


## Vitreoretinal alterations following laser in situ keratomileusis: clinical and experimental studies

Luna, José D., Artal, María N., Reviglio, Victor Eduardo , Pelizzari, Mario, Diaz, Hugo and Juárez Beltrán, Claudio Patricio (2001) *Vitreoretinal alterations following laser in situ keratomileusis: clinical and experimental studies*. Graefe's Archive for Clinical and Experimental Ophthalmology, 239 (6). pp. 416-423. ISSN 0721-832X

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### RESUMEN

**Background:** The presence of vitreoretinal changes following laser in situ keratomileusis in myopia is evaluated. **Methods:** Clinically, 50 patients (100 eyes) with marked anisometric myopia, 50 low-myopic eyes ([removed]7.00 D) were prospectively evaluated pre-and postoperatively for the presence of newly recognized entoptic phenomena (vitreous floaters, light flashes, or both), and for vitreoretinal changes using indirect depressed fundus examination, a +90 D preset lens, Goldman three-mirror contact lens, and kinetic ultrasound (KU) before and after bilateral LASIK. Patients with previous partial or total posterior vitreous cortex detachment (PVD) were excluded. Experimentally, groups of adult pigs underwent KU, retinal fluorescein angiography (FA), and electroretinography (ERG) before and after applying the microkeratome suction ring for 30 s. **Results:** Clinically, 8% (4 eyes) had positive perception of postoperative vitreous floaters in the low myopia group, and 32% (16 eyes) in the high myopia group. Postoperative light flashes were noted only in the high myopia group, in 12% of cases. Partial or total posterior or vitreous cortex detachment was detected by biomicroscopy in 2% (1 eye) of the low and in 10% (5 eyes) of the high myopia group and by KU in 4% (2 eyes) of the low and in 24% (12 eyes) of the high myopia group. Experimentally, 2 pig eyes out of 12 developed partial PVD by KU, immediately after microkeratome suction ring application. All pig eyes showed significantly diminished ERG amplitudes during and immediately after suction ring application. No FA changes or delays in retinal circulation time were noted during or immediately after removal of the suction ring. **Conclusions:** Vitreoretinal alterations after LASIK were demonstrated clinically mainly by KU in high myopes. Experimentally, PVD were also demonstrated. Diminished ERG recordings with normal retinal circulation following suction ring application may suggest some transient choroidal circulation abnormalities.

**TIPO DE DOCUMENTO:**

Artículo

**DOI:**

<https://doi.org/10.1007/s004170100295>

**PALABRAS CLAVE:**

Adult. Animal experiment. Animal model. Animal tissue. Anisometropia.

**TEMAS:**

[R Medicina](#) > [RE Oftalmología](#)

**UNIDAD ACADÉMICA:**

[Universidad Católica de Córdoba](#) > [Facultad de Ciencias de la Salud](#)