

EVALUATION OF FACTORS INFLUENCING THE EFFICACY OF NON - PENETRATING DEEP SCLERECTOMY IN OPEN ANGLE GLAUCOMA PATIENTS 2 YEARS FOLLOW UP

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INTRODUCTION

The standard surgical approach of unresponsive open angle glaucoma (OAG) has been classic trabeculectomy (CT). Non-penetrating deep sclerectomy (NPDS) is an alternative surgery in which a controlled filtration process is observed as a result of removing the inner wall of Schlemm's canal and juxta - canalicular trabecular meshwork where maximum flow resistance occurs. Our aim was to determine the influence of some of the factors associated with efficacy of NPDS.

AIM OF THE WORK

To assess the influence of various preoperative, intraoperative and postoperative factors on the outcome of non-penetrating deep sclerectomy for Open Angle Glaucoma after a follow up of at least 2 years.

SUBJECTS AND METHODS

This was a single arm retrospective study undertaken at Alexandria university in Egypt. Patients with open angle glaucoma who underwent NPDS with a minimum of 2year period of follow up were selected and the following variables were tested with a success criteria IOP of 12mmhg; age, preoperative and postoperative intraocular pressure (IOP), preoperative and postoperative number of medication, lens status (phakic or aphakic), history of other surgeries, intraoperative and postoperative complications, intraoperative and postoperative interventions and other glaucoma surgeries.

RESULTS

Table 1: Univariate and multivariate Logistic regression analysis for different parameters affecting for Success or failure (n =30)

	Univariate		#Multivariate	
	p	OR (95% C.I)	p	OR (95% C.I)
Age in years (>40)	0.261	2.500 (0.506–12.351)		
Lens status (Phakic)	0.292	2.625 (0.437–15.777)		
Preoperative IOP	0.036*	0.796 (0.643–0.985)	0.045*	0.673 (0.457–0.991)
Postoperative IOP	0.995	73409687.19 (0.0–)		
Difference IOP	0.041*	0.619 (0.390–0.981)		
Post-operative surgeries (Intervention and other)	0.028*	7.500 (1.246–45.153)	0.092	14.676 (0.643–335.187)
Post-operative number of medications	0.010*	20.0 (2.037–196.374)	0.015*	74.898 (2.351–2385.663)
AAs alpha agonist (–ve)	0.292	2.625 (0.434–15.777)		
Preoperative duration of topical medication (months)	0.389	1.039 (0.952–1.134)		
Ocular surface integrity (toxicity) (Bad)	0.402	2.00 (0.396–10.108)		
Other ocular surface problems	0.596	1.714 (0.234–12.551)		
Number of times antimetabolites used (5flourouracil) (2)	0.627	1.500 (0.293–7.681)		
Pre-operative surgeries	0.159	0.308 (0.060–1.589)		
Intra operative NPDS/NPDS combined with cataract	0.129	4.750 (0.636–35.482)		
Intra and post-operative complications	0.087	4.800 (0.797–28.898)		
Trabeculotomy& other intra-operative interventions	0.261	2.500 (0.506–12.351)		

A total of 30 eyes were selected. Twenty one eyes (70%) reported as the total success. On a univariate analysis preoperative and postoperative IOP had a significant influence on assessing efficacy of NPDS with p value <0.032 and <0.001 respectively. Postoperative medication and their numbers given had illustrated a significant relation with the results with p values of <0.003 and 0.034 respectively. Postoperative interventions also had a strong correlation with NPDS results with p value <0.046. Amongst the other variables tested preoperative medication specifically alpha agonists (AA) showed an almost trend of significance with a p value 0.070.

CONCLUSION

- NPDS is an effective alternative filtration surgery. Preoperative IOP, postoperative IOP, pre and postoperative medications and intra and postoperative interventions are amongst the indicators of success or failure of NPDS