A COMPARISON STUDY ON MINIMALLY INVASIVE GLAUCOMA SURGERY(MIGS):
GONIOSCOPY-ASSISTED TRANSLUMINAL TRABECULOTOMY(GATT) Vs ISTENT

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Introduction

MIGS procedures are glaucoma operations performed ab-interno and they are considered safer than incisional glaucoma surgery. We compared the efficacy and safety of two bleb independent procedures.
1 GATT is a 360 degree circumferential trabeculotomy – performed cleaving the trabecular meshwork (TM) with a suture or cannula inserted into Schlemm's canal; first described by Grover et al.

2 The iStent is a heparin-coated titanium device that is inserted into Schlemm's canal bypassing the TM.

Methods

A retrospective review of 30 eyes that underwent GATT (18 combined and 12 solo) and 130 eyes that had Istent implantation (123 combined with phaco and 7 had solo).
The patient's demographic and clinical findings at listing for operation are summarised in table 1 and Graph 7.
Outcome measures: Reduction of IOP and the number of medications, complications and need of further interventions.
Statistical calculation with GraphPad.

patients	GATT	iStent
age	72 ys (range 54-91)	73 ys (range 34-85)
Mean Deviation	-11.38 dB (SD±8.63)	-5.62 dB (SD±7.94)
IOP	17.5mmHg (SD ±6.1)	18.85 mmHg (SD ±5.49)
No of medications	2.07 (SD ±1.11)	1.14 (SD ±0.99)

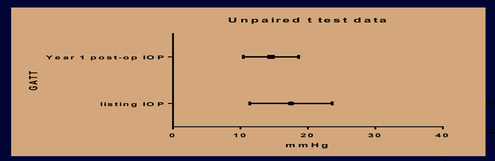
Table 1

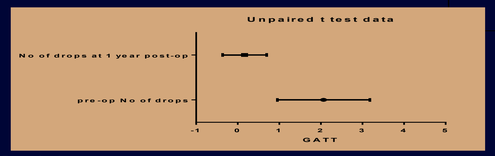
Results

Average listing IOP in GATT eyes of 17.5mmHg (±6.11) on 2.07 (±1.1) medications was reduced to 14.54mmHg (±4.07) on 0.17 (±0.53) eye drops at 12 months. Graph 1.
While in the iStent eyes 18.85mmHg (±5.49) listing IOP on 1.1 (±0.97) drops was reduced to 14.41mmHg (±4.2) on 0.42 (±0.82) medications at 1 year (Graph 2) and that was maintained at 15.17mmHg (±3.86) at 4 years follow-up.
Complications and further interventions are shown in table 2 and Graph 4.
No vision-threatening complications occurred.

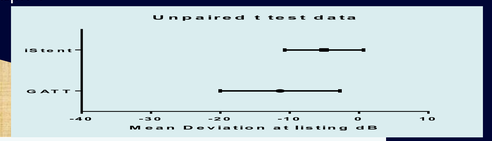
complications and interventions	GATT	iStent
aborted procedure	1	1
hyphaema	8	2
A/C washout	3	0
A/C tap	4	14
stent reposition	0	1
de novo surgery in 1 year	0	2
back to drops in 1 year	5	31

Table 2

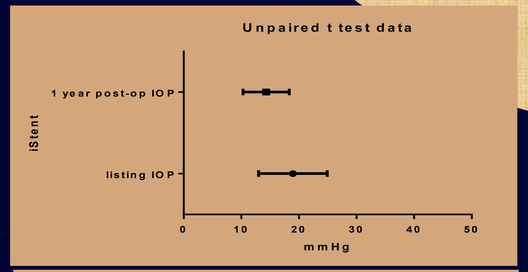


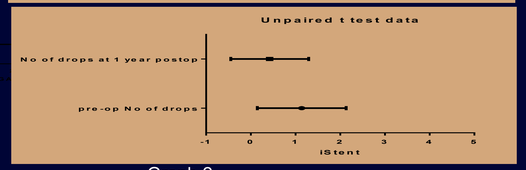


Graph 1

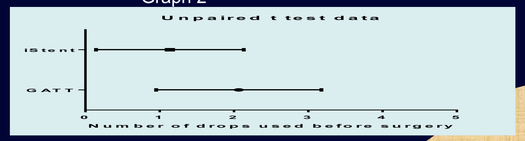


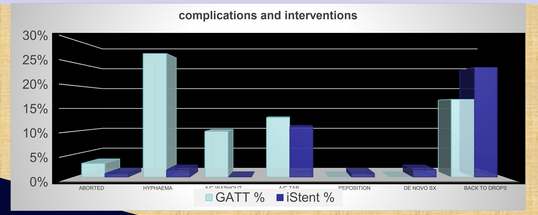
Graph 4

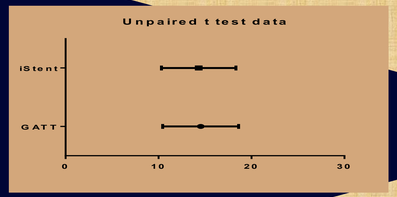




Graph 2



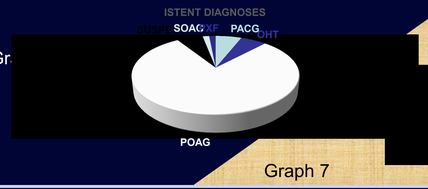




Graph 3

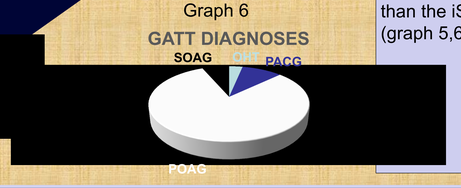
Discussion

GATT and iStent were both similarly effective in lowering the intraocular pressure (Graph 3) with a favourable safety profile. GATT was more efficient to reduce the medication burden as the cohort was treated with more medication before surgery than the iStent group due to their more advanced glaucoma (graph 5,6).



Graph 7

Graph 6



Conclusion

We recommend considering gonioscopy assisted transluminal trabeculotomy (GATT) in patients with moderate glaucoma where iStent implantation is not recommended if avoiding bleb formation is a priority.