

Serous detachment of macula in cystoid macular edema associated with latanoprost

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PURPOSE. *To report serous macular detachment in two patients with cystoid macular edema (CME) associated with latanoprost.*

METHODS. *Two eyes of two patients with CME associated with latanoprost underwent an ophthalmoscopic examination, fluorescein angiography, and optical coherence tomography (OCT).*

RESULTS. *In both patients, besides CME, OCT showed serous macular detachment composed of retinal elevation over a nonreflective cavity with minimal shadowing of the underlying tissues.*

CONCLUSIONS. *This is the first case report that shows an association between serous macular detachment and CME associated with latanoprost. (Eur J Ophthalmol 2008; 18: 1014-6)*

KEY WORDS. *Latanoprost, Serous macular detachment, Cystoid macular edema, Optical coherence tomography*

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INTRODUCTION

Latanoprost is a phenyl-substituted prostaglandin analogue that on topical application to the eye lowers the intraocular pressure (IOP) presumably by increasing the uveoscleral outflow (1). The reported ocular complications with latanoprost include conjunctival hyperemia, iris discoloration, anterior uveitis, and cystoid macular edema (CME). It is well known that CME due to latanoprost is related primarily to the patients with pseudophakia (1). In this study, we report serous macular detachment in two patients with CME associated with latanoprost.

Case reports

Case 1

A 53-year-old woman was referred for retinal evaluation. Ocular history was notable for uncomplicated extracapsular cataract extraction with phacoemulsification technique and a posterior chamber intraocular lens in the left eye 2 years ago and open angle glaucoma in both eyes for the last 4 years. More recently, she had uncontrolled IOPs

while taking betaxolol HCl 0.5% two times daily in both eyes. She was started on latanoprost 0.005% in both eyes at night by the referring ophthalmologist. Before the initiation of latanoprost, the patient's best-corrected visual acuity (BCVA) was 20/20 in both eyes, and IOP was 23 mmHg in the right and 24 mmHg in the left eye. One month later, the patient complained of intermittent central scotoma, metamorphopsia, and worsening vision in the left eye.

Ocular examination disclosed a BCVA of 20/20 in the right and 20/60 in the left eye. IOP was 18 mmHg in both eyes. Anterior segment examination disclosed posterior chamber intraocular lens with no evidence of intraocular inflammation in the left eye. Anterior chamber examination was normal in the right eye. Gonioscopy disclosed open angles in both eyes. Fundus examination showed CME in the left eye; the right eye was normal. Fluorescein angiography confirmed the presence of CME (Fig. 1A). Optical coherence tomography (OCT) examinations of left eye showed CME and serous macular detachment (Fig. 1B). Latanoprost was discontinued and replaced with dorzolamide 2% three times daily. Three weeks later, BCVA returned to 20/20 in the left eye, IOP was 16 mmHg in both

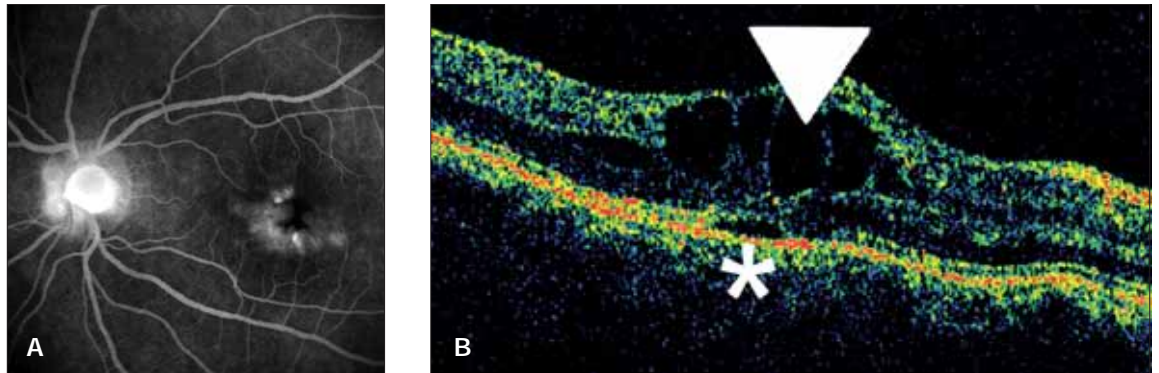


Fig. 1 - (A) Fluorescein angiography of left the eye shows oval or petaloid hyperfluorescent cystoid spaces radiating from the fovea in the left eye. **(B)** Horizontal optical coherence tomography scan of the same eye. Note that hyporeflective intraretinal cavities (arrowhead) and serous macular detachment (asterisk) shown by retinal elevation over a nonreflective cavity with minimal shadowing of the underlying tissues.

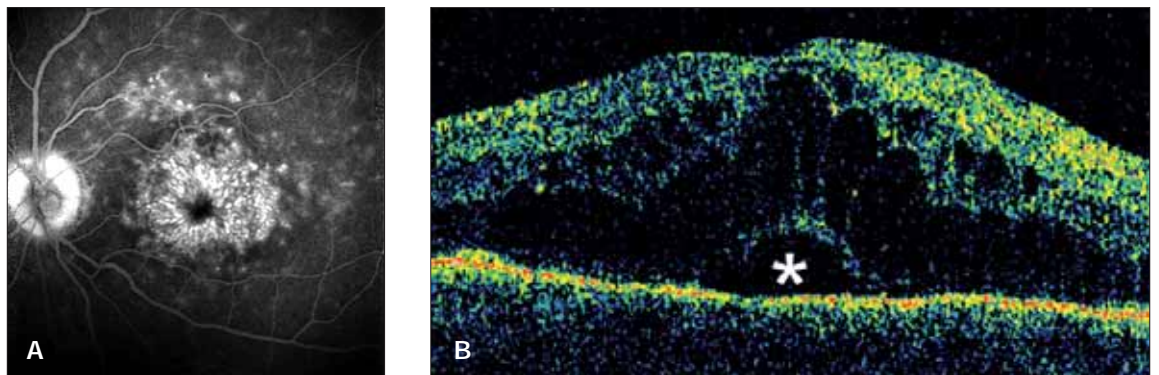


Fig. 2 - (A) Fluorescein angiography of the left eye shows oval or petaloid hyperfluorescent cystoid spaces radiating from the fovea. **(B)** Horizontal optical coherence tomography scan through the fovea showing a serous macular detachment as retinal elevation over a nonreflective cavity (asterisk).

eyes. Fundus examination and fluorescein angiography disclosed resolution of CME. OCT examination showed resolution of both CME and serous macular detachment.

Case 2

A 68-year-old man was examined in December 2003. He had undergone cataract surgery with phacoemulsification technique and posterior chamber intraocular lens implantation with capsular support in the left eye in 2001. The surgery was complicated by vitreous loss requiring anterior vitrectomy. At initial examination in 2003, the patient was taking dorzolamide three times daily in both eyes. BCVA was 20/20 in both eyes. IOP was 23 mmHg in both eyes and latanoprost 0.005% was added in both eyes at night. Two weeks later, he reported a red blur that affected his vision in the left eye. BCVA was 20/100 in the left and 20/20 in the right eye. Anterior segment examination

disclosed posterior chamber intraocular lens with no evidence of intraocular inflammation in the left eye. He had biomicroscopically visible CME in the left eye that was confirmed with fluorescein angiography. Fluorescein angiography also showed multiple hyperfluorescent spots outside the macular region corresponding to window defects (Fig. 2A). OCT examinations of left eye showed CME and serous macular detachment (Fig. 2B). The latanoprost was discontinued in his left eye and replaced with brimonidine, three times daily. After 1 month of treatment, his BCVA had improved to 20/20 in the left eye and the CME and serous macular detachment had resolved.

DISCUSSION

In this study we describe serous macular detachment in two patients with CME associated with latanoprost. Both

serous macular detachment and CME were reversible on stopping latanoprost in each case. These findings support the relationship between serous macular detachment and latanoprost. With OCT, serous retinal detachment associated with CME has been defined in patients with diabetic retinopathy, branch retinal vein occlusion, Behçet disease, and Irvine Gass syndrome (2-5). The pathogenesis of serous retinal detachment is being debated. Leakage from retinal or choroidal circulation into the subretinal space exceeding its drainage capacity is thought to be the main mechanism (6). According to Ravalico and Battaglia it is linked not only to the limitations of the draining vascular system, but also to an impairment in the function of the retinal pigment epithelium (7). Whatever

the mechanism is, it is well known that OCT is a useful technique for the detection of these shallow retinal detachments. To our knowledge, no case has been reported of an association between serous macular detachment and CME associated with latanoprost.

The authors have no commercial interest in the material used in this work.

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