

**Supplemental Table 1: Details of previous ocular surgeries in the study groups**

Surgery	AADI (n=56)		AGV (n=70)	
	Freq	%	Freq	%
Lens aspiration	13	23.2	37	52.9
Transscleral cyclophotocoagulation (TSCPC)	13	23.2	29	41.4
Trabeculectomy	11	19.6	21	30
Deep sclerectomy	17	30.4	12	17.1
Pars plana vitrectomy (PPV)	7	12.5	12	17.1
Corneal graft	3	5.4	6	8.6
AGV	18	32.1	5	7.1
Primary repair	3	5.4	5	7.1
Endoscopic cyclophotocoagulation (ECP)	1	1.8	5	7.1
Combined trabeculotomy and trabeculectomy	6	10.7	2	2.9
Repeat trabeculectomy	2	3.6	2	2.9
Bearveldt glaucoma Implant (BGI)	3	5.4	1	1.4
Previous tube surgery unspecified	0	0	1	1.4
AADI	1	1.8	0	0
Other	12	21.4	9	12.9
None	4	7.1	0	0

Abbreviations: AADI, Aurolab Aqueous Drainage Implant; AGV, Ahmed Glaucoma Valve.

**Supplemental Table 2: Mixed effect models of treatment effect on intraocular pressure. IOP over time.**

IOP	Model 1				Model 2*			
	Coef.	LCI	UCI	P	Coef.	LCI	UCI	P
Time since surgery(months)	-2.22	-2.69	-1.75	<0.001	-2.22	-2.69	-1.75	<0.001
Time since surgery(months) <sup>2</sup>	0.09	0.06	0.12	<0.001	0.09	0.06	0.12	<0.001
Treatment group								
AGV	-1.79	-3.73	0.14	0.069	-2.16	-4.21	-0.11	0.039
<i>Treatment group * Time since surgery(months)</i>								
AGV	0.71	0.13	1.29	0.016	0.71	0.13	1.28	0.017
<i>Treatment group * Time since surgery(months)<sup>2</sup></i>								
AGV	-0.03	-0.06	0.00	0.051	-0.03	-0.06	0.00	0.053

\*Adjusted for age, gender, glaucoma type, number of previous surgeries, lens status and prior tube surgery.

**Supplemental Table 3: Mixed effect models of treatment effect on AGM over time.**

AGM	Model 1				Model 2*			
	Coef.	LCI	UCI	P	Coef.	LCI	UCI	P
Time since surgery(months)	-0.23	-0.30	-0.16	<0.001	-0.23	-0.30	-0.15	<0.001
Time since surgery(months) <sup>2</sup>	0.007	0.003	0.012	<0.001	0.007	0.003	0.012	<0.001
Treatment group								
AGV	-0.43	-0.77	-0.09	0.014	-0.52	-0.88	-0.16	0.005
<i>Treatment group * Time since surgery(months)</i>								
AGV	0.16	0.07	0.26	<0.001	0.17	0.07	0.26	<0.001
<i>Treatment group * Time since surgery(months)<sup>2</sup></i>								
AGV	-0.005	-0.01	0.0003	0.066	-0.005	-0.010	0.0002	0.062

\*Adjusted for age, gender, glaucoma type, number of previous surgeries, lens status and prior tube surgery

**Supplemental Figure 1:** Predicted (A) IOP and (B) antiglaucoma medications (AGM) with 95% CI by treatment and time since surgery, adjusted for age, gender, glaucoma type, number of previous surgeries, lens status and prior tube surgery.

