I-Stent Inject Implantation Combined with Cataract Surgery-Four Year Results

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Purpose:

To evaluate the safety and effectiveness of a second-generation trabecular meshwork micro by-pass stent (i-Stent Inject) combined with cataract surgery in patients with mild to moderate glaucoma.

To compare our results with iStent inject Study Group[1] and investigate if i-Stent inject is:

Safe procedure

Effective procedure in terms of lowering IOP

Complication rate

Future of MIGS

Settings/Venue:

I-Stent inject implantation combined with cataract surgery were performed at the James Paget Hospitals, England over 4 years.

Methods:

This study is a retrospective evaluation of 30 eyes of 30 patients who underwent trabecular double i-Stent Inject implantation combined with phacoemulsification. The primary outcome measure was the intraocular pressure (IOP), success being defined as both an IOP<= 18 mmHg and <=21mmHg and 20% reduction from preoperative baseline up to four years after the surgery. Safety was assessed by the incidence of complications.

Picture Courtesy-Glaukos Corporation,San Clemente ,CA

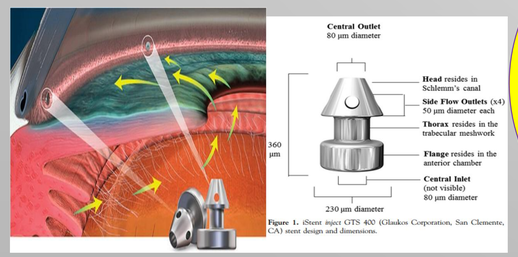


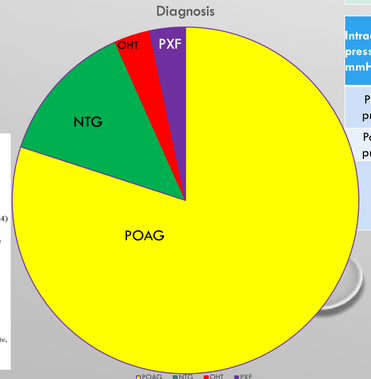
Figure 1. iStent inject GTS 400 (Glaukos Corporation, San Clemente, CA) stent design and dimensions.

Results:

Mean Age (years)
76.8

Outcome of Success	JPUH 2023(N=30)
IOP <21 mm Hg + 20 % REDUCTION OF PRE-OP IOP WITHOUT IOP LOWERING MEDICATIONS(COMPLETE SUCCESS)	-
IOP <21 mm Hg and 20 % REDUCTION OF PRE-OPERATIVE IOP OVERALL (QUALIFIED SUCCESS)	70%
IOP < 18 mm Hg AND 20% REDUCTION OF PRE-OP IOP WITHOUT IOP LOWERING MEDICATIONS	-
IOP < 18 mm Hg AND 20% REDUCTION OF PRE-OPERATIVE IOP OVERALL (including medications)	69%
FINAL IOP LESS THEN 2/3 PRE-OPERATIVE IOP	46%

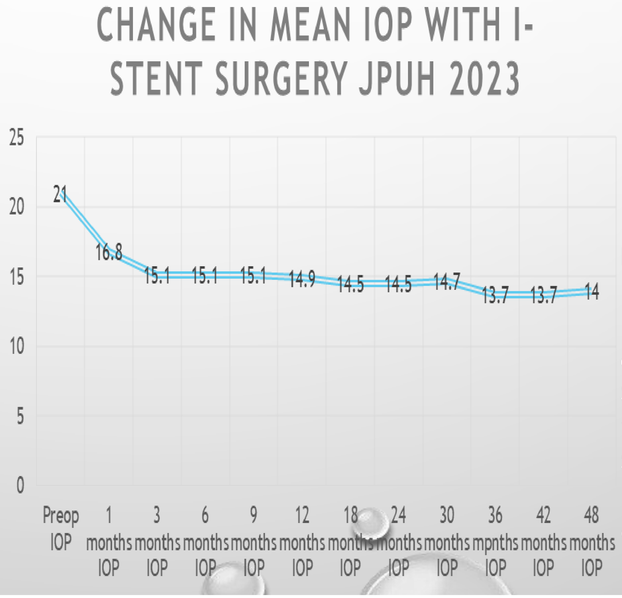
Intraocular pressure mmHg	I-STENT STUDY GROUP	JPUH 2023 (N=30)
Pre-Op pressure	24.8	21
Post-Op pressure	17.8	14
	* Unmedicated diurnal IOP	*Medicated IOP

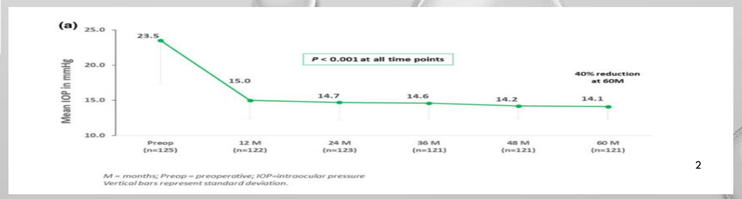


ANAESTHETICS	JPUH 2023 (N=30)
SUB-TENON	29
GENERAL	1

MANAGEMENT	JPUH 2023 (N=30)
AAU	3
CMO	1
STEROID RESPONSE	3
Single ISTENT injection	3

GLAUCOMA MEDICATION JPUH (30)	2023
N pre Op drops	2.4
N post Op drops	2.5





Results:

The mean preoperative IOP was 21 mmHg. Post-operatively, the mean IOP had reduced to 14 mmHg (P<0.005). The number of ocular hypotensive medications remained unchanged. The success rate was 70%, with all the patients displaying a significant reduction of IOP. There were no causes of hyphaema, hypotony, endophthalmitis, or choroidal detachment. One eye developed cystoid macular oedema, which resolved in four weeks time with topical treatment.

Conclusions: From our clinical experience trabecular i-Stent inject implantation combined with cataract surgery appears to be effective at reducing IOP whilst carrying an exceptional safety profile.

References

1. (Prospective, Randomized, Controlled Pivotal Trial of an Ab Interno Implanted Trabecular Micro-Bypass in Primary Open-Angle Glaucoma and Cataract: Two-Year Results Thomas W Samuelson 1, Steven R Sarkisian Jr 2, David M Lubeck 3, Michael C Stiles 4, Yi-Jing)
2. (iStent inject Trabecular Micro-Bypass with or Without Cataract Surgery Yields Sustained 5-Year Glaucoma Control Fritz H. Hengerer, 1,2 Gerd U. Auffarth,2 and Ina Conrad-Hengerer corresponding author2)