

Long Term Follow up of Transscleral Cyclophotocoagulation for Treatment of Refractory Uveitic glaucoma

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Introduction

Cyclodiode laser has fallen out of favour for Uveitic glaucoma due to the potential for exacerbating inflammation in an already inflamed eye.^{1,2,3}

This increased risk of complications includes hypotony, with long-term rates reported up to 18.8%² as well as the development of band keratopathy and phthisis bulbi.^{1,2}

Aim

Primary Outcome: Assess Long term rates of hypotony, band keratopathy and phthisis bulbi

Secondary Outcome: Surgical Success, glaucoma re-operations, intraocular pressure(IOP), and further glaucoma procedures

Methodology

Design: Retrospective, Multi-surgeon, single-centre Study

Inclusion Criteria: All Cyclodiode laser performed on patients diagnosed with uveitis between 1/2/2013-1/1/2023.

Population: 25 eyes of 27 patients

Follow Up: Average Follow up(SD): 5.97 years (3.4)

Follow up Range: 0.53-10.8 years

9 eyes of 8 patients had previous cyclodiode laser

10 eyes of 9 patients had previous glaucoma operations.

Results

Baseline Characteristics

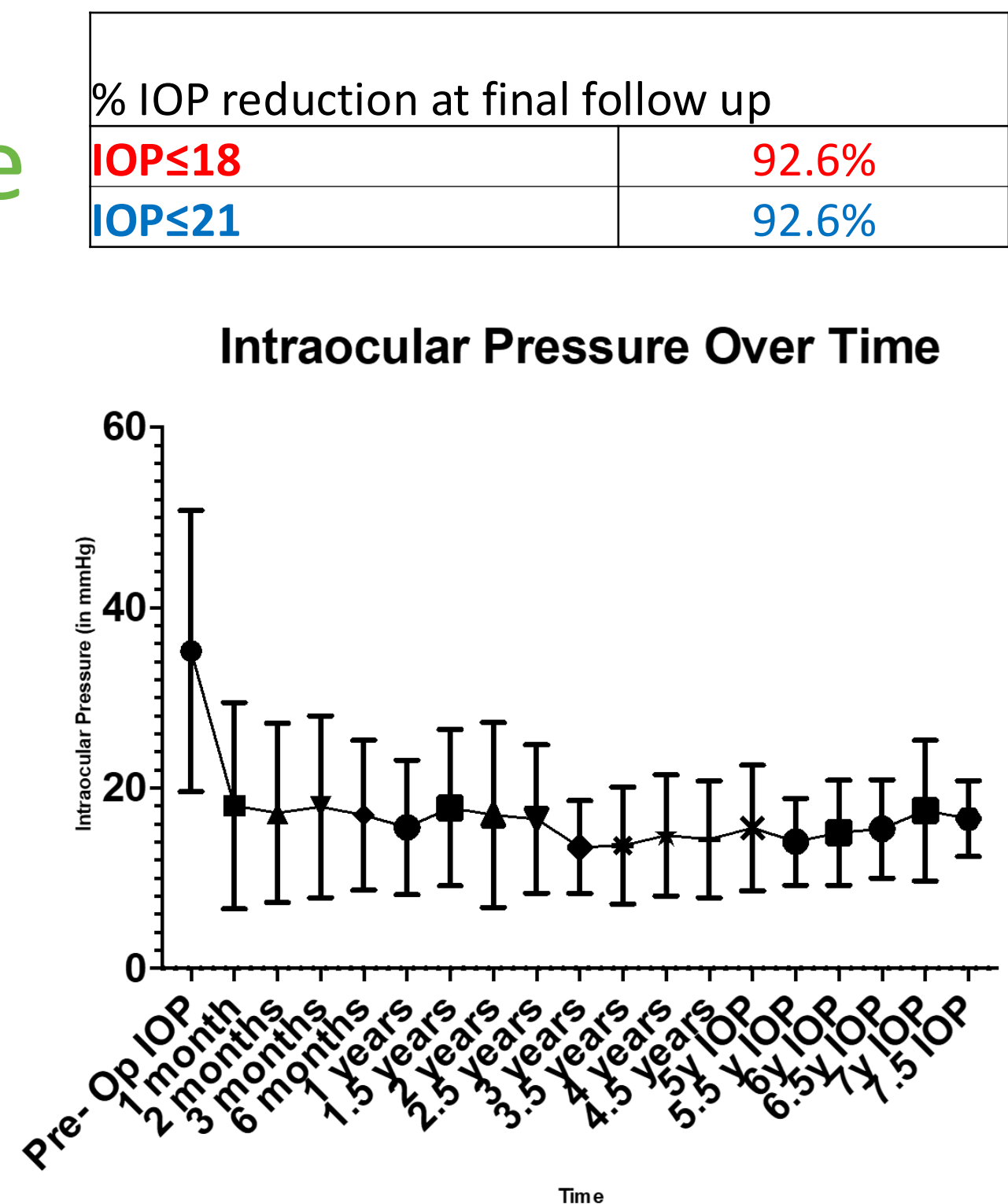
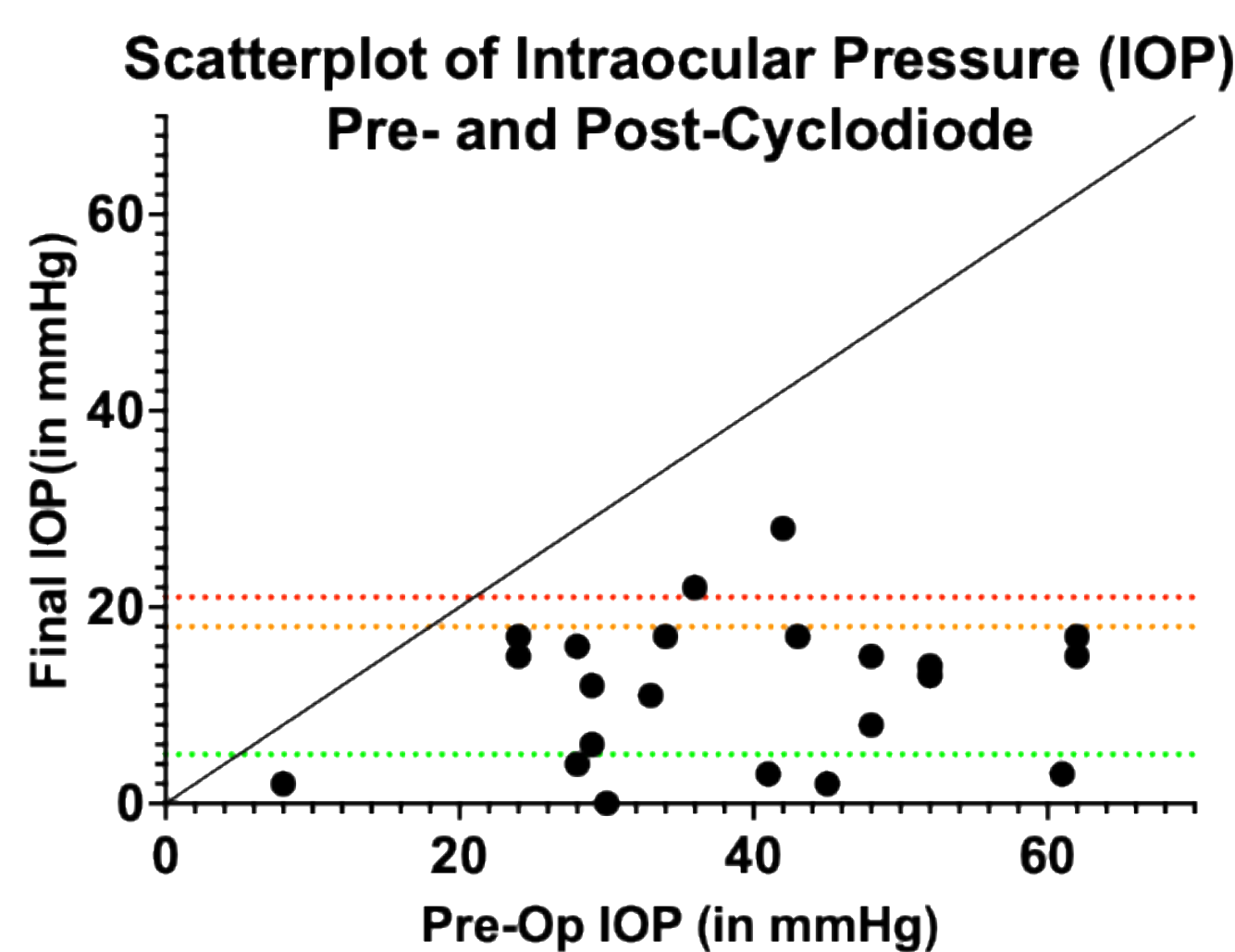
Patient characteristic	N (%)	Type of Uveitis (n=25 eyes)	N (%)
Eye laterality		Idiopathic Anterior Uveitis	9 (36.0)
Right Eye	13 (55.6)	Idiopathic Panuveitis	3 (12.0)
Left Eye	12 (44.4)	Herpes simplex Uveitis	3 (12.0)
Sex		Juvenile Idiopathic Arthritis (JIA)	2 (8.0)
Male	13 (56.5)	Fuchs heterochromic iridocyclitis	2 (8.0)
Female	10 (43.4)	Scleritis	1 (4.0)
Age (y)		Uveitis–Glaucoma–Hyphema (UGH) syndrome	1 (4.0)
Mean (SD)	49.7(±20.9)	Glaucomatocyclitic crises (Posner-Schlossman syndrome)	1 (4.0)
Median (Range)	54 (14-83)	Tuberculosis Granulomatous Uveitis	1 (4.0)
Ethnicity		Endogenous Endophthalmitis	1 (4.0)
Asian	5 (21.7)	Herpes Zoster Uveitis	1 (4.0)
Afro-Caribbean	8 (34.8)		
White	8 (34.8)		
Unknown/Unspecified	1 (4.4)		
Mixed	1 (4.4)		

Cyclodiode Energy Setting:

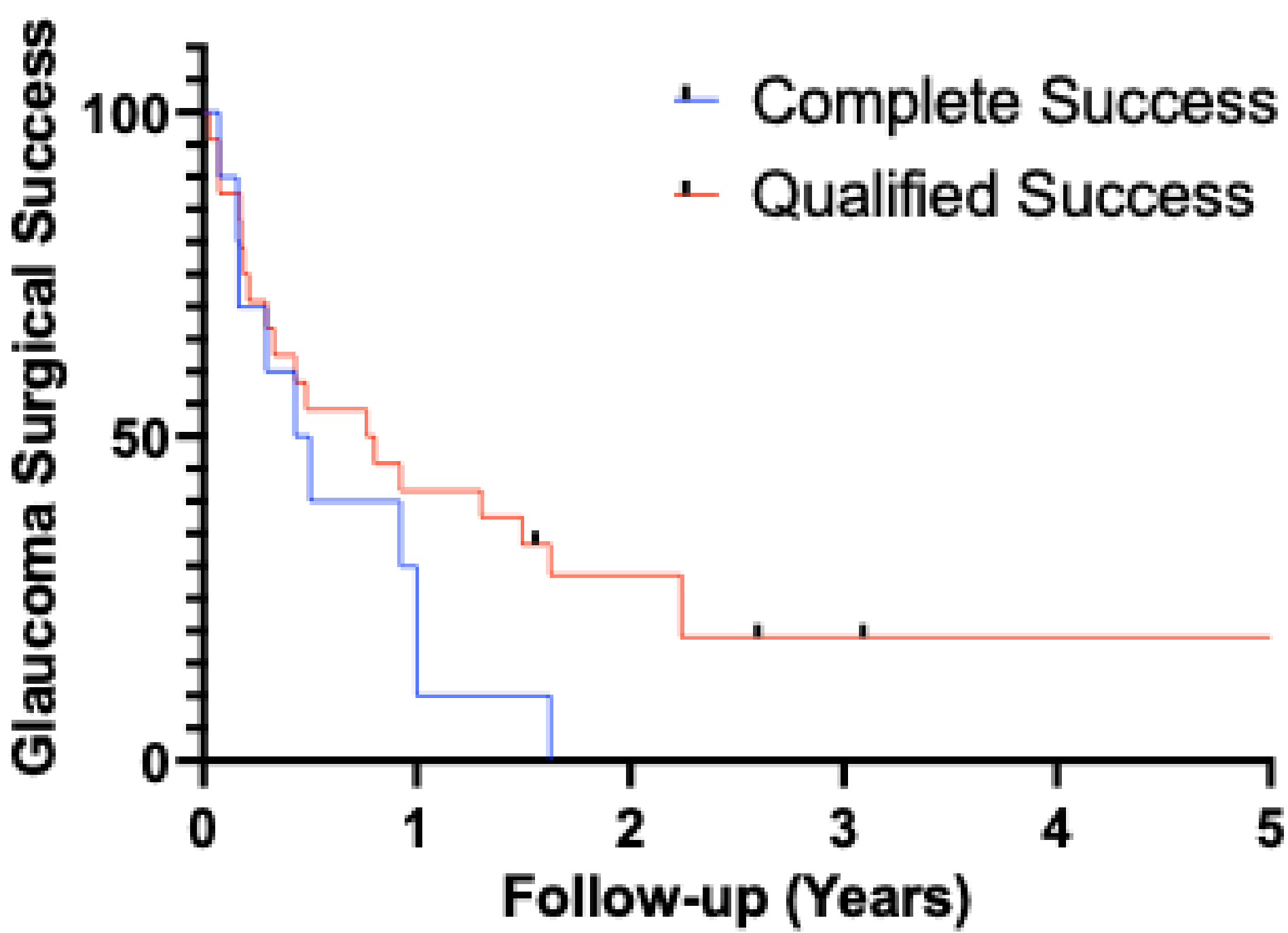
Range: 22.5-78.8 J

Average: 36.3 J (±15.8)

Intra-ocular Pressure



Surgical Success



Complete success occurred in 0% of cases

Qualified success occurred in 18.5% of cases

Failure

- Failure occurred in 81.6% of cases
- Average Time to Failure 11.0 months ± 8.7 months (Range: 0.33-26.9 months)
- 8 (29.6%) eyes required further Cyclodiode laser
- 9 (33.3%) eyes required further glaucoma procedures (not including cyclodiode)

Patient-level Characteristics (n=19) (%)	
Further Glaucoma Procedure:	9 (47.4)
Transscleral Cyclodiode	3
Baerveldt Tube	3
Phaco+ iStent	1
Trabeculotomy (GATT)	1
HIFU	1
Inadequate IOP Control: (IOP >21 mmHg on 2 consecutive visits after 3 months)	8 (42.1)
Hypotony: (≤IOP 5 on 2 consecutive visits after 3 months)	1 (5.3)
Severe Vision Threatening Complication (Evisceration)	1 (5.3)

Clinical Characteristics

Comparison of Baseline Characteristics of Patients Eyes (n=25) at Final Follow Up		
	Pre-Cyclodiode	On Final Follow-Up
Mean Number, N (SD)		
OCT RFNL	83.3 (±33.3)	67(±28.3)
IOP (in mmHg)	35.9(±15.7)	12.4(±8.0)
BCVA (in Logmar) (SD)	1.6 (±1.12)	1.98 (±1.67)
NOM- Number of Medications (SD)	3.88(±1.21)	1.70(±1.66)
CDR (SD)	0.75 (±0.18)	0.87 (±0.18)
Mean Visual Field, N (SD)		
MD	-16.8(±11.9)	-19.4(±11.9)
PSD	4.49(±2.87)	4.69(±3.06)
VFI	51.2 (±41.9)	40.6(±40.5)
Oral Carbonic Anhydrase Inhibitor, N %	13(±48.1)	1(±3.7)

Conclusion

- 5 eyes (20%) developed hypotony at some point following transscleral cyclodiode.
- 5 eyes (20%) eyes developed Band Keratopathy.
- 4 eyes (11.1%) became phthisical
- 1 eye required evisceration 2 weeks post-transscleral cyclodiode.
- 4 had CVI registration

References

