

Supplementary Table 1: Tabulation of peri-operative characteristics and complications (as-treated set).
 Summary statistics either count (percentage), mean \pm SD, or median (25th to 75th percentile), contingent on distributional characteristics.

	20 G with EB (E1) (n=99) Summary statistics	Surgery 23/25 G (E2) (n=54) Summary statistics	20 G without EB (C) (n=102) Summary statistics
Peri-operative characteristics			
Time between symptoms and surgical repair (days †)	4 (2 to 7)	5 (2 to 8)	4 (2 to 7)
Duration (cut-suture) in min	63 (55 to 80)	38 (33 to 52)	47 (37 to 60)
Used endotamponade #			
SF6	80 (80.8%)	33 (61.6%)	76 (74.5%)
C2F6	9 (9.1%)	7 (13.0%)	14 (13.7%)
C3F8	8 (8.1%)	10 (18.5%)	10 (9.8%)
Silicone Oil 2000	0 (0.0%)	2 (3.7%)	1 (1.0%)
Silicone Oil 5000	2 (2.0%)	2 (3.7%)	1 (1.0%)
Endodrainage #			
Air	12 (12.1%)	5 (9.3%)	16 (15.7%)
Decalin	76 (76.8%)	45 (83.3%)	78 (76.5%)
Octalin	10 (10.1%)	4 (7.4%)	8 (7.8%)
F6H6	1 (1.0%)	0 (0.0%)	0 (0.0%)
Endolaser	43 (43.4%)	26 (48.1%)	51 (50.0%)
Exokryo	74 (74.7%)	38 (70.4%)	78 (76.5%)
Transscleral laser	1 (1.0%)	0 (0.0%)	1 (1.0%)
Endokryo	2 (2.0%)	3 (5.6%)	6 (5.9%)
Intra-operative complications			
Any intraoperative complications?	15 (15.2%)	7 (13.0%)	9 (8.8%)
iatrogenic Breaks‡*	6 (40.0%)	5 (71.4%)	0 (0.0%)
Intraocular hemorrhage anterior chamber	1 (6.7%)	0 (0.0%)	1 (11.1%)
Intraocular hemorrhage vitreous‡*	0 (0.0%)	0 (0.0%)	3 (33.3%)
Intraocular hemorrhage subretinal	1 (6.7%)	0 (0.0%)	0 (0.0%)
Expulsive hemorrhage	0 (0.0%)	0 (0.0%)	0 (0.0%)
Subretinal drainage fluids	0 (0.0%)	1 (14.3%)	0 (0.0%)
Scleral perforation during buckling	3 (20.0%)	0 (0.0%)	0 (0.0%)
Subretinal infusion	1 (6.7%)	1 (14.3%)	1 (11.1%)
Corneal edema (abrasion)	4 (26.7%)	0 (0.0%)	1 (11.1%)
IOL myst	3 (20.0%)	1 (14.3%)	1 (11.1%)
Sclerotomy insufficiency, leaking	0 (0.0%)	1 (14.3%)	0 (0.0%)
Other intraoperative complications	2 (13.3%)	3 (42.9%)	5 (55.6%)

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

† Percentage of missing data $\leq 1.0\%$; otherwise complete data

‡ From exact chi-square test for association (Iatrogenic breaks $p=0.01$, intraocular haemorrhage vitreous $p=0.03$)

Multiple answers possible

Supplementary Table 2: Tabulation of serious adverse events (as-treated set).

SAE category	E1 (n=99)		E2 (n=54)		C (n=102)	
	Events	Patients	Events	Patients	Events	Patients
	n	n (%)	n	n (%)	n	n (%)
Any SAE	37	30 (30.3%†*)	8	7 (13.0%†*)	33	23 (22.5%)
Anterior chamber haemorrhage	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Choroidal edema	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Decrease in visual acuity	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Glaucoma	0	0 (0.0%)	1	1 (1.9%)	0	0 (0.0%)
Insufficient retinal break treatment	0	0 (0.0%)	1	1 (1.9%)	0	0 (0.0%)
IOL dislocation	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Iris capture	1	1 (1.0%)	0	0 (0.0%)	2	1 (1.0%)
Macular edema	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Macular pucker	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Migraine	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Ocular hypertension	3	3 (3.0%)	0	0 (0.0%)	0	0 (0.0%)
OP due to heart failure	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Pain	2	2 (2.0%)	0	0 (0.0%)	0	0 (0.0%)
Pelvic fracture	0	0 (0.0%)	0	0 (0.0%)	2	1 (1.0%)
Reddening of the eye	1	1 (1.0%)	0	0 (0.0%)	0	0 (0.0%)
Renal colic	0	0 (0.0%)	0	0 (0.0%)	1	1 (1.0%)
Retinal folds	0	0 (0.0%)	1	1 (1.9%)	0	0 (0.0%)
Retinal redetachment	21	16 (16.2%)	5	4 (7.4%‡*)	26	21 (20.6%‡*)
Silicone oil	1	1 (1.0%)	0	0 (0.0%)	2	1 (1.0%)

† E1 vs. E2, $p=0.02$ from Fisher's exact test

‡ E2 vs. C, $p=0.04$ from Fisher's exact test

Supplementary Table 3: Evaluation of primary outcome, i.e. absence of indication for reattaching procedure (based on per-protocol set (PP)).

	E1	C	E1 vs. C	E2	C	E2 vs. C
	20 G vitrectomy with EB (n=90)	20 G vitrectomy without EB (n=84)	odds ratio (95% CI)	23/25 G vitrectomy without EB (n=48)	20 G vitrectomy without EB (n=49)	odds ratio (95% CI)
Absence of indication for reattaching procedure	73 (81.1%)	66 (78.6%)	1.07 [†] (0.48 to 2.38)	44 (91.7%)	42 (85.7%)	2.10 ^{†§} (0.51 to 8.61)
Additional vitrectomy	15 (16.7%)	17 (20.2%)	-	4 (8.3%)	6 (12.2%)	-
Additional buckle	1 (1.1%)	7 (8.3%)	-	3 (6.3%)	3 (6.1%)	-
Other procedure	5 (5.6%)	3 (3.6%)	-	0 (0.0%)	1 (2.0%)	-

[†]([‡]) Breslow-Day test of homogeneity of odds ratios over surgeons, $p=0.726(0.309)$

[§] Asymptotic p value for the test of the common odds ratio against 0.8 (non-inferiority bound): $p=0.182$.

Supplementary Table 4: Evaluation of secondary endpoints visual acuity, sphere and anatomical findings (based on per-protocol set (PP), mean \pm SD or count (percentage)).

Secondary endpoint	Group [†]	Baseline	Week 26	Difference	Paired t-test	ANCOVA [‡] , E1/2 vs. C mean difference, 95% CI
				week 26 - baseline	95% CI	
Visual acuity, logMAR	E1 (n=88)	1.1 \pm 0.7	0.3 \pm 0.4	-0.7 \pm 0.7	-0.9 to -0.6***	0.0 (-0.1 to 0.2)
	C (n=84)	1.0 \pm 0.7	0.3 \pm 0.4	-0.6 \pm 0.6	-0.8 to -0.5***	
	E2 (n=46)	1.0 \pm 0.6	0.3 \pm 0.4	-0.8 \pm 0.6	-1,0 to 0.6***	
	C (n=49)	1.0 \pm 0.7	0.3 \pm 0.3	-0.8 \pm 0.7	-1,0 to 0.6***	
Sphere, dioptre	E1 (n=88)	0.1 \pm 1.4	-1.0 \pm 1.6	-1.0 \pm 2.0	-1.4 to -0.6***	-0.8 (-1.2 to -0.3)***
	C (n=83)	-0.1 \pm 1.4	-0.2 \pm 1.8	-0.2 \pm 1.7	-0.6 to 0.2	
	E2 (n=46)	-0.2 \pm 1.3	-0.2 \pm 1.3	0.1 \pm 1.5	-0.4 to 0.4	
	C (n=49)	-0.2 \pm 1.4	-0.2 \pm 1.4	-0.0 \pm 1.2	-0.5 to 0.2	
						0.1 (-0.3 to 0.6), 0.579
						Exact Fisher test, week 26, E1/2 vs. C odds ratio, 95% CI
Retina fully attached	Group	Baseline	Week 26			
	E1 (n=89)	0 (0.0%)	86 (96.6%)			
	C (n=84)	0 (0.0%)	83 (98.8%)	0.4 (0.0 to 3.4)		
	E2 (n=48)	1 (2.1%)	47 (97.9%)			
Retina PVR grade C	C (n=49)	0 (0.0%)	48 (98.0%)	1.0 (0.1 to 16.1)		
	E1 (n=87)	0 (0.0%)	83 (95.4%)			
	C (n=82)	0 (0.0%)	81 (98.8%)	3.9 (0.4 to 35.7))		
	E2 (n=44)	1 (2.3%)	43 (97.7%)			
	C (n=47)	0 (0.0%)	46 (97.9%)	1.0 (0.1 to 17.6))		

Abbr.: ANCOVA 'analysis of covariance', C '20 G vitrectomy without EB', E1 '20 G vitrectomy with EB', E2 '23/25 G vitrectomy without EB'

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

‡ Adjusted for baseline value