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THE RECENT MEDICAL AND NON-INVASIVE TREATMENT OF PRIMARY OPEN ANGLE GLAUCOMA

ESSAY

Submitted for Partial Fulfillment of Master Degree in *Ophthalmology*

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LIST OF ABBREVIATIONS

AC : Anterior chamber

ALT : Argon laser trabeculoplasty

BAB : Blood aqueous barrier

CAIS : Carbonic anhydrase inhibitors

DLT : Diode laser trabeculoplasty

IOP : Intraocular pressure

Nd: YAG : Neodymium : YAG

PAS : Peripheral anterior synechiae

 $PGF_2\alpha$: Prostaglandin $F_2 \alpha$

PGS : Prostaglandins

POAG : Primary open angle glaucoma

SLT : Selective laser trabeculoplasty

TM: Trabecular meshwork



Aim of the Work

INTRODUCTION

Definition of primary open angle glaucoma:

Primary open angle glaucoma is the most common form of glaucoma, accounting for approximately 70% of all cases of glaucoma (Leske and Rosenthal, 1979). In many patients it is asymptomatic until late in its course and affected individuals can develop sever damage before they have an examination and they are discovered through screening programs or on routine ocular examination (Hoskins and Kass, 1989).

POAG is considered a chronic, progressive, anterior optic neuropathy, characterized by cupping and atrophy of the optic disc, visual field loss, open angles, an intraocular pressure too high for the continued health of the eye, and no contributing ocular or systemic conditions. In most cases the IOP is elevated above the normal range, reflecting a reduced aqueous humor outflow facility (Hoskins and Kass, 1989).

In a minority of patients optic nerve cupping and visual field loss develop without elevated intraocular pressure, this condition is called low-tension glaucoma or normal tension glaucoma (Levene, 1980).

Prevalence:

POAG is the most prevalent of all glaucomas affecting approximately 1 in 200 of the general population over the age of 40 years (Leske, 1983) and it increases with age (Martinez

et al., 1982), it affects both sexes equally and is more common in black than in white individuals (Tielsh, 1991).

Inheritance:

POAG is inherited in a multifactorial manner, it has been shown that IOP, facility of outflow and optic disc size are genetically determined (Armaly, 1967). First degree relatives are at increased risk of developing POAG. In general the approximate risk is 10% In siblings and 4% in offspring (Leighton, 1976).

AIM OF THE WORK

The aim of this essay is to study different preparations, mode of action and efficacy of the most recent drugs used in the treatment of primary open angle glaucoma.

Our aim also is to study the application of a new laser modalities and their role and effect in the treatment of primary open angle glaucoma.

