



**Көз аурулары
ҚазҒЗИ**



Kazakh Eye Research Institute

Outcomes of vitreoretinal surgery for rhegmatogenous retinal detachment in adults

Akbala Dautaliyeva
PhD Al-Astal M.S.

The implantation of an intraocular lens (IOL) in cases of ocular hypotony with retinal detachment (RD) is a complex clinical challenge requiring an individualized approach.

Ocular hypotony, characterized by abnormally low intraocular pressure (IOP < 8 mmHg), can cause complications such as impaired blood circulation and vision loss.

RD involves the retina detaching from its supporting structures, potentially leading to vision loss.

The main goal of this study is analysis of refractive outcomes after phacovitrectomy for RD accompanied with ocular hypotony at Kazakh Eye Research Institute.

Materials and Methods

All available medical records of patients admitted in 2022 were analyzed.

Inclusion criteria:

- ocular hypotony (< 8 mmHg)
- patients subsequently had the silicone oil removed from the vitreous cavity
- consecutive follow-ups for 1 year with refractive error and visual outcomes

Results

Accordingly, out of available 3250 medical records, 9 patients (9 eyes) were included to the analysis:

2 male (22.2%) and 7 female (77.8%) with mean age 58.22 ± 9.07 years.

Parameters	RD eyes	Fellow eyes	P - value
Axial length (mm)	25.65 ± 1.86	25.91 ± 2.28	0.692
Anterior chamber (mm)	3.32 ± 0.55	3.35 ± 0.63	0.871
Lens thickness (mm)	4.16 ± 0.66	4.62 ± 0.44	0.361

Results

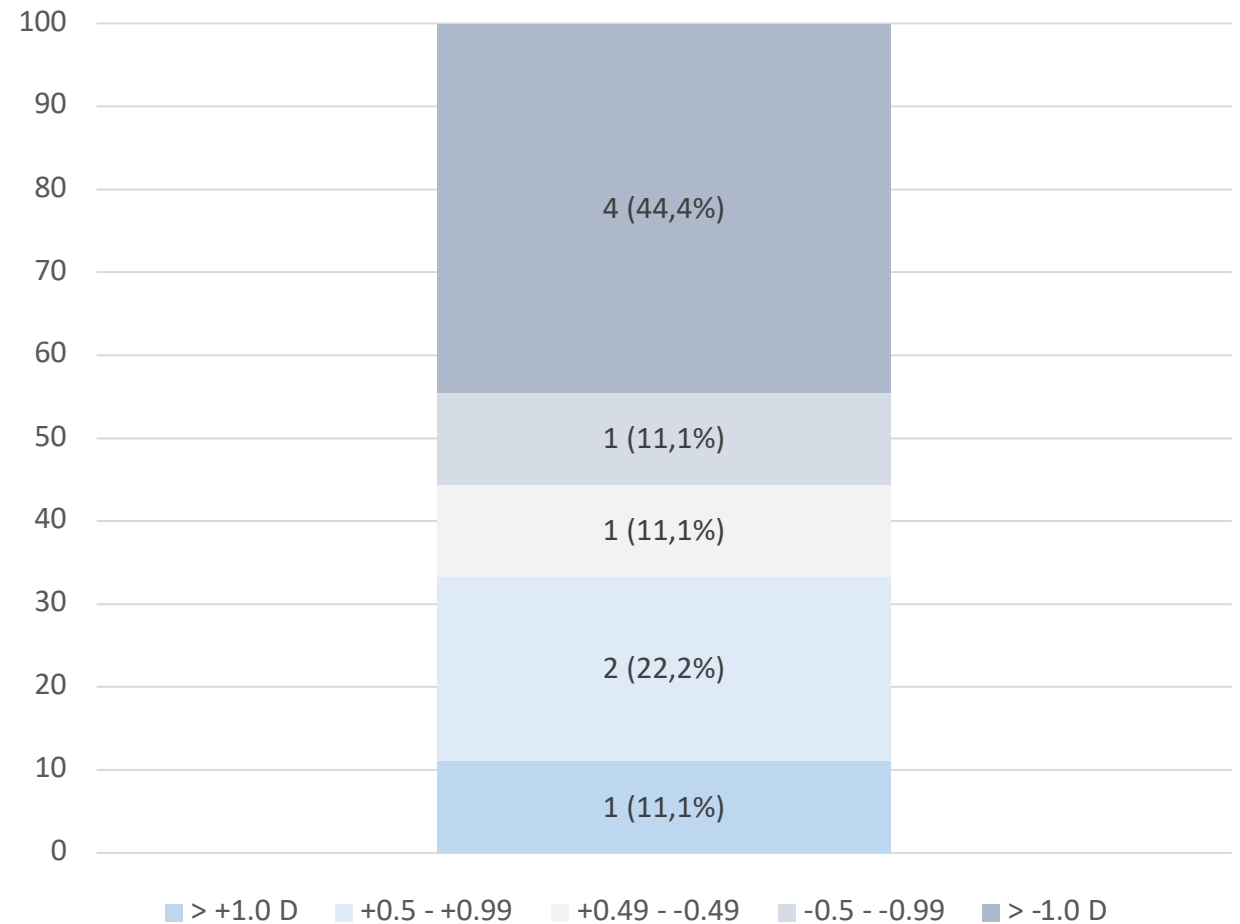
Parameters	RD eyes	Fellow eyes	P - value
BCVA	0.06 ± 0.1	0.58 ± 0.1	0.002*
SE preoperative (D)	-3.66 ± 2.86	-2.98 ± 5.06	0.163
Absolute (A)SE preoperative (D)	3.82 ± 2.61	4.91 ± 2.9	0.821
Cylinder (D)	1.28 ± 0.88	1.59 ± 1.02	0.049*
Keratometry mean (D)	43.01 ± 1.42	43.02 ± 1.56	0.989

Parameters	Preoperative data	Postoperative data	P - value
BCVA	0.06 ± 0.1	0.36 ± 0.26	0.017*
SE preoperative (D)	-3.66 ± 2.86	-1.96 ± 3.19	0.53
ASE preoperative (D)	3.82 ± 2.61	2.9 ± 2.25	0.358
Cylinder (D)	1.28 ± 0.88	1.32 ± 0.76	0.283
Keratometry mean (D)	43.01 ± 1.42	42.86 ± 1.63	0.805

Parameters	Data
Target refraction (D)	0.33 D \pm 1.0 D
Actual refraction (D)	2.9 D \pm 2.25 D
P - value	0.015*

> -1.0 D	4 (44.4%)
-0.5 - -0.99	1 (11.1%)
-0.49 - +0.49	1 (11.1%)
+0.5 - +0.99	2 (22.2%)
> +1.0 D	1 (11.1%)

Results



Limitations of the study

1. The study analyzed a relatively small sample size of 9 patients, which may limit the generalizability of the findings to a larger population with the follow-up period of one year may not capture long-term outcomes.
2. The study's retrospective nature may introduce biases related to data collection and patient selection, potentially affecting the accuracy of the results.
3. The absence of a control group limits the ability to compare outcomes directly with other treatment methods or standard care.

Summary

In conclusion, our study provides valuable insights into the refractive outcomes of phacovitrectomy in patients with retinal detachment and ocular hypotony. However, the residual refractive errors highlight the need for individualized patient management and further study.