

One Year Patient Outcomes for Trabecular Stent Bypass Micro-surgery Combined with Cataract Surgery

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Introduction

- Glaucoma is a multifactorial optic neuropathy which can be slowed by reducing the intra-ocular pressure (IOP) (1).
- One surgical option is the insertion of trabecular micro-bypass stents including iStent, which is often combined with cataract surgery to further reduce IOP (2).
- We present a retrospective analysis of the one-year patient outcomes of trabecular stent bypass microsurgery combined with cataract surgery with comparison to data used in the development of NICE guidance (3,4), with specific focus on treatment outcomes and safety data.

Methods: Retrospective analysis of patients that underwent cataract surgery and the insertion of two iStent inject W by an experienced surgeon over an 18-month period. Data was collected via online clinical notes. Primary outcome was IOP at 12 months, with secondary outcomes including change in medications, visual acuity, Humphrey visual fields and safety data.

Results:

- 24 eyes included. Average was 80 years, with 66.7% male and 33.3% female. The most common diagnosis was primary open angle glaucoma (58%).
- Average IOP pre-op was 18.1mmHg, at 6months 13.7mmHg and at 12 months 13mmHg (p-value 0.0001) (Figure 1).
- On average, patients were on 2.1 drops pre-procedure and 0.6 drops post-procedure, with a reduction of 1.5 per patient (Figure 2).
- 80% of patients were either on no drops (63%) or one drop (17%) at 1 year.
- 100% of patients had 6/12 or better at 1 year.
- There was stablisation in visual fields, with change from baseline of -0.34 and -0.12 for mean deviation (MD) and pattern standard deviation (PSD) respectively (pre-operative MD -4.99 and PSD 3.73, post-operative MD -4.65 and PSD 3.85).
- There were no intra-operative complications, and a post-operative complication rate of 4.2% (n=1, cystoid macular oedema). CMO diagnosed on OCT, patient asymptomatic and resolved without complication.
- Full patient outcome and safety outcomes can be seen in Figure 3.

Conclusion: After surgery, patients had better IOP control with an average reduction of 5.1mmHg with improved visual acuity as combined with cataract surgery and stabilisation of visual fields. 80% of patients were either on no drops (63%) or one agent (17%). It was a safe procedure with no complications resulting poor outcomes or return to theatre. Our outcomes were similar to or better than current research data.

Figure 1: Average IOP pre-op to 1-year post-op

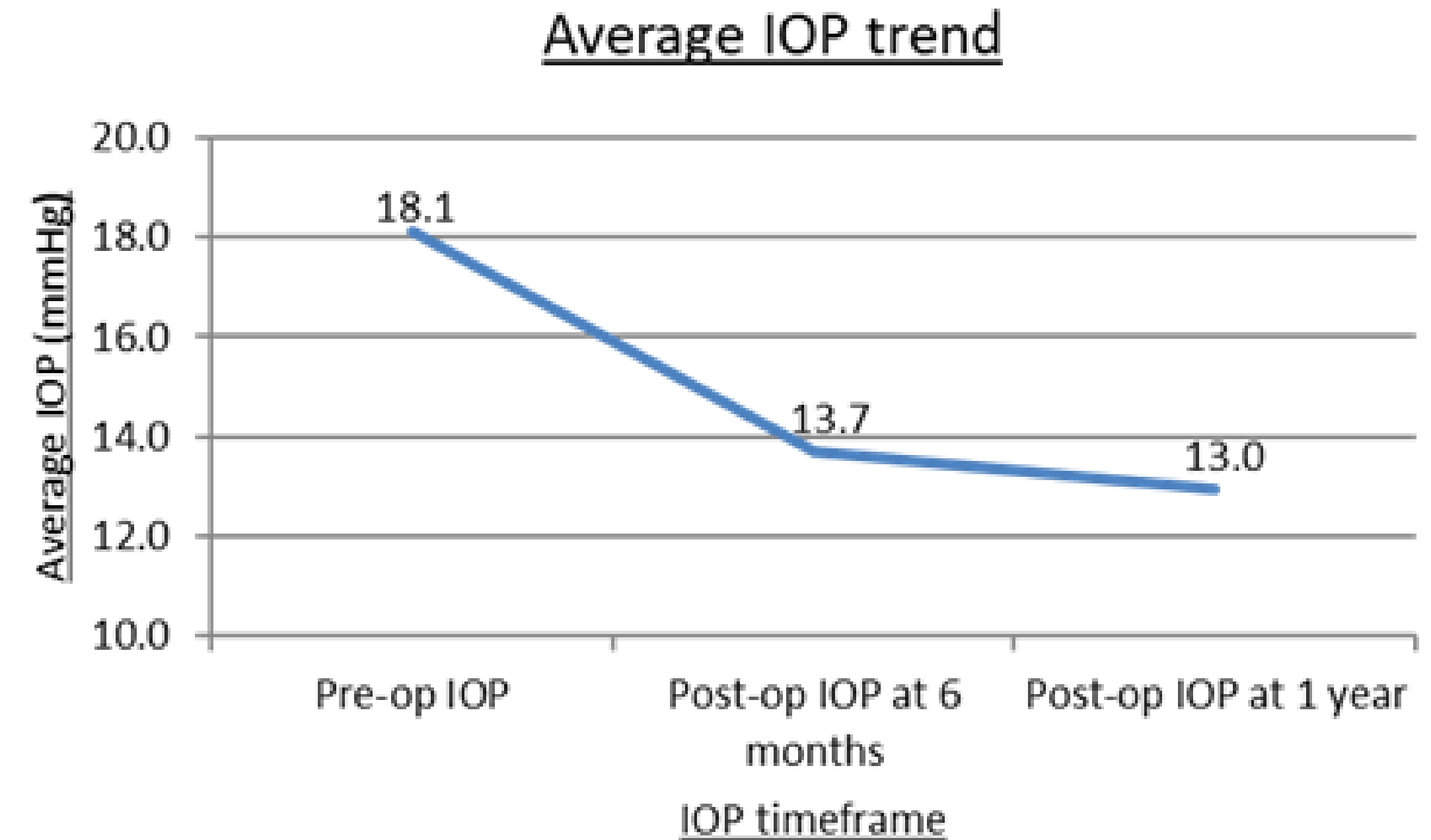


Figure 2: Medications per patient pre- and 1-year post-op.

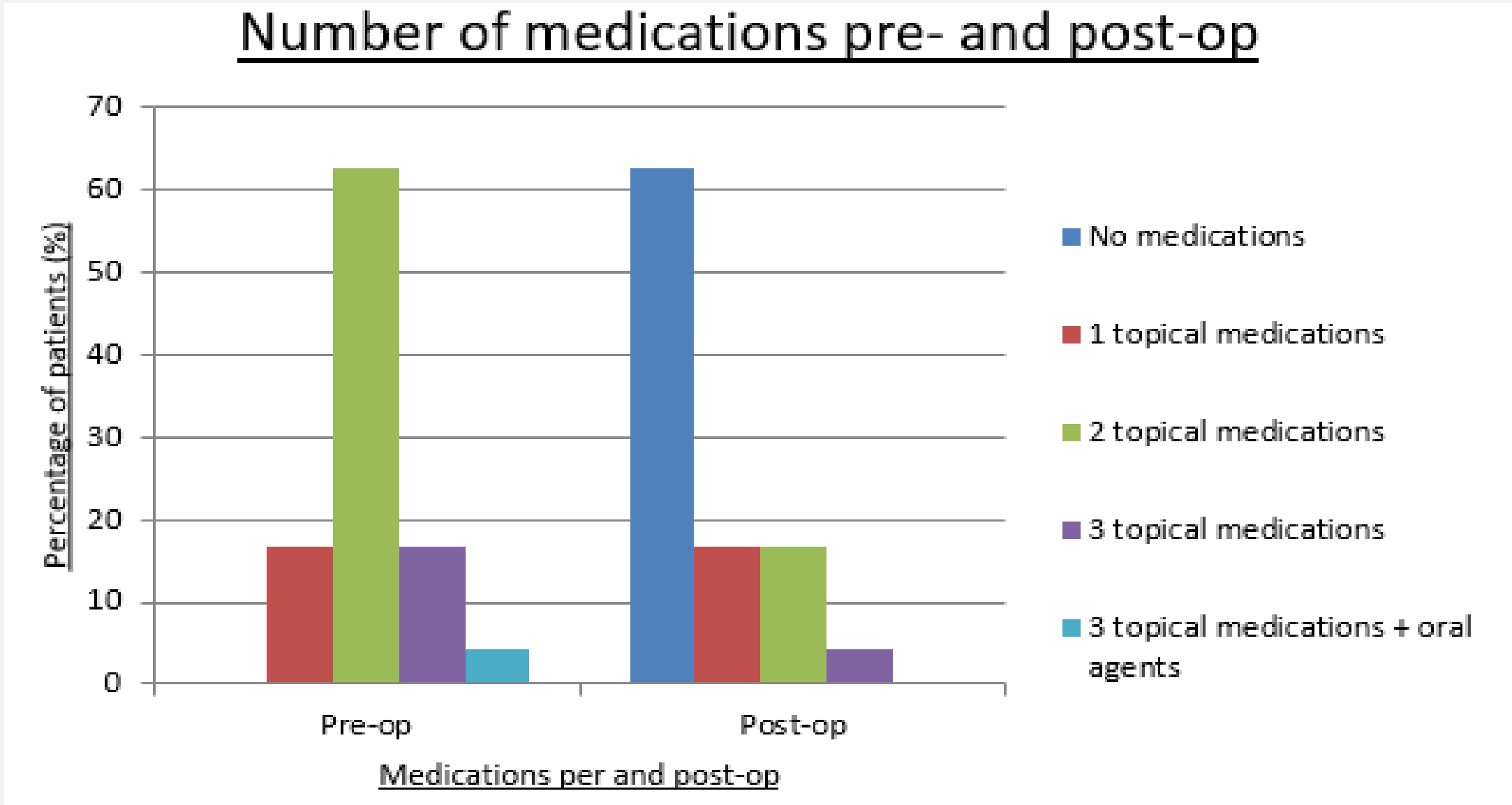


Figure 3: Summary of NICE and audit outcomes.

Outcome aims		Standard	Audit
Efficacy	Unmedicated IOP <21mmHg at end of follow up (5)	61%	63%
	Mean reduction in topical medications (6)	1.1 per patient	1.5 per patient
	Vision 6/12 or better 1-year post-procedure (7)	96%	100%
Safety	Severe loss of visual acuity (7)	0.4%	0%
	IOP spike (10mmHg more than baseline) (7)	4%	0%
	Cystoid macular oedema (6)	1%	4.2%
	Iritis (6)	1%	0%
	Stent malposition (6)	2-18%	0%
	Further surgery needed (including stent repositioning, removal, replacement and trabeculoplasty) (7)	4%	0%

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