Choroidal Detachment after Topical Prostaglandin Analogs: Case Report

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Objective: *To report three cases of delayed choroidal detachment after treatment with topical prostaglandin analogs*
Material and Method: *Intervention three case reports. Four eyes of three patients with chronic angle closure glaucoma developed choroidal detachment after using topical prostaglandin analogs*
Results: *Three patients with chronic angle closure glaucoma developed chroidal detachment in one week, three weeks and two years after using travoprost, bimatoprost and latanoprost respectively. All of them resolved after discontinuation of these medications. All of the eyes that developed chroidal detachment were pseudophakic*
Conclusion: *Travoprost, bimatoprost and latanoprost may lead to choroidal detachment and hypotony. Pseudophakic patients may be at high risk of the development of chroidal detachment. Topical prostaglandin analogs should be used cautiously in these patients*

Keywords: *Prostaglandin analogs, Choroidal detachment, Hypotony*

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The once daily topical hypotensive lipids-the prostaglandins analogs, latanoprost, travoprost and bimatoprost are the most efficacious medications available for reduction of intraocular pressure and for many patients, are the best choices for initial medical management of glaucoma. The most common ocular side effect with prostaglandins analogs therapy is conjunctival hyperemia occurring in about 10-20% of the patients[5]. Others include increase in iris pigmentation and increase in number and length of eye lashes[9,10]. Hypotony and choroidal detachment have also been noted with the use of topical prostaglandins following intraocular surgery[11-13]. In the present study, the authors present three interventional case reports of choroidal detachment after using travoprost, bimatoprost and latanoprost in an eye with previous cataract extraction.

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Case Report

Case 1

A 48-year-old female initially presented with chronic angle closure glaucoma on her both eyes. She underwent uneventful trabeculectomy on left her eye in October 2002 and on the right eye in November 2002. Her left eye was well controlled with trabeculectomy but her right eye became uncontrolled and right side cataract was noted. In December 2002, she underwent uneventful right combined phacoemulsification with intraocular lens and trabeculectomy. Six weeks postoperatively, intraocular pressure (IOP) was recorded as 29 mmHg on her right eye. Timolol, brimonidine and dorzolamide were administered to control IOP. In March 2002, IOP was again recorded as 26 mmHg, Travoprost were added to the above medications. One week after using travoprost, she complained of decreased vision on her right eye. Examination revealed visual acuity of 6/36 and IOP 2 mmHg. Fundoscopy showed the presence of choroidal effusion temporally. Travoprost, timolol, brimonidine and dorzolamide were discon-

tinued, predisolone acetate four times a day and atropine 1% twice daily commenced. One week later, the choroidal detachment had absorbed completely. The IOP was 24 mmHg and the visual acuity had improved to 6/12. Timolol, brimonidine and dorzolamide again were administered. The IOP was 18 mmHg.

Case 2

A 72-year-old female presented with chronic angle closure glaucoma on both her eyes. In 1999, she underwent uneventful combined phacoemulsification with intraocular lens and trabeculectomy on both her eyes. In 2001, the IOP on both her eyes became uncontrolled. Timolol and brimonidine were administered to control IOP since. In November 2003, she underwent uneventful Yag-capsulotomy for posterior capsular opacities on both her eyes. In April 2004, the IOP on both her eyes became uncontrolled again. Bimatoprost was added to the previous medications. Three weeks later, she complained of blurred vision on both her eyes. Her visual acuity was 6/18 OD and 6/60 OS, IOP 2 mmHg OU. Fundus examination revealed 360 degrees choroidal detachment and 1+ anterior chamber cells. Bimatoprost, timolol and brimonidine were discontinued, predisolone acetate four times a day and atropine 1% twice daily commenced. Two weeks later, the choroidal detachment had absorbed completely. The IOP was 30 mmHg OD and 20 mmHg OS.

Case 3

A 71-year-old female presented with chronic angle closure glaucoma on both her eyes. Her IOP was controlled with timolol and latanoprost on both eyes. In March 2002, she underwent phacoemulsification with intraoperative complication of ruptured posterior capsule. Anterior vitrectomy and scleral fixation of intraocular lens was done on her right eye. In October 2002, she underwent intracapsular cataract extraction with scleral fixation of intraocular lens on her left eye. Postoperatively, her glaucoma was well controlled with timolol and latanoprost both eyes. In May 2004, she complained of blurred vision on her left eye. Fundus examination of her left eye revealed 180 degrees choroidal detachment temporally. Prednisolone acetate was added. Two weeks later, the choroidal detachment had absorbed completely.

Discussion

Travoprost[1], bimatoprost[2,4] and latanoprost[3,4] are prostaglandin analogs used for lower intraocular pressure by increasing uveoscleral outflow. Side effects of these prostaglandin analogs include conjunctival hyperemia[1,5]; anterior uveitis, iritis, cystoid macular edema[6-8]; increased iris pigmentation[9]; increased number, length, thickness, curvature and pigmentation of eye lashes[10];corneal lesions[8]; hypotony and choroidal detachments[11-13]. Various reports have suggested that latanoprost may contribute to hypotony[11] and the development of choroidal detachment[12,13]. However, choroidal detachment from travoprost and bimatoprost has not yet been reported. All of the patients had previous cataract extractions. Similarly, in the presented cases, all of the patients were pseudophakic. The time of development of choroidal detachment varied from one week to two year after using the topical prostaglandin analogs. Discontinuation of therapy and initiation of corticosteroid resulted in reattachment.

Since prostaglandins analogs have been regarded as the potent IOP-reducing medication and possibly alter the blood-aqueous barrier, the mechanism of choroidal detachment with prostaglandin analogs may be attributed to the marked reduction of intraocular pressure to hypotony level and possibly the breakdown of blood-aqueous barrier following cataract surgery or previous intraocular surgery.

In summary, the authors described three cases of choroidal detachment occurring in pseudophakic eye after topical prostaglandin analogs. Prostaglandin analogs should be used cautiously in pseudophakic eyes or eyes with previous intraocular surgery.

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ภาวะ choroidal detachment ภายหลังการใช้ยาหยอดตาในกลุ่ม prostaglandins

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วัตถุประสงค์*: เพื่อรายงานผู้ป่วย 3 รายที่เกิดภาวะ choroidal detachment ภายหลังการใช้ยาหยอดตาในกลุ่ม prostaglandin analogs*

วัสดุและวิธีการ*: รายงานผู้ป่วย 3 รายที่เป็นโรคต้อหินชนิดมุมปิดแบบเรื้อรังที่เกิดภาวะ choroidal detachment ภายหลังการใช้ยาหยอดตาในกลุ่ม prostaglandin analogs*

ผลการศึกษา*: พบภาวะ choroidal detachment เกิดขึ้นในตาของผู้ป่วยโรคต้อหินชนิดมุมปิดแบบเรื้อรังภายหลังที่ได้รับยาหยอดตา travoprost, bimatoprost และ latanoprost เป็นเวลา 1 สัปดาห์, 3 สัปดาห์ และ 2 ปี ตามลำดับ ผู้ป่วยทุกรายเคยได้รับการผ่าตัดลอกต้อกระจกและใส่เลนส์เทียมมาก่อน ภาวะ choroidal detachment หายได้เองภายหลังการหยุดยาในกลุ่มนี้*

สรุป*: ยาหยอดตา travoprost, bimatoprost และ latanoprost อาจทำให้เกิดภาวะ choroidal detachment ขึ้นได้ นำมาซึ่งภาวะความดันลูกตาต่ำผิดปกติและทำให้ความสามารถในการมองเห็นลดลงได้โดยเฉพาะในผู้ป่วยที่เคยได้รับการผ่าตัดลอกต้อกระจกมาก่อน*
