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Galbinur A.P., Galbinur T.P., Mammadkhanova A.İ.

## RETINAL DETACHMENT AFTER REFRACTIVE EYE SURGERIES (CLINICAL CASE)

*Azerbaijan Medical University, Ophthalmology department*

## SUMMARY

This article reports a clinical case of unilateral rhegmatogenous retinal detachment (RRD) after three years of myopic laser in situ keratomileusis (LASIK). A 35-year-old female patient with LASIK K.H. in both eyes due to myopia (spherical equivalent -5.0 Diopters), diagnosed with left eye (LE) retinal detachment was referred to our clinic. A dilated fundus examination showed a LE macula-on supra-nasal RRD. The first course of action was surgical treatment.

Two-weeks postoperative follow up best corrected visual acuity (BCVA) of LE dropped from 1.00 to 0.6 in decimal, intraocular pressure (IOP) was 17 mmHg.

Four-weeks postop follow up BCVA increased from 0.6 to 0.8, IOP was 19 mmHg. The patient gained BCVA 1.0 in LE at seven weeks, IOP was 21 mmHg.

It is important to first inform about possibility of complications of surgery, especially of myopic LASIK, which can cause RRD. Each patient should undergo a very thorough dilated funduscopy and treatment of any retinal lesion predisposing for the development of retinal detachment before surgery performed.

**Key words:** *LASIK, rhegmatogenous retinal detachments, myopia*

Qəlbinur A.P., Qəlbinur T.P., Məmmədخانova A.İ.

## REFRAKTİV ƏMƏLİYYATLAR SONRASI TORLU QIŞA QOPMASI (KLİNİK HAL)

## XÜLASƏ

Məqalədə təqdim olunan kliniki hal miopiyası olan pasiyentdə eksimer lazer korreksiyasından üç il sonra torlu qışanın birtərəfli reqmatogen qopması göstərilmişdir. Miopiya (sferik ekvivalent -5,0 Dioptriya) səbəbiylə hər iki gözündə LASIK əməliyyatı keçirmiş K.H. 35 yaşlı qadın xəstə, sol gözündə torlu qışa qopması diaqnozu ilə klinikamıza müraciət etmişdir. Gen bəbəkə də göz dibi müayinəsi zamanı sol gözdə makula intakt olmaqla torlu qışanın yuxarı-nazal kvadrantında reqmatogen qopma aşkar olundu. İlk addım kimi cərrahi müdaxilə seçildi.

Əməliyyatdan sonrakı iki həftəlik müşahidədə sol gözün görmə itiliyi 1,0-dan 0,6-ya qədər enmişdir, gözdaxili təzyiq 17 mm c.s olmuşdur. Dörd həftəlik

əməliyyatdan sonrakı kontrol müayinədə görmə itiliyi 0,6-dan 0,8-ə qalxmışdır, gözdaxili təzyiq 19 mm c.s. olmuşdur. Əməliyyatdan sonra yeddinci həftədə pasiyentin sol gözündə görmə itiliyi 1,0, göz daxili təzyiq isə 21 mm c.s. olmuşdur.

İlk öncə əməliyyatın fəsadlarının, xüsusən də miopiyası olan xəstədə eksimer lazer korreksiyasının reqmatogen torlu qışa qopmasına ehtimal ola biləcəyi haqda məlumat vermək lazımdır. Hər bir xəstə əməliyyatdan əvvəl əhatəli gen bəbəkə də müayinədən keçməli və torlu qışanın qopmasına şərait yaradan hər-hansı bir vəziyyətin müalicəsi aparılmalıdır.

**Açar sözlər:** *LASIK, torlu qışanın reqmatogen qopması, miopiya*

Гальбинур А.П., Гальбинур Т.П., Мамедханова А.И.

ОТСЛОЙКА СЕТЧАТКИ ПОСЛЕ РЕФРАКЦИОННОЙ ОПЕРАЦИИ  
(КЛИНИЧЕСКИЙ СЛУЧАЙ)

## РЕЗЮМЕ

В статье представлен клинический случай односторонней регматогенной отслойки сетчатки (РОС) спустя три года после эксимер лазерной коррекции миопии методом ЛАСИК. В нашу клинику была направлена пациентка К.Х. 35-и лет с диагнозом отслойки сетчатки левого глаза (ЛГ), до этого ей была выполнена операция по коррекции миопии методом ЛАСИК на оба глаза (сферический эквивалент -5,0 Диоптрий). Исследование глазного дна ЛГ выявило регматогенную отслойку сетчатки с отверстием в верхне-носовом квадранте с интактной макулой. Методом лечения было выбрано хирургическое вмешательство.

Через две недели после операции острота зрения ЛГ снизилась с 1,00 до 0,6, внутриглазное давление (ВГД) составило 17 мм рт.ст. Через че-

тыре недели после операции острота зрения поднялась с 0,6 до 0,8, ВГД составило 19 мм рт.ст. Через семь недель зрение ЛГ у пациентки составило 1,0, ВГД 21 мм рт. ст.

Важно сначала проинформировать о возможности осложнений хирургического вмешательства, особенно эксимер лазерной коррекции миопии методом ЛАСИК, которое может стать причиной РОС. Перед операцией каждый пациент должен пройти очень тщательную офтальмоскопию с расширенным зрачком и лечение любого поражения сетчатки, предрасполагающего к развитию отслоения сетчатки.

**Ключевые слова:** ЛАСИК, регматогенная отслойка сетчатки, миопия

A link between refractive surgery and retinal detachment (RD) has long been considered. Corneal refractive surgeries, specifically Laser in situ keratomileusis (LASIK) is an elective procedure presenting a low risk of complications. Usually, eyes with excellent corrected visual acuity are treated and therefore vision-threatening complications are a major concern. Although anatomical and refractive complications constitute the majority of postoperative problems, retinal complications may be the most dangerous in terms of negative outcomes [1]. Refractive surgery procedures has become popular for performed most commonly in myopic patients, and myopia is known as a relevant risk factor for rhegmatogenous retinal detachment (RRD) [2].

RRD refers to the separation of the neurosensory retina from the underlying retinal pigment epithelium related to the break in the retina [3]. According to the medical studies RRD can occur between 1 month and 10 years after LASIK and eyes that developed a RRD can be from -1.50 to -9.75 D of myopia before LASIK [4].

This article describes that promptly and correctly managed RRD after LASIK will results in good vision. Our case is presented to demonstrate the main features of this approach.

**Clinic case**

A 35-year-old female patient with unremarkable systemic medical history and 3 years laser in situ keratomileusis (LASIK) in both eyes due to myopia (spherical equivalent -5.0 D), returned to her ophthalmologist due to worsening of left eye (LE) sudden appearance of floaters and loss of peripheral vision for 10 days. Suspected LE retinal detachment (RD) [Fig. 1, B.]. She referred to vitreoretinal surgeon. Before coming to us during 2 weeks she was seen by several ophthalmologists and according to the patient, in order to eliminate the thinning of the retina, the previous doctor performed laser coagulation of the peripheral fundus of the right eye (RE) [Fig. 1, A.]. On initial examination in our clinic, her uncorrected visual acuity (UCVA) was for right eye 0.4, best corrected visual acuity (BCVA) with -1.50 spherical diopters, -0.25 cylindrical diopters were 1.00, refraction of -1.50. -0.25 x 119 degrees,

UCVA for left eye was 1.00, of -0.25. -0.75 x 50 degrees. For both eyes (BE) intraocular pressures were normal and axial length (AL) for RE was 26.31mm, for LE 26.24 mm. The anterior segment was within normal limits, while the funduscopy exam showed myopic fundus for BE, LE retinal tear associated with localized macula-on supra-nasal rhegmatogenous retinal detachment (RRD). RE with previous laser photocoagulation scar. Surgery was scheduled 1 day after hospitalization due to the risk of worsening overall RRD. She underwent 23g PPV, endolaser, intravitreal injection of 0.4 mg Triamcinolone acetonide (Kenalog) and tamponade of 15% perfluoropropane (C3F8) gas. Because the patient was young, phacoemulsification was not performed at the time of surgery. Two –weeks postoperative follow up according to presence of an intraocular gas bubble, UCVA of LE dropped from 1.00 to 0.6, intraocular pressure (IOP) was 17 mmHg with a refraction of -0.25. -1.25 x 37 degrees. Four-weeks postop follow up UCVA become from 0.6 to 0.8, with a refraction of -0.50. -0.25 x 147 degrees, IOP was 19 mmHg. [Fig.2.] The patient gained 1.0 vision in LE at seven weeks, with a refraction of -0.00. -0.75 x 35 degrees, IOP was 21 mmHg. Patient denied any complaints in both eyes.

### Results and Discussion

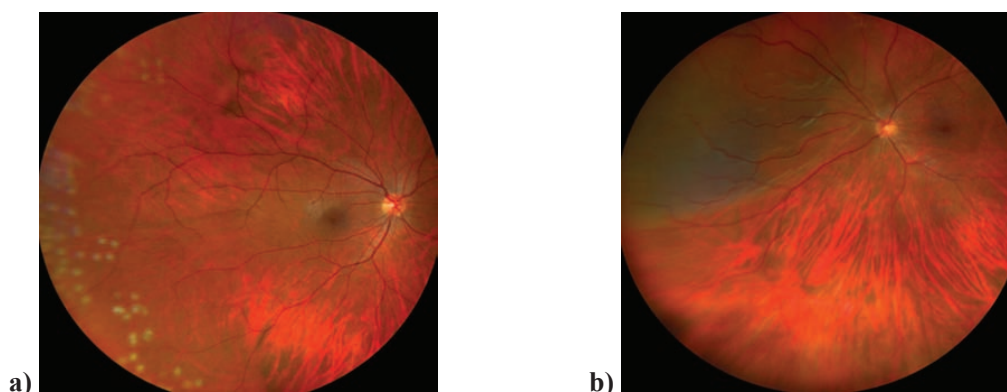
There are many studies reporting retinal detachment (RD) after laser in situ keratomileusis (LASIK) surgery, especially in myopic eyes [5]. Rhegmatogenous retinal detachment (RRD) can be a serious complication after in situ keratomileusis (LASIK) in myopic eyes. Ramyaa Srinivasan et

all. reported more than 5 years of follow-up post LASIK and the incidence of RRD was 0.7% [6]. When a patient first presents for the consideration of LASIK surgery, it is important first to informed about possibility of complications. Each patient should undergo a very thorough complete dilated funduscopy and treatment of any retinal lesion predisposing for the development of retinal detachment (RD) before LASIK surgery is performed. In highly myopic patients, it is especially important to perform a peripheral examination to look for tears and holes, which may need treatment by a retinal specialist before performing LASIK surgery [7, 8]. This case prompts a discussion on the potential risk factors and mechanisms leading to retinal detachment after refractive surgery. Retinal detachment is a rare but serious complication following refractive surgery. Vigilant monitoring and prompt intervention are crucial for successful management. Our case report contributes to the understanding of potential risks associated with refractive surgery and emphasizes the importance of comprehensive preoperative evaluation and postoperative surveillance.

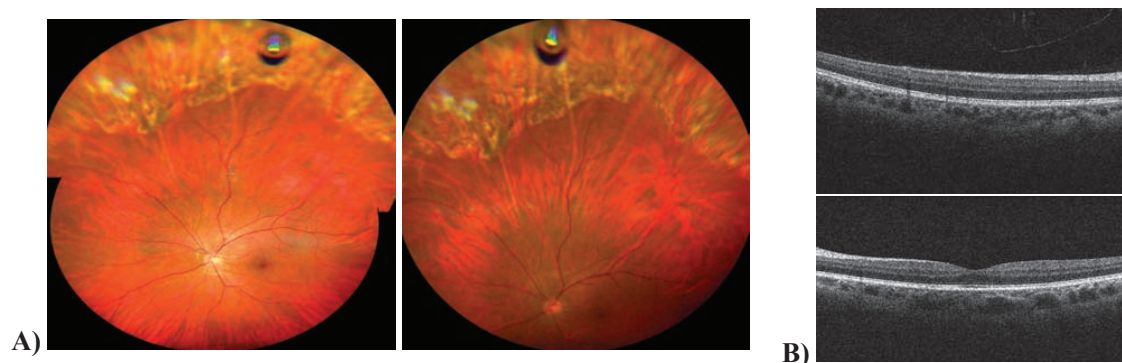
### Conclusion

We present a case of unilateral rhegmatogenous retinal detachment (RRD) after LASIK. Our patient, who had a successful postoperative result, gained 1.0 vision without any postoperative complications in her seven-week follow-up.

We think that the importance of routine examination after refractive surgery should be explained clearly to patients.



**Fig.1.** Imaging at initial presentation: A) Color fundus photographs show right eye with previous laser photocoagulation scar: B). Left eye macula-on supra- nasal RRD



**Fig.2.** Imaging of left eye after 7 weeks of surgery: A) Color fundus photographs show 1 residual gas bubble superiorly; B) The macular cube optical coherence tomography shows normal findings

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#### Author contributions:

Concept and design of the study: Galbinur T.P.

Collection and processing of material: Galbinur T.P., Galbinur A.P., Mamedkhanova A.I.

Text writing: Galbinur A.P.

Editing: Galbinur A.P.

#### The authors declare no conflict of interest

#### For correspondence:

Dr.Ayan Galbinur

Azerbaijan Medical University, Department of Ophthalmology

Email: agalbinur@gmail.com