

**Effects of aqueous suppressants and prostaglandin analogues
on early wound healing after glaucoma implant surgery**

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-Supplementary files-

Supplementary table S1

Supplementary table S2

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Supplementary table S1. Intraocular pressure in non-operated eyes and in operated eyes

		Control	Aqueous suppressant	Prostaglandin analogue	P value*
Non-operated eyes	Before treatment	8.7±1.5	8.6±1.7	9.1±1.2	0.670
	After treatment	8.7±1.5	8.0±1.8	8.9±0.5	0.545
Glaucoma drainage device implantation	Preoperative	9.1±1.7	8.6±1.7	9.2±1.2	0.727
	Postoperative 2 weeks	6.7±1.9	6.5±2.2	8.6±1.4	0.200
	Postoperative 4 weeks	9.9±1.3	5.9±0.9	10.7±1.6	0.001

Data are expressed as the means ± SD.

* Statistically significant differences (P<0.05) assessed by an ANOVA test

Supplementary table S2. Cytokine levels in aqueous humor in non-operated eyes

Cytokine (pg/ml)	Control	Aqueous suppressant	Prostaglandin analogue	P value
TGF β -1	8.1 $\pm$ 5.1	5.2 $\pm$ 4.6	3.2 $\pm$ 5.0	0.296
TGF β -2	648.7 $\pm$ 201.4	571.5 $\pm$ 267.2	637.9 $\pm$ 286.2	0.861
TGF β -3	12.5 $\pm$ 5.2	8.3 $\pm$ 2.8	9.4 $\pm$ 5.1	0.317
IL-2	15.9 $\pm$ 11.9	10.3 $\pm$ 5.3	8.3 $\pm$ 0.4	0.224
IL-6	1.9 $\pm$ 0.1	1.9 $\pm$ 0.2	2.1 $\pm$ 0.1	0.055
MCP1	22.6 $\pm$ 2.5	23.2 $\pm$ 3.5	23.2 $\pm$ 3.9	0.949
VEGF	14.5 $\pm$ 5.3	16.2 $\pm$ 3.3	12.3 $\pm$ 2.0	0.217

Data are expressed as the means $\pm$ SD.

IL, interleukin; MCP, macrophage chemotactic protein; TGF, Transforming growth factor; VEGF, vascular endothelial growth factor

* Statistically significant *differences* ($P<0.05$) assessed by an ANOVA test

Supplementary table S3. Cytokine levels of Tenon's tissue in non-operated eyes.

Cytokine (pg/ml)	Control	Aqueous suppressant	Prostaglandin analogue	P value	Post hoc
TGF β -1	66.5 $\pm$ 26.0	34.2 $\pm$ 26.2	93.7 $\pm$ 58.5	0.063	
TGF β -2	173.0 $\pm$ 163.1	129.2 $\pm$ 124.6	101.6 $\pm$ 55.2	0.607	
TGF β -3	7.2 $\pm$ 6.7	4.3 $\pm$ 5.5	3.4 $\pm$ 4.1	0.483	
IL-2	18.4 $\pm$ 15.4	31.9 $\pm$ 22.6	57.8 $\pm$ 15.0	0.006	Control or Aqueous suppressant <Travoprost
IL-6	2.7 $\pm$ 0.5	2.7 $\pm$ 0.3	2.5 $\pm$ 0.4	0.654	
MCP1	33.6 $\pm$ 4.6	33.4 $\pm$ 1.6	28.9 $\pm$ 4.0	0.066	
VEGF	20.7 $\pm$ 11.0	18.5 $\pm$ 8.1	19.0 $\pm$ 9.3	0.916	
MMP3	4.7 $\pm$ 1.7	5.1 $\pm$ 2.0	4.9 $\pm$ 1.5	0.922	
MMP9	21.6 $\pm$ 9.7	21.7 $\pm$ 8.5	26.0 $\pm$ 9.2	0.677	
TIMP2	380.8 $\pm$ 184.6	442.1 $\pm$ 106.0	450.2 $\pm$ 141.4	0.679	
TIMP4	23.3 $\pm$ 1.8	24.3 $\pm$ 2.9	24.7 $\pm$ 3.2	0.657	

Data are expressed as the means $\pm$ SD.

IL, interleukin; MCP, macrophage chemotactic protein; MMP, matrix metalloproteinase; TGF, Transforming growth factor; TIMP, tissue inhibitor of metalloproteinase; VEGF, vascular endothelial growth factor

* Statistically significant *differences* ($P < 0.05$) assessed by an ANOVA test

Supplementary table S4. Histologic analysis of capsules surrounding the endplate using haematoxylin and eosin (H&E) staining.

		Control	Aqueous suppressant	Prostaglandin analogue	P value
Cellularity (number/mm ²)	Postoperative 2 weeks	6670.0±2094.3	5568.6±1914.6	6150.0±1143.7	0.556
	Postoperative 4 weeks	3690.0±472.5	3710.0±619.9	4044.3±813.1	0.631
Number of foreign body giant cells per slide	Postoperative 2 weeks	1.0±0.9	0.9±1.1	0.3±0.5	0.254
	Postoperative 4 weeks	0.5±0.5	1.0±1.7	0.9±0.3	0.716

Data are expressed as the means ± SD.

* Statistically significant *differences* (P<0.05) assessed by an ANOVA test

Supplementary table S5. Mean height of the inner fibrous capsule stained by Masson trichrome staining at postoperative 4 weeks

	Control	Aqueous suppressant	Prostaglandin analogue	P value	Post hoc
Mean height of the inner fibrous capsule (μm)	364.0±74.6	282.7±34.0	382.1±42.2	0.013	Aqueous suppressant< Control or Travoprost

Data are expressed as the means ± SD.

* Statistically significant *differences* (P<0.05) assessed by an ANOVA test

Supplementary table S6. Analysis of anti α -smooth muscle actin (SMA) immunohistochemical staining in the bleb

Mean length of anti- anti α -smooth muscle actin (SMA) positive bleb (μm)	Control	Aqueous suppressant	Prostaglandin analogue	P value	Post hoc	
Postoperative 2 weeks	316.9 $\pm$ 63.9	359.4 $\pm$ 71.6	370.6 $\pm$ 87.5	0.100		
Postoperative 4 weeks	267.6 $\pm$ 64.3	220.9 $\pm$ 28.2	274.3 $\pm$ 31.7	0.001	Aqueous suppressant Control prostaglandin analogue	< or

Data are expressed as the means $\pm$ SD.

* Statistically significant *differences* ($P < 0.05$) assessed by an ANOVA test