

J Vicuna-Kojchen, R Amer and I Chowers  
 Department of Ophthalmology, Hadassah-Hebrew  
 University Medical Center, POB 12000, Jerusalem  
 91120, Israel

Correspondence: I Chowers,  
 Tel: +972 2 6776365;  
 Fax: +972 2 6428896.  
 E-mail: chowers@md.huji.ac.il

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Sir,  
**Sildenafil-associated consecutive nonarteritic anterior  
 ischaemic optic neuropathy, cilioretinal artery  
 occlusion, and central retinal vein occlusion in a  
 haemodialysis patient**

Nonarteritic anterior ischaemic optic neuropathy (NA-AION) is the most severe potential ocular side effect of sildenafil.<sup>1</sup> Pomeranz *et al*<sup>2</sup> reported five patients with sildenafil-associated unilateral blurry vision, altitudinal visual field defects, and optic disc oedema. Only one previous case of bilateral NA-AION after sildenafil is documented.<sup>3</sup> To our knowledge, this is the first report of sildenafil-related NA-AION and cilioretinal artery and central retinal vein occlusions.

#### Case report

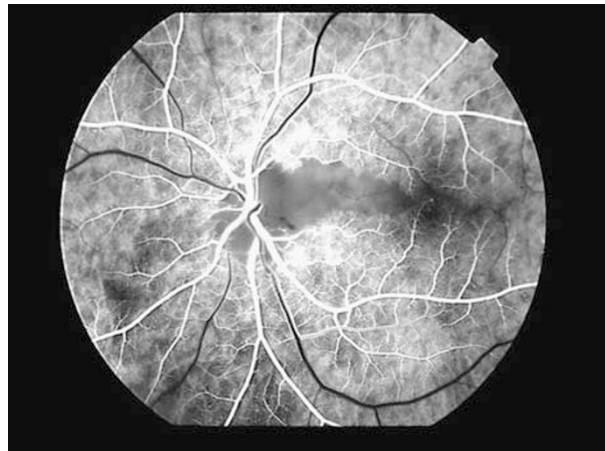
A 36-year-old man treated with haemodialysis for chronic renal failure was admitted with blurred vision in his left eye. He had taken sildenafil 100 mg (Viagra, Pfizer Pharmaceuticals, New York, NY, USA) for the first time the night before.

His blood pressure on admission was 100/60 mmHg. Ophthalmologic examination revealed a visual acuity of 20/20 in the right eye and 16/20 in the left eye, in which an afferent pupillary defect was identified. Ishihara testing showed severely decreased colour sense in the left eye. Fundoscopy revealed hyperemia and oedema in the inferior portion of the left optic disc (Figure 1) and a crowded right optic disc. Left-sided NA-AION was diagnosed.

The next day, the vision of left eye deteriorated to only the perception of light, and whitening of the retinal regions beyond the supply of the cilioretinal artery was noted. Fluorescein angiographic examination indicated occlusion of the cilioretinal artery (Figure 2). Ten days



**Figure 1** Fundus photography of the patient's left eye at presentation revealed hyperemia and oedema in the inferior portion of the optic disc but no haemorrhage.



**Figure 2** The day after presentation, fundus fluorescein angiography of the left eye showed occlusion of the cilioretinal artery.



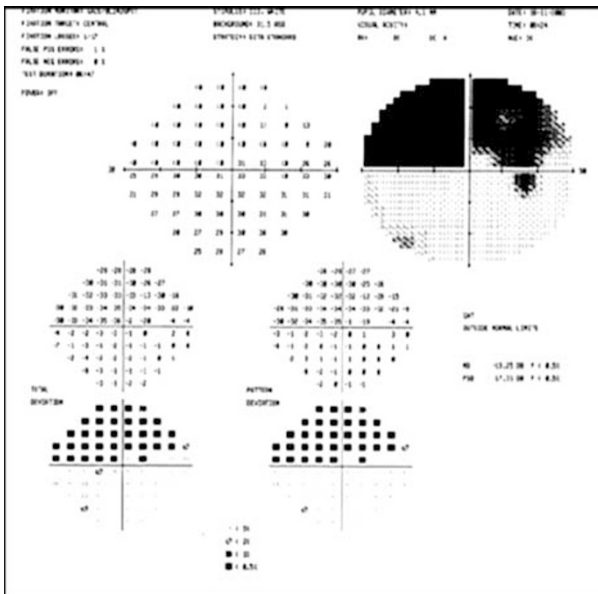
**Figure 3** Fundus photography at 10 days after presentation showed evidence of nonischaemic central retinal vein occlusion in the left eye.

later, retinal veins were engorged, and hemorrhages were noted in all retinal quadrants (Figure 3).

Four months later, the patient presented with a darkened superior visual field in his right eye. Ignoring warnings against treatment with sildenafil, he had taken another 100-mg tablet, the night before. Visual acuity in the right eye was 16/20, and he identified eight of 12 Ishihara plates. Severe oedema and small haemorrhages in the inferior portion of the right optic disc (Figure 4)



**Figure 4** Four months after initial presentation (the day after the second dose of sildenafil), fundus photography of the right eye demonstrated severe optic disc oedema and small haemorrhages in the inferior portion of the disc.



**Figure 5** Humphrey visual field testing after the second sildenafil dose revealed a superior altitudinal visual field defect in the right eye.

and a superior altitudinal visual field defect (Figure 5) were detected.

**Comment**

Sildenafil reduces blood pressure and may interfere with microcirculation in the optic nerve head. In NA-AION development, sildenafil-induced hypotension may be more important than decrease in retrobulbar circulation.<sup>4</sup>

Hypotension and small cup-to-disc ratio are the most common risk factors.<sup>2</sup> This patient had prior problems with hypotension and exhibited a small cup-to-disc ratio. We suspect that sildenafil reduced his arterial pressure significantly and led to NA-AION and cilioretinal artery and central retinal vein occlusions.

A history of NA-AION should be a definite contraindication to sildenafil therapy, and all patients for whom that drug is prescribed should undergo a detailed ophthalmologic examination and risk factor assessment before therapy is initiated.

**References**

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S Gedik, G Yilmaz and YA Akova

Department of Ophthalmology, Faculty of Medicine, Fevzi Cakmak Caddesi, 06490 Bahceli, Baskent University, Ankara, Turkey

Correspondence: S Gedik,  
Tel: +90 645 087 262;  
Fax: +90 312 223 73 33.  
E-mail: san06200@yahoo.com

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Sir,  
**Horner’s syndrome associated with giant cell arteritis**

Recognised neuro-ophthalmic manifestations of giant cell arteritis (GCA) include transient and permanent ophthalmoplegia, ptosis,<sup>1</sup> and also internuclear