

## Sudden irreversible worsening of myopia with isotretinoin treatment

Sir,

Systemic isotretinoin is associated with a large number of adverse effects, mainly related to the integument, the musculoskeletal system and central nervous system. Ophthalmologic side effects are also frequent, the most common being dry eyes, keratitis, and blepharoconjunctivitis.<sup>[1]</sup> Refractory errors of vision, however, are not commonly reported in isotretinoin users and do not find a mention in the patient information leaflet provided with the drug. We report herein a patient whose previously stable myopia deteriorated dramatically when he was started on oral isotretinoin.

A 22-year-old man presented with nodulocystic acne of 2 years duration. He had failed to respond to a course of oral pulsed azithromycin with topical tretinoin. He had stable myopia of 3.0 D in both eyes since the age of 12 years, for which he was using corrective eyeglasses. Apart for this, he did not have any significant past medical or surgical history. He was prescribed oral isotretinoin 0.3 mg/kg for the

acne after counseling. Fifteen days after starting isotretinoin, he noticed blurred distant vision which continued to progress with time. He did not complain of dry eyes, redness, or irritation. Mild cheilitis was the only adverse effect noted by the patient. Serum transaminases and lipid profile done at the end of 1 month of therapy did not reveal any abnormality. Two months after starting isotretinoin, he was examined by an ophthalmologist and was found to have myopia of 7.5 and 8 D in both eyes. The rest of the ophthalmic examination was within normal limits. He was advised to discontinue isotretinoin immediately and was given new corrective eyeglasses. Follow-up for the next 1 year failed to reveal any improvement or worsening in the refractive error in both eyes.

A 2001 review of more than 1700 case reports related to adverse effects of isotretinoin<sup>[2]</sup> evaluated 38 different ocular signs and symptoms and revealed the following as “certain” adverse effects: abnormal meibomian gland secretion, meibomian gland atrophy, corneal opacities, myopia, ocular discomfort, blepharoconjunctivitis, photophobia, ocular sicca, decreased dark adaptation, decreased tolerance to contact lenses, decreased vision, tear osmolarity, keratitis, and teratogenic ocular abnormalities. Those considered “probable/likely” were decreased reversible color vision and permanent loss of dark adaptation.

Acute new-onset myopia has been documented in isotretinoin users in isolated reports, mainly in ophthalmology literature.<sup>[3]</sup> In some cases, myopia resolved on stopping the drug and recurred on re-initiation, confirming the causative role of isotretinoin.<sup>[4]</sup> However, permanent myopia after 1.5 months of isotretinoin use has also been reported.<sup>[5]</sup> To our knowledge, worsening of pre-existing myopia has not been reported earlier with isotretinoin.

In the index case, we cannot be absolutely certain that the myopia was aggravated by isotretinoin since there was no improvement in visual acuity after drug cessation. However, he was not taking any other concurrent medication that could explain the sudden worsening of the refractive error that had been stable for 10 years. The Naranjo algorithm score was 6, indicating that this event fell in the category of “probable adverse drug reaction.”

The pathomechanism behind isotretinoin-induced/

aggravated myopia is unknown at present, but corneal steepening has been reported after relatively short-term isotretinoin use<sup>[6]</sup> and may cause this error of refraction. Although keratometry or corneal topography was not done in this patient, we can only presume that the two-month delay in consulting an ophthalmologist probably caused permanent steepening of the cornea. In previous reports, myopia resolved when the drug was stopped early, but not if there was a delay, which points towards a potentially reversible change in the refractive apparatus of the eye.

With this report, we wish to sensitize the dermatologist community to this uncommon visual side effect of isotretinoin. A comprehensive history of previous eye complaints should always be taken before starting this drug so that any deterioration in visual acuity of patients using it can be picked up early and the drug stopped to avoid a permanent refractive error.

**Abir Saraswat**

Indushree Skin Clinic, Lucknow, India

**Address for correspondence:** Dr. Abir Saraswat, Indushree Skin Clinic, B 7, Indira Nagar, Lucknow 226 016, India.  
E-mail: abirsaraswat@yahoo.com

Access this article online	
<b>Quick Response Code:</b>	<b>Website:</b> www.ijdvl.com
	<b>DOI:</b> 10.4103/0378-6323.84083

## REFERENCES

1. Fraunfelder FW. Ocular side effects associated with isotretinoin. *Drugs Today (Barc)* 2004;40:23-7.
2. Fraunfelder FT, Fraunfelder FW, Edwards R. Ocular side effects possibly associated with isotretinoin usage. *Am J Ophthalmol* 2001;132:299-305.
3. Heuberger A, Buchi ER. Irreversible cataract as a possible side effect of isotretinoin. *Klin Monatsbl Augenheilkd* 1994;204:465-7.
4. Palestine AG. Transient acute myopia resulting from isotretinoin (accutane) therapy. *Ann Ophthalmol* 1984;16:660,662.
5. Martínez-González MC, García-Silva J, Sánchez MA, Castiñeiras I, del Pozo J, Capdevila EF. Acute myopia while on isotretinoin treatment. *J Eur Acad Dermatol Venereol* 2007;21:977-8.
6. Santodomingo-Rubido J, Barrado-Navascués E, Rubido-Crespo MJ. Drug-induced ocular side-effects with isotretinoin. *Ophthalmic Physiol Opt* 2008;28:497-501.