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Sir,  
**Reply to 'Sildenafil-associated vascular casualties' by  
Halit Oguz**

We wish to thank Dr Oguz for his correspondence regarding our report of 'Sildenafil-associated consecutive nonarteritic anterior ischaemic optic neuropathy, cilioretinal artery occlusion, and central retinal vein occlusion in a haemodialysis patient'.<sup>1</sup> Dr Oguz suggests that nonarteritic anterior ischaemic optic neuropathy (NA-AION) could not be explained by detrimental effect of sildenafil on the vascular supply of the optic nerve. He also adds that other factors could have been involved in NA-AION, cilioretinal artery occlusion, and central retinal vein occlusion.

The originality of this case presentation<sup>1</sup> is that it is the first report of sildenafil-related NA-AION, cilioretinal artery, and central retinal vein occlusions. After the first attack of NA-AION in the left eye of the patient, which developed by ingestion of 100 mg of sildenafil for the first time the night before, the patient represented with a darkened superior visual field in his right eye for months later. Ignoring warnings against sildenafil, he had taken another 100 mg tablet. We think that the development of NA-AION in both eyes of the patient after ingestion of sildenafil is very important and must be taken into consideration by ophthalmologists and all general practitioners.

Dr Oguz's suggestion, which proposes that other factors could have been involved in NA-AION, cilioretinal artery occlusion, and central retinal vein occlusion, is valid. The pathogenesis of NAION is multifactorial, and includes structural and blood flow abnormalities and insufficient circulation in branches of the short posterior ciliary vessels.<sup>2</sup> A 36-year-old male patient suffering from chronic renal failure which required haemodialysis three times a week was presented in our case report. Most patients on haemodialysis have cardiovascular pathology, with conditions such as atherosclerosis, anaemia, hypotension, and hypertension. Our patient had had episodes of hypotension during the day and night, and also after haemodialysis sessions, and he had a small cup-to-disc ratio. We suspect that the first sildenafil dose reduced arterial pressure significantly (most markedly at 1–2 h after administration), leading to NA-AION, cilioretinal artery occlusion, and central retinal vein occlusion.

Pomeranz and Bhavsar<sup>3</sup> reported seven patients who had typical features of NA-AION within 36 h after ingestion of sildenafil citrate. They suggest that sildenafil may provoke NA-AION in individuals with an atherosclerotic risk profile. We think that patients need to know the potential ocular complications of sildenafil, and history of NA-AION should be a definite contraindication. Any prescription of this drug should require a detailed ophthalmologic examination and risk factor assessment before therapy is initiated especially in patients with an atherosclerotic risk profile. We agree with Dr Oguz that more clinical/experimental multidisciplinary studies are needed to clarify all ocular effects of sildenafil.

## References

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Sir,  
**Intraoperative floppy iris syndrome with doxazosin**

Intraoperative floppy iris syndrome (IFIS) was first described by Chang and Campbell<sup>1</sup> as a triad of a flaccid iris stroma that undulates and billows in response to intraocular fluid currents, a propensity for the floppy iris stroma to prolapse toward the incisions despite proper wound construction, and progressive intraoperative pupil constriction. The Food and Drug Administration warned health professionals about this side effect observed during cataract surgery in some patients currently or previously treated with tamsulosin,<sup>2</sup> an  $\alpha_2$ -adrenergic-receptor antagonist licensed for the functional symptoms of benign prostatic hyperplasia (BPH).

The awareness of this problem is evidenced by the surge in the publications on this topic since.<sup>3–5</sup> The reported prevalence of this condition is 63–100% among tamsulosin users.<sup>1,3</sup> More recent anecdotal reports<sup>6</sup> have suggested that it may be associated with all four commercially available  $\alpha_1$ -adrenergic-receptor antagonists (alfuzosin, doxazosin, tamsulosin, and terazosin). We here report the first case of IFIS in a patient on doxazosin.

#### Case report

Since January 2006, we have routinely started to identify the use of tamsulosin in patients who are listed for cataract surgery. An audit of 577 eyes that underwent phacoemulsification with intraocular lens implant between January and April 2006 revealed seven patients (10 eyes) who were on tamsulosin. All the patients were male with a mean age of 77.8 years. In this retrospective audit, there was no concern reported with pupillary dilation preoperatively. IFIS of any degree was seen in seven eyes (70%). Modification of the surgical technique, that is, use of iris hooks, was needed in three eyes and corneal or side port incision needed suturing in four eyes. All the patients achieved good visual acuity and no complications were reported.

Additionally, we identified two patients who were taking nonselective  $\alpha$ -blockers for benign prostatic hyperplasia. One of these patient on doxazosin (2 mg twice a day) showed typical features of IFIS including intraoperative miosis and iris prolapse through the main and side port. Although the surgery was completed without resorting to any additional manoeuvres, iris chafing was noted at the end of surgery. This patient was in good general health and did not have past history of any ocular disease. The patient achieved best-corrected visual acuity of 6/6. The other patient on alfuzosin (2.5 mg twice a day) underwent routine surgery and did not reveal any features suggestive of IFIS.

#### Discussion

Doxazosin is a nonselective  $\alpha$ -blocker that is used for BPH and as a combination treatment for hypertension. Published medical literature suggests the possibility of IFIS in patients on other  $\alpha$ -blockers; however, it has not been reported so far.

Since the identification of this case, we have started to identify the use of all the  $\alpha$ -blockers in patients booked for cataract surgery. As there are no preoperative variables to suggest the possibility of this unexpected and unpredictable syndrome, we believe that identification of these cases preoperatively is the best safe-guard.

This case highlights that a careful medical history should be taken for every patient undergoing cataract surgery to elucidate IFIS predisposition based on concurrent  $\alpha$ -blocker use.

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