

Preserflo MicroShunt:

Post-Operative Outcomes in an Ethnically Diverse Population

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24

Patients
Enrolled

71.5

Mean Age
(years)

60%

Non-Caucasian
Ethnicity

70.8%

Type II
Diabetes

50%

Prior Glaucoma
Procedures

INTRODUCTION

The **Preserflo MicroShunt** is a minimally invasive device developed as a safer alternative to trabeculectomy.

Device Specifications

- 8.5 mm SIBS tube
- Poly(styrene-block-isobutylene-block-styrene) — biocompatible & inert
- Diverts aqueous humour → anterior chamber → subconjunctival bleb

Key Design Advantages

- Smaller incision vs trabeculectomy
- No scleral flap required
- Posterior bleb placement
- Reduced risk: leaks, infection, dysaesthesia

However, real-world outcomes vary across populations. Ethnicity, diabetes, and prior glaucoma surgery can affect wound healing and bleb fibrosis.

AIM

To evaluate the efficacy and safety of PreserFlo MicroShunt implantation in a diverse UK cohort with advanced glaucoma, and to compare local outcomes with those reported in large multicentre studies.

SUCCESS CRITERIA

Complete Success

IOP ≤ 21 mmHg with $\geq 20\%$ reduction from baseline, without medications or further surgery.

Qualified Success

Same IOP criteria, allowing medications but no further surgery.

METHODS

Setting & Period

Central Middlesex Hospital, London UK
July 2022 – August 2023

Patients

Adults with glaucoma of various aetiologies, eligible for surgical IOP control. All received PreserFlo MicroShunt with 0.4 mg/ml Mitomycin-C (MMC).

Baseline Data Collected

Age · Ethnicity · Diabetic status
Lens status · Previous glaucoma procedures

Follow-Up Timepoints

1 Day · 1 Week · 1 Month
3 Months · 6 Months · 12 Months

Parameters Analysed

- Intraocular pressure (IOP)
- Number of glaucoma medications
- Postoperative complications (bleb fibrosis, hypotony, IOP spikes, infection)
- Need for reintervention or further glaucoma surgery

COHORT DEMOGRAPHICS

67%

Primary Open-Angle
Glaucoma

54%

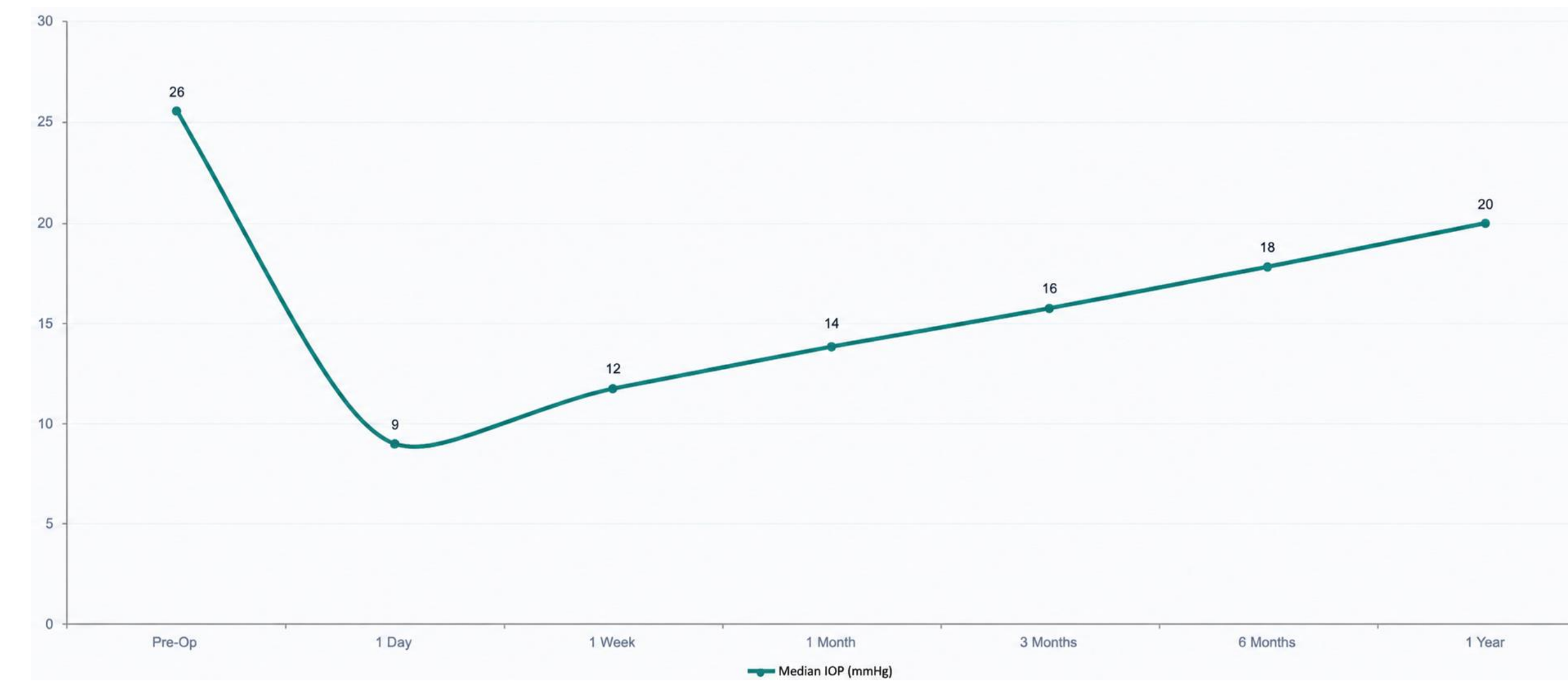
Pseudophakic
Eyes

~60%

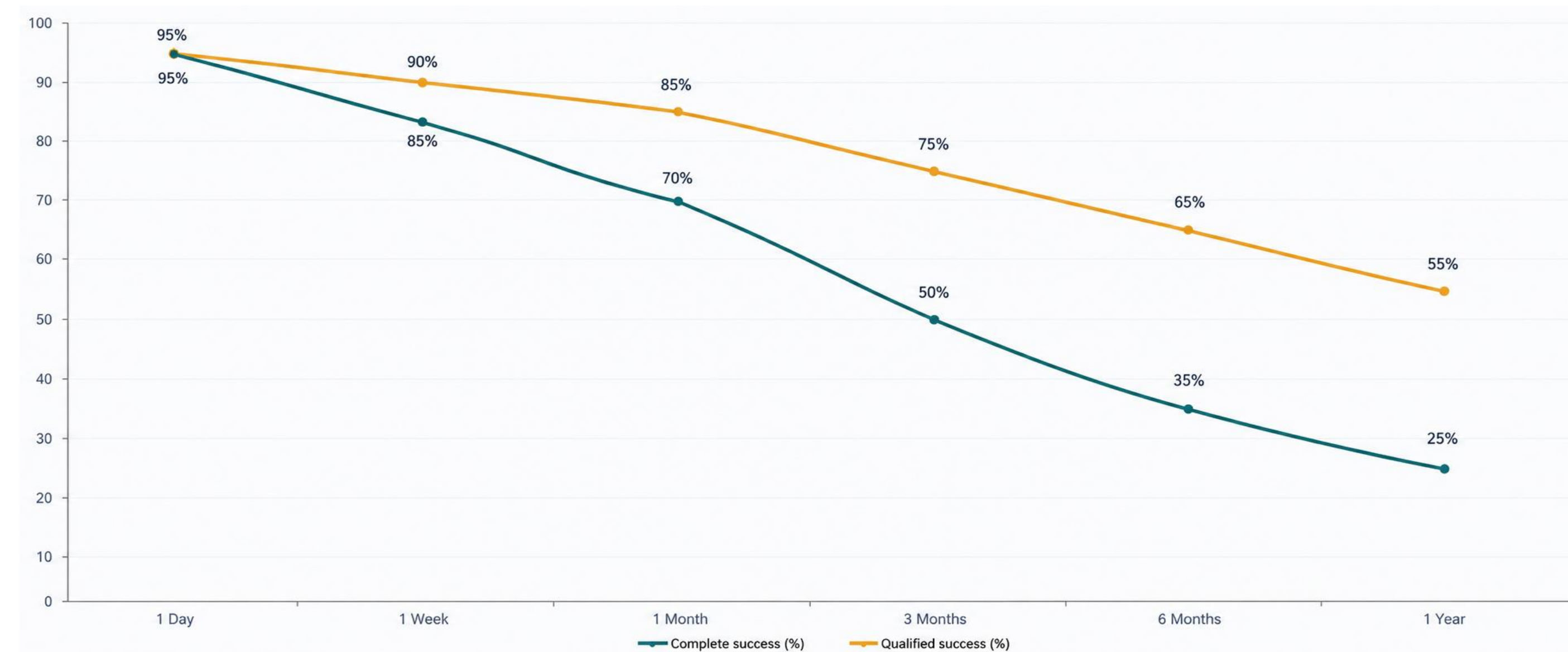
Non-Caucasian
Patients

RESULTS

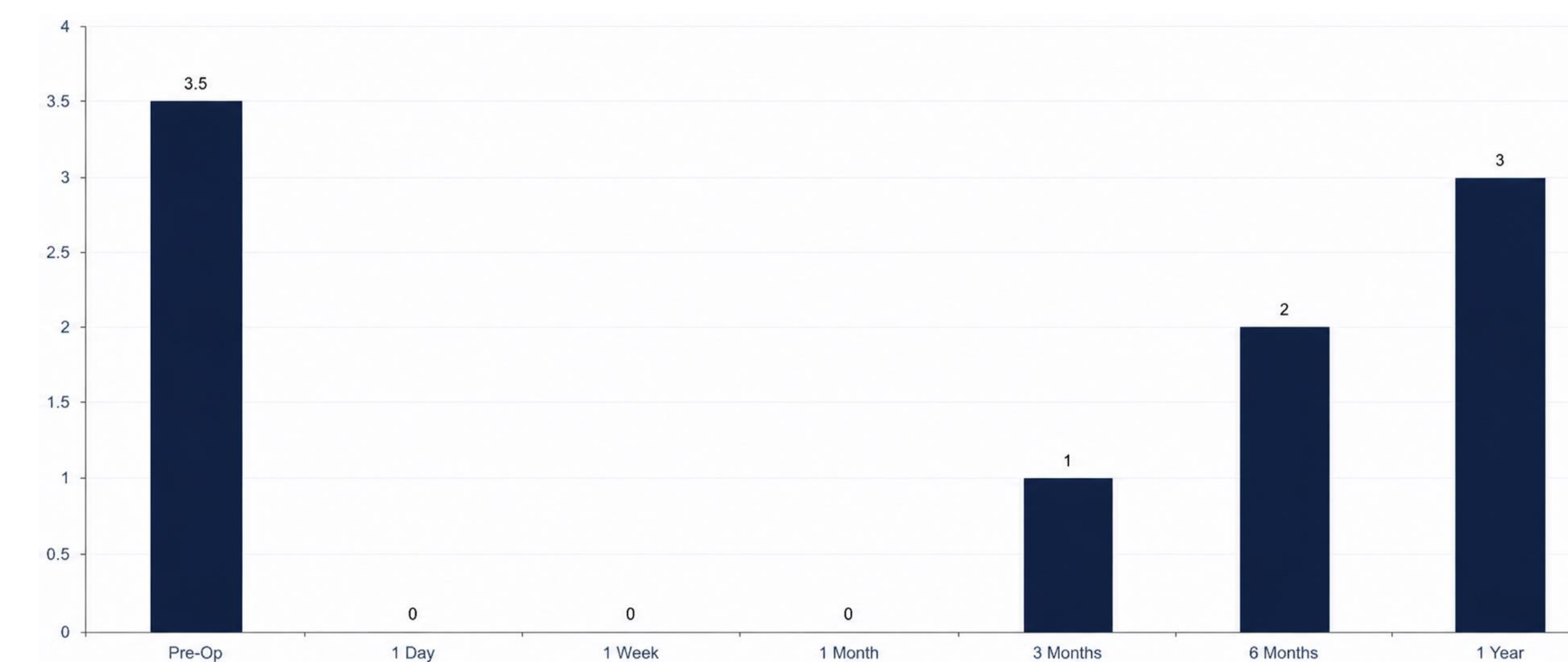
Median Intraocular Pressure (IOP) Over Time



Complete & Qualified Success Rates Over Time (%)



Median Number of Glaucoma Medications Over Time



COMPLICATIONS

38%

Bleb Fibrosis / Scarring

Most required needling or 5-FU

20.8%

IOP Spikes (>30 mmHg)

Managed conservatively

12.5%

Hypotony

1 case: anterior chamber reformation

1 pt

Corneal Decompensation

Vision loss — most severe event

CONCLUSIONS

- ✓ Substantial short-term IOP reduction achieved with PreserFlo MicroShunt.
- ✓ Long-term outcomes remain lower than pivotal RCTs and multicentre reports — patient complexity matters.
- ✓ Bleb fibrosis is the dominant failure mode, particularly in non-Caucasian patients.
- ✓ Tailored postoperative management is critical in ethnically diverse glaucoma populations.