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SHORT COMMUNICATION

Case report

Choroidal neovascularization after laser *in situ* keratomileusis in a patient with presumed ocular histoplasmosis syndrome

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PURPOSE. *A 44-year-old patient with presumed ocular histoplasmosis syndrome (POHS) who developed a choroidal neovascular membrane (CNV) after laser* in situ *keratomileusis (LASIK) surgery is presented.*
METHODS. *A 44-year-old male patient with moderate myopia and POHS who underwent LASIK surgery complained of distorted vision after the procedure. He had a quiet POHS lesion prior to refractive surgery. Fundus examination and fluorescein angiography revealed subfoveal CNV after the LASIK surgery. He underwent 2 sessions of photodynamic therapy (PDT).*
RESULTS. *Subfoveal CNV involuted after PDT and his vision improved from 20/300 to 20/25 at 13 months follow-up.*
CONCLUSIONS. *CNV can be triggered by LASIK surgery in patients with POHS. Those patients should be made aware of and closely followed up postoperatively for this complication. (Eur J Ophthalmol 2004; 14: 261-3)*

KEY WORDS. *Choroidal neovascularization, LASIK, Myopic degeneration, Photodynamic therapy, POHS*

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INTRODUCTION

Refractive surgery is widely used for correction of ametropias. Complications resulting from these procedures are infrequent but pose a risk for the patients undergoing these procedures. Macular hemorrhage and choroidal neovascular membrane (CNV) after laser *in situ* keratomileusis (LASIK) have rarely been reported (1-4). We present a case of CNV after LASIK in a patient with presumed ocular histoplasmosis syndrome (POHS).

METHODS

We studied a moderately myopic patient with POHS who underwent LASIK surgery and complained of distorted vision after the procedure. Fundus examination and fluorescein angiogram revealed subfoveal CNV and findings of POHS. He was treated with photodynamic therapy (PDT).

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RESULTS

Case report

A 44-year-old male underwent LASIK in both eyes for myopia in January 2001. Best corrected visual acuity (BCVA) prior to surgery and one week after the surgery were 20/20 in both eyes with histo spots in the retina and no CNV in fundus exam in either eye. Three months after the procedure, the patient was seen in the retina clinic with the complaint of decreased vision and wavy lines in his left eye for the previous two months. On examination his BCVA in the affected eye measured 20/300. Fundoscopic exam and fluorescein angiography revealed findings consistent with POHS and a subfoveal CNV associated with a serous retinal detachment involving the fovea in the left eye (Fig. 1a). The patient underwent two sessions of PDT with verteporfin and the CNV involuted (Fig. 1b). Thirteen months after LASIK his BCVA improved to 20/25 in the affected eye.

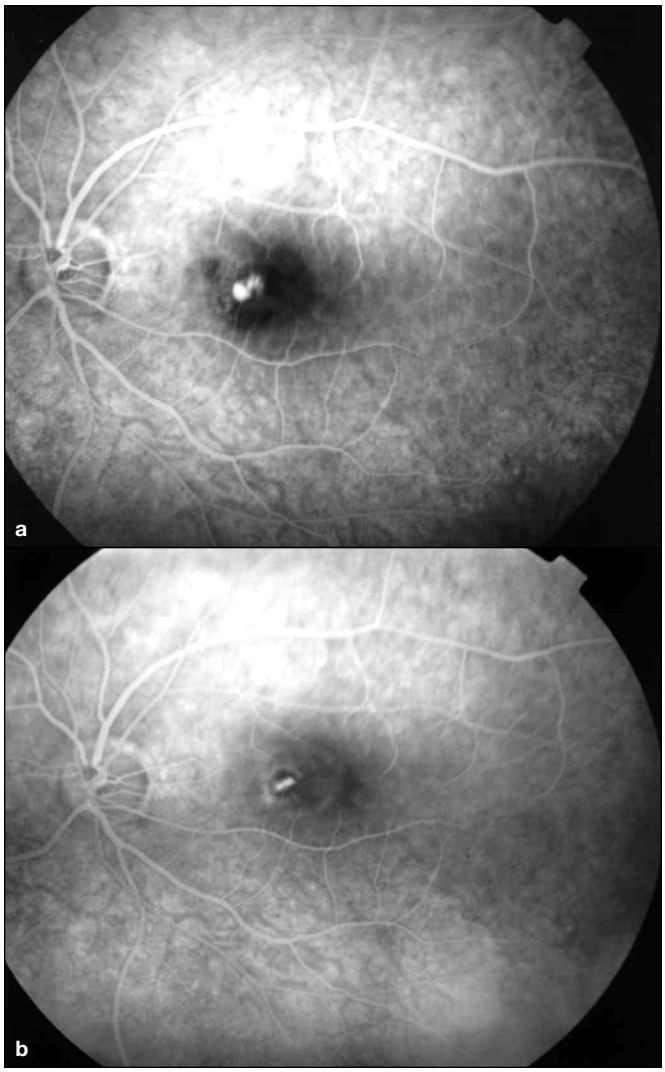

Fig. 1 - a) *Fluorescein angiography at initial presentation showing juxtafoveal CNV.* **b)** *Fluorescein angiography showing involution of juxtafoveal CNV.*

DISCUSSION

LASIK is generally accepted as a safe procedure in properly selected patients for correction of refractive errors (4, 5). However, it is well known that LASIK causes stress on the globe during the procedure; a large and rapid increase in intraocular pressure occurs with the suction ring and acoustic shock waves occur with laser ablation. These stresses may cause damage to already “at risk” maculas (1-4, 6, 7). Myopic degeneration can be associated with CNV is also felt to be a result of stretching of the retina and choriocapillaris in the macular region (8, 9).

There are few reported cases of macular hemorrhage and CNV after LASIK and thus assumed to be a rare occurance (1, 3-5, 10, 11). Arevalo et al reported a case of juxtafoveal CNV occurring after LASIK in a hyperopic patient (2). This patient underwent surgical removal of CNV and did poorly. There have been other cases of CNV occurring or triggered by LASIK in myopic eyes (1, 3). One case reported had preexisting CNV that bled after LASIK procedure (1). Ruiz-Moreno et al reported three new cases (0.10%) of CNV and one recurrence after LASIK in 2955 patients (3). In this series, patients were treated by argon laser or submacular surgery and did poorly (3). Foveal complications of LASIK have been mostly reported as formation of small lacquer cracks or foveal hemorrhage after the procedure (1, 5, 10, 11). These cases have been reported with variable prognosis depending on severity of hemorrhage and mostly have short follow-up or no follow-up in the literature.

In our case, symptoms of CNV started one month after LASIK and were detected within 3 months. Our patient had underlying POHS as a predisposing condition. No reports of LASIK with preexisting POHS

were found in the literature. In this case, the CNV was either triggered by a break in an already weakened area in the Bruch's membrane as a result of the mechanical stress from the LASIK procedure or a mere coincidence resulting from POHS. The serous retinal detachment involving the fovea significantly decreased vision. Vision markedly improved with regression of the CNV and resorption of serous detachment after PDT.

Patients undergoing LASIK should have a dilated fundus examination prior to the procedure. Those with "at risk" maculas may require fluorescein angiography to find "subclinical" pathology. The literature suggests that preexisting macular pathology, CNV and lacquer cracks considered a relative contraindication to LASIK (1). POHS could also be included among these preexisting conditions. Patients should be informed of these possible complications. However, when they do occur, CNV triggered by LASIK may have a favorable prognosis with PDT. Patients with POHS undergoing LASIK should be followed up closely after the surgery.

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