PRESUMED TENOFOVIR TOXICITY

A patient's medication history led to retinal atrophy and other findings.

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A 46-year-old man presented with chief complaint of progressive, painless decrease in vision in both eyes for the past 1.5 months. He has been diabetic for 2 years and is HIV positive. He has been taking the retroviral drug tenofovir disoproxil orally for the past year as well as oral metformin for diabetes for the past 2 years. The patient's CD4 count was 75 and CD3 + CD4 was 278.

On examination, VA was 6/9 in each eye. The anterior segments were normal, and fundus exam showed a normal optic disc in each eye with pigmentary alterations at the macula and around the disc (Figure 1; all images acquired on Mirante, Nidek).

Spectral-domain OCT showed outer retinal atrophy in each eye (Figure 2). Autofluorescence imaging showed multiple hyperautofluorescent areas surrounding the macula and optic disc in each eye (Figure 3). Fluorescein angiography showed multiple areas of window defects in each eye (Figure 4).

DISCUSSION

We present a case of presumed tenofovir ocular toxicity. The patient had been taking tenofovir for the past year. Tenofovir is an antiretroviral drug, a nucleoside reverse

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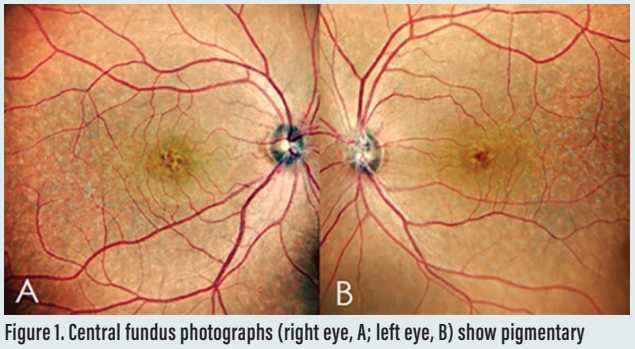

Figure 1. Central fundus photographs (right eye, A; left eye, B) show pigmentary anomalies surrounding disc and macula.

Figure 2. SD-OCT shows fairly normal foveal contour with photoreceptor disruption (outer retinal atrophy) in each eye

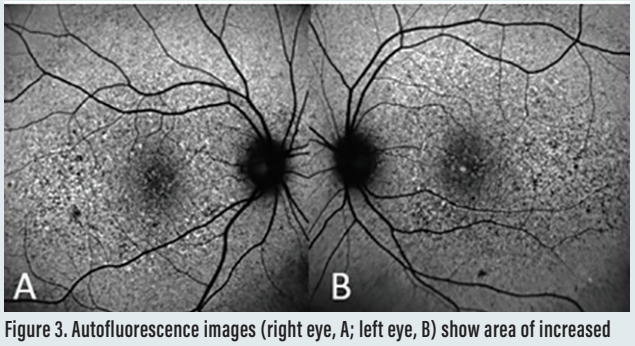

Figure 3. Autofluorescence images (right eye, A; left eye, B) show area of increased autofluorescence surrounding the macula and optic disc.

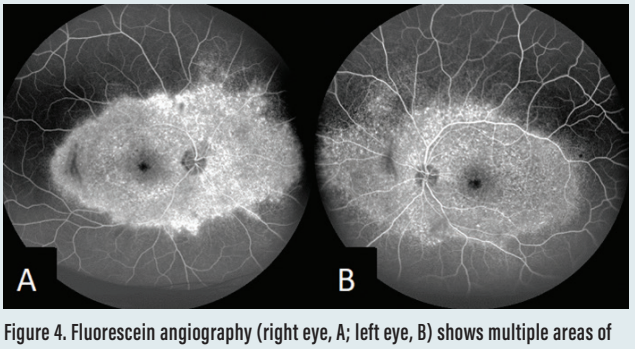

Figure 4. Fluorescein angiography (right eye, A; left eye, B) shows multiple areas of window defects.

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transcriptase inhibitor that is excreted through the kidney. Several antiretroviral drugs have been associated with retinal toxicities. Subramaniam et al reported outer retinal atrophy due to tenofovir use.[1] Our patient also showed retinal pigment epitheliopathy due to long-term use of the drug. Another nucleoside inhibitor, didanosine, has been shown to cause chorioretinal atrophic changes in the mid-periphery,[2] and ritonavir, a protease inhibitor, has been reported to cause central pigment epitheliopathy.[3] It is important to suspect early ocular toxicity with the chronic use of these antiretroviral drugs in order to prevent damage as was seen in our patient described here. ■

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