in the treatment of schizophrenia, depression, bipolar disorder, and obsessive compulsive disorder (1). Aripiprazole is pharmacologically distinct from other antipsychotics and acts as a potent partial agonist at dopamine (D) D2, D3, and serotonin (5-HT/5-hydroxytryptamine) 5-HT1A receptors and as an antagonist at 5-HT2A receptors. This may contribute to a specific antidepressant action (2). The common adverse effects related to aripiprazole are similar to many other atypical antipsychotics, including insomnia, anxiety, headaches, nausea, vomiting, weight gain, and somnolence (3).

Acute transient myopia is a response to the systemic use of some medications (4-5). Unspecified ocular side effects of aripiprazole have been reported but are rare (6). To the best of our knowledge, just 3 cases of aripiprazole-induced myopia and 1 case of diplopia have been reported in the literature (6-8). The aim of this article is to present a case of aripiprazole-induced acute transient myopia.

CASE PRESENTATION

A 30 year-old single woman with a college degree presented to Dışkapı Yıldırım Beyazıt Training and Research Hospital's psychiatry clinic after worsening psychotic symptoms during the previous 10 days. Clinical assessment revealed that she had negative psychotic symptoms including social isolation, unwillingness to communicate, and deteriorating self-care, and positive psychotic symptoms including persecutory delusions. She was agitated and disoriented during admission to the psychiatry clinic.

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She had been diagnosed with schizophrenia 6 years previously. Since her last evaluation, in 2013, she had been hospitalized three times upon relapse after discontinuing her usual treatment (non-adherence).

During her first relapse episode, she was treated with ten consecutive Electro Convulsive Therapy (ECT) sessions. During the second episode, she was treated with Risperidone (4 mg/day) and during her third relapse episode she was treated with Quetiapine (800 mg/day). She was discharged after effective treatment on those three occasions (Risperidone: Janssen-Cilag Pharmaceutical Company, New Jersey, USA; Quetiapine: AstraZeneca, London, United Kingdom).

During the most recent treatment period, the patient refused Risperidone and Quetiapine treatments. Aripiprazole was administered at a 20 mg/daily dosage. On the fifth day of the aripiprazole treatment, the patient reported that she had blurred vision.

The patient consulted the ophthalmology clinic with bilateral painless blurred vision. The patient's uncorrected visual acuity was 2/10 in both eyes and her best corrected visual acuity was 10/10 in both eyes, with a refractive error of -3.00 diopters using a standard Snellen chart. We found her anterior chamber depth to be shallow. We found the gonioscopy of her iridocorneal angles was also narrow. The intraocular pressure (IOP) for our patient was 14-14 mmHg using Goldmann Applanation Tonemetry (GAT). The ophthalmologic examination of our patient involved a detailed anterior segment and fundus examination, which was normal.

As a first intervention strategy, biperiden was added to her medication regimen. Although this intervention provided some improvement, her complaint of blurred vision persisted. After the drug was stopped and cross-switched to paliperidone palmitate treatment (at a dose of 75 mg/month), the abnormal findings resolved, her uncorrected visual acuity improved to 10/10 for both eyes using a standard Snellen chart and her IOP was 14-14 mmHg using GAT.

The ophthalmologic examination of our patient included detailed anterior segment, anterior chamber depth, gonioscopy of iridocorneal angles and fundus examinations, all of which were normal. Her visual complaint did not return and normal examination findings persisted throughout her 6 month follow-up period. The patient continued with the paliperidone palmitate (75 mg/month) treatment. (Paliperidone palmitate: Janssen-Cilag Pharmaceutical Company, New Jersey, USA).

Before we submitted this manuscript as a case report, the Ethical Board of Dışkapı Yıldırım Beyazıt Training and Research Hospital approved it. In addition, written informed consent was obtained from the patient presented in this paper.

DISCUSSION

Aripiprazole is the first antipsychotic medication to receive Food and Drug Administration approval for adjunctive treatment in patients with major depressive disorder (MDD) (9). Acute transient myopia can be caused by the systemic use of some drugs (4-5). The proposed mechanism of acute transient myopia consists of ciliary body effusion, the effects of ocular serotonergic, inter-neuronal fibers, ciliary spasm, increase in the thickness of the lens and peripheral uveal effusion (7). Since the anterior chamber depth was shallow, the iridocorneal angles were also narrow and we attribute the myopic shift to these changes.

Berman et al. (10) reported blurred vision levels of 1.7% in the adjunctive placebo group and 7.4% in the adjunctive aripiprazole group (n: 1147) in patients with MDD experiencing a major depressive episode and a history of inadequate response to antidepressant monotherapy. In this study, blurred vision was not classified into subgroups (acute, myopia, transient, etc.).

Kaya et al. (6) reported the first documented aripiprazole-related myopia case in the literature, in a 21 year-old female with bipolar affective disorder. Oral aripiprazole (15 mg) was added when she presented with manic symptoms. Seven days after the addition of aripiprazole, she developed myopia in both eyes, which disappeared 10 days after she stopped taking the drug.

Selvi et al. (7) reported a second aripiprazole-related myopia case and the first diplopia case in a 19 year-old female with obsessive compulsive symptoms. Oral aripiprazole (10 mg) was added. Two weeks after the addition of aripiprazole, she developed myopia in both eyes and diplopia, which disappeared 10 days after she stopped taking the drug.

Nair et al. (8) reported a third aripiprazole-related myopia case in a 33 year-old male with schizophrenia. Oral aripiprazole (15 mg) was added. Thirty days after the addition of aripiprazole, he developed myopia in both eyes, which disappeared 10 days after he stopped taking the drug.

We report a fourth documented case of aripiprazole-related acute transient myopia. Because of the other reported cases and the current case, patients should be informed of the possibility of acute visual loss when they start aripiprazole treatment. It should be noted that the dosages of aripiprazole used in these cases resulting in myopia are lower dosages than those generally used for the treatment of schizophrenia. Doses up to 15 mg/day are usually used in the treatment of mood disorders (1). Ophthalmologists should be aware of the myopic shift that may occur as an ocular side effect only, or may co-occur along with other symptoms like diplopia (11). They should ask patients about their use of medicines, especially

aripiprazole. Ophthalmologists should consult with the prescribing psychiatrist and stop the drug immediately to reverse this temporary condition.

Ethics Committee Approval: Ethics committee approval was received for this study from the Ethics Committee of Ankara Dışkapı Yıldırım Beyazıt Training and Research Hospital.

Informed Consent: Written informed consent was obtained from the patient.

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