

## Aripiprazole-induced transient myopia: A rare entity

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Aripiprazole is a new drug for the treatment of adults with schizophrenia. Ocular side effects of aripiprazole are very rare. Review of literature revealed few cases of aripiprazole-induced myopia. We report a rare case of aripiprazole-induced transient myopia. A 22-year-old female patient presented to the department of psychiatry with worsening of symptoms of schizophrenia and was started on aripiprazole. She presented with complaints of blurring of vision in both eyes for 1 week which started on the 3<sup>rd</sup> day following the use of aripiprazole. Anterior segment examination revealed a shallow anterior chamber and narrow angles. Intraocular pressure was normal. A diagnosis of aripiprazole-induced acute myopia was made and the treating psychiatrist was advised to stop the medication. At 2-week follow-up, the unaided visual acuity improved to 20/20 in both the eyes. Ophthalmologists should be aware of the myopic shift that may occur as an ocular side effect with aripiprazole.

**Key words:** Aripiprazole, ciliochoroidal effusion, myopia

Aripiprazole, a quinolinone derivative recently has become a new valuable therapeutic option for the treatment of adults with schizophrenia.<sup>[1]</sup> The drug is also used in the treatment of depression, bipolar disorder, and obsessive-compulsive disorder. Common adverse effects reported to the use of aripiprazole are insomnia, anxiety, headache, nausea, vomiting, weight gain, and somnolence.<sup>[2]</sup> Acute transient myopia as an adverse effect has been reported following the use of certain drugs such as topiramate and zonisamide.<sup>[3,4]</sup> Ocular side effects of aripiprazole are very rare. Thorough review of literature revealed only four cases of aripiprazole-induced myopia and one case of diplopia following the use of the drug.<sup>[5-8]</sup> We report the fifth case of aripiprazole-induced transient myopia in a 22-year-old female.

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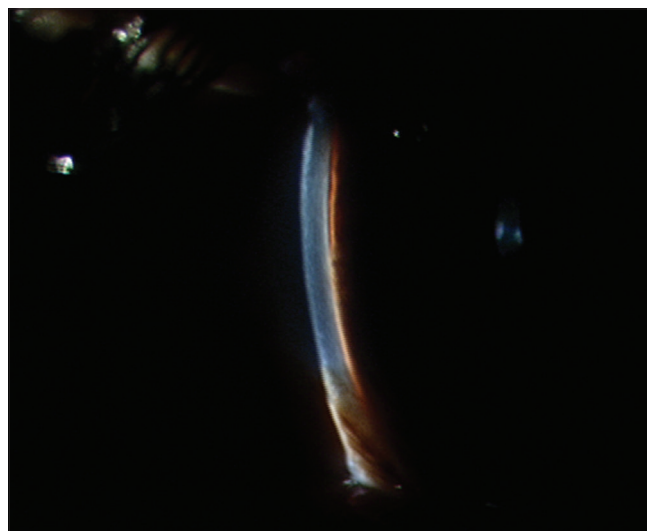
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## Case Report

A 22-year-old female patient presented to the department of psychiatry with worsening of symptoms of schizophrenia. She was diagnosed to have schizophrenia elsewhere and was on treatment under a psychiatrist. She was referred to the department of ophthalmology with complaints of blurring of vision in both eyes for 1 week. Previous treatment details were not available with the patient. The patient was started on aripiprazole 10 days back by the treating psychiatrist in doses of 20 mg daily for worsening of symptoms. She complained of blurring of vision on the 3<sup>rd</sup> day following the use of aripiprazole. There was no history of pain and redness in both the eyes. On examination, the uncorrected visual acuity was 20/200 in both eyes and her best-corrected visual acuity improved to 20/20 in both eyes with -3.5 diopters sphere. Anterior segment examination revealed a shallow anterior chamber with a van hericks grading of II in both the eyes [Figs. 1 and 2]. On gonioscopy, the iridocorneal angles were found to be Grade 1 by Shaffers grading. Intraocular pressure measured on Goldmann applanation tonometry was 14 mmHg in the right eye and 16 mmHg in the left eye. Rest of the anterior segment and dilated fundus examination was unremarkable. However, ultrasound biomicroscopy to look for ciliochoroidal effusion could not be done in this patient as the facility was not available in the department. A diagnosis of aripiprazole-induced acute myopia was entertained, and the treating psychiatrist was advised to stop the medication.

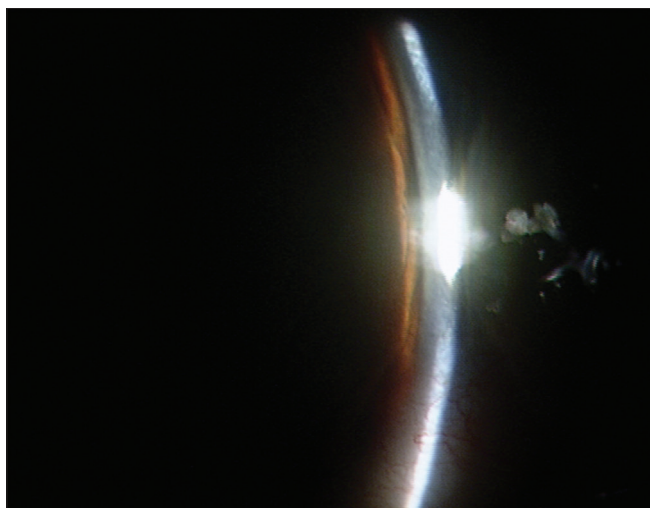


**Figure 1:** Slit lamp photograph of right eye showing shallow anterior chamber with Van Hericks grading of 1

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**Figure 2:** Slit lamp photograph of the left eye showing shallow anterior chamber with Van Hericks grading of 1

At 2-week follow-up after discontinuation of the drug, the unaided visual acuity improved to 20/20 in both the eyes. Anterior chamber depth and gonioscopy were normal. Fundus examination was normal.

## Discussion

Aripiprazole is pharmacologically distinct from other antipsychotics and acts as a potent partial agonist at dopamine D<sub>2</sub>, D<sub>3</sub>, and serotonin (5-HT/5-hydroxytryptamine) 5-HT<sub>1A</sub> receptors and as an antagonist at 5-HT<sub>2A</sub> receptors. This accounts for the functionally selective action of the drug in humans.<sup>[2]</sup>

Various mechanisms have been attributed to the development of transient myopia following the use of systemic medications. Ciliochoroidal effusion and swelling of the ciliary body resulting due to an idiosyncratic reaction from the use of the drug can result in anterior rotation of the ciliary processes, causing narrowing of the ciliary sulcus and forward displacement of the iris and lens which can result in myopia.<sup>[9]</sup> Another mechanism is that the entry of drug itself into the crystalline lens alters the osmotic status, causing the lens to swell and consequently, resulting in myopia and angle closure.<sup>[10]</sup>

As the anterior chamber depth was shallow and the iridocorneal angles were also narrow in this patient, we attribute the myopic shift in our patient to these changes. We suspect

an idiosyncratic reaction resulting in ciliochoroidal effusion to have caused myopia in this patient. However, an ultrasound biomicroscopy would have confirmed the hypothesis.

## Conclusion

In view of the existing case reports in the literature and the present case, patients should be informed of the possibility of acute visual loss as an adverse effect of aripiprazole. Ophthalmologists should be aware of the myopic shift that may occur as an ocular side effect with the use of this drug. Ophthalmologists should consult with the prescribing psychiatrist and stop the drug immediately to reverse the condition.

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## Conflicts of interest

There are no conflicts of interest.

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