Mona maghraby

بسم اللّه الرحمن الرحيم

مركز الشبكات وتكنولوجيا المعلومات

قسم التوثيق الإلكتروني

Mona maghraby

جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

قسم

نقسم باللّه العظيم أن المادة التي تم توثيقها وتسجيلها

علي هذه الأقراص المدمجة قد أعدت دون أية تغيرات

Mona maghraby

بعض الوثائق الأصلية تالفة
وبالرسالة صفحات لم ترد بالأصل

Aphakic and pseudophakic anterior chamber angle changes

Thesis submitted for partial fulfillment of master degree in Ophthalmology

By

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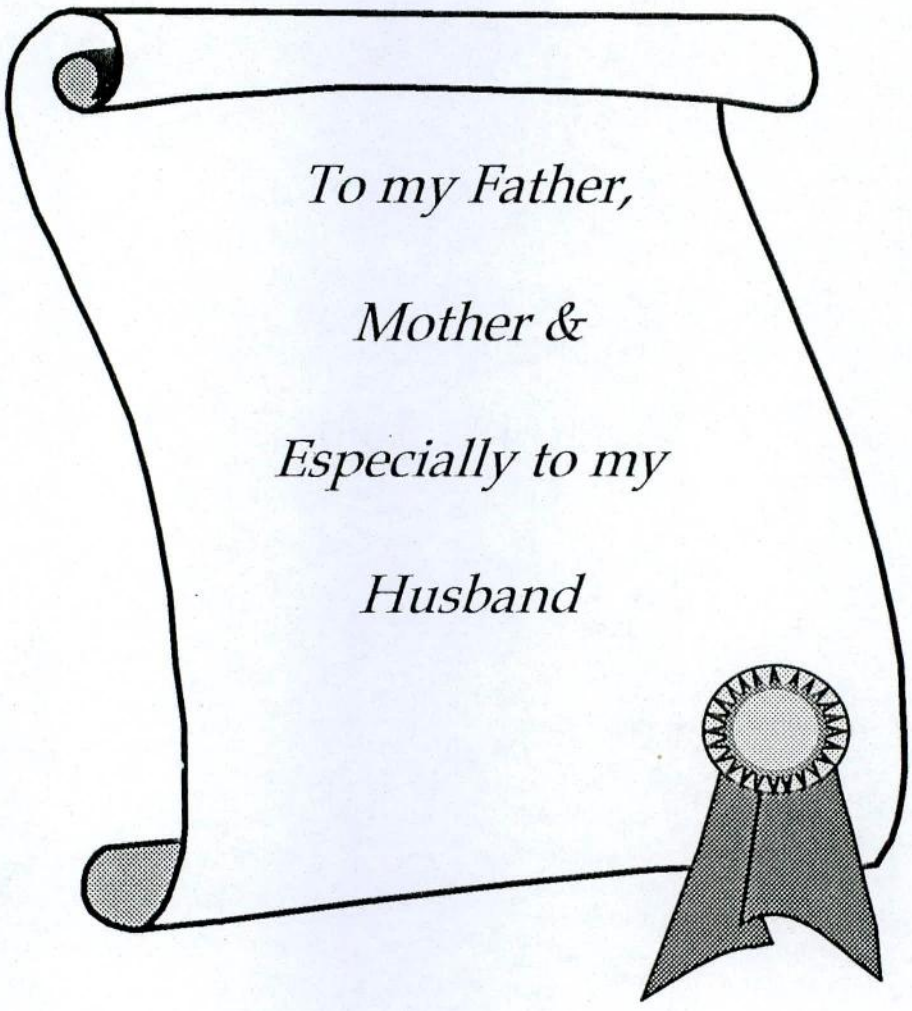
Dedication



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List of abbreviations

Abbreviation	
IOL	Intra ocular lens
IOP	Intra ocular pressure
PAS	Peripheral anterior synechiae
PC	Posterior chamber
μm	Micro meter
ECCE	Extra-capsular cataract extraction
UGH	Uveitis- Glaucoma- Hyphema Syndrome
PUGH	Pigment dispersion- Uveitis- Glaucoma- Hyphema Syndrome

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Introduction

Although removal of the opaque crystalline lens eliminates the problem of cataract, management of the aphakic patient is incomplete without optical correction [1].

Extraction alone is half the cure for cataract. Nevertheless, most patients derive more than half a cure from the use of aphakic spectacle lenses, these aphakic lenses increase the image size 20% to 35% and are associated with some disadvantages. This has made the use of intraocular lenses increasingly popular in the ophthalmologic practice [2].

Intraocular lenses provide many advantages over spectacle and contact lenses. They eliminate the perceptual problems associated with contact lens. Image size disparity is reduced still further. It also eliminates all the difficulties of inserting and removing contact lens encountered by elderly patients. Intraocular lenses may be advantageous for those working in unusual environments (e.g., miners and cattle ranchers) and for those whose visual requirements for occupation must be fulfilled (e.g., pilots and members of armed service) [3].

Complications from intraocular lenses are often related to mechanical displacement, obstruction or erosion into delicate ocular tissues, these complications may lead to increased intraocular pressure [4].

Gonioscopy involves the examination of the anterior chamber angle of the eye including the trabecular region, the site at which aqueous begins its exit from the eye [4].

Gonioscopy might not be performed during routine anterior segment examination. However, it is especially important in the estimation of the width of the angle and identification of abnormal angle structures prior to surgery [5].

The anatomy and optical properties of the anterior segment of the eye prevent direct visualization of the angle without the use of special (gonioscopy) lenses. These lenses, also called gonioprisms, either refract light from the angle (Koeppe lens) or reflect light from the angle (Goldmann lens), thereby illuminating it and permitting it to be seen. The Goldmann three-mirror contact lens is the most commonly used type of the lens [6].

In pseudophakia, gonioscopic examination of the angle may show some post-operative changes in the form of peripheral anterior synechiae, increased angle pigmentation and iris atrophy. Because of occurrence of such changes, intraocular lens implant surgeons are advised to perform careful gonioscopy pre-and post-operative to document the anatomic state of the angle and its post-operative changes that would affect intraocular pressure [7].

In the present study gonioscopy using Goldman three mirror goniolens was carried out to assess anterior chamber angle changes following extra-capsular cataract surgery with and without posterior chamber intraocular lens implantation.

Aim of the work

* To prospectively study changes in the anterior chamber angle after extra- capsular cataract extraction with or without posterior chamber lens implantation by means of Goldmann three-mirror contact lens and photography.

* To compare the incidence of angle changes between eyes with posterior chamber lens implants and aphakic eyes.

REVIEW OF LITERATURE

Anatomy of the anterior chamber angle

The anterior chamber angle lies at the junction of iris, ciliary body, sclera, and cornea; it contains the aqueous outflow apparatus, which is derived from these tissues.

The crystalline lens, although not a component of the angle itself , plays a major role in the angle's anatomical configuration, because lens shape and position influence the contour of the iris and thus the relationship of the iris to other angle structures [8] .

Aqueous humor outflow apparatus

The features of the outflow apparatus are as follow (Figure1): -

(1) *Internal scleral sulcus*

Sulcus.

Schwalbe's ring.

Scleral spur

(2) *Trabecular meshwork*

Uveal meshwork

Corneoscleral meshwork

Iris processes

Pericanalicular connective tissue

(3) *Canal of Schlemm and collector channels*

Schlemm's canal

Endothelial lining

Giant vacuoles

Collector channels [10].

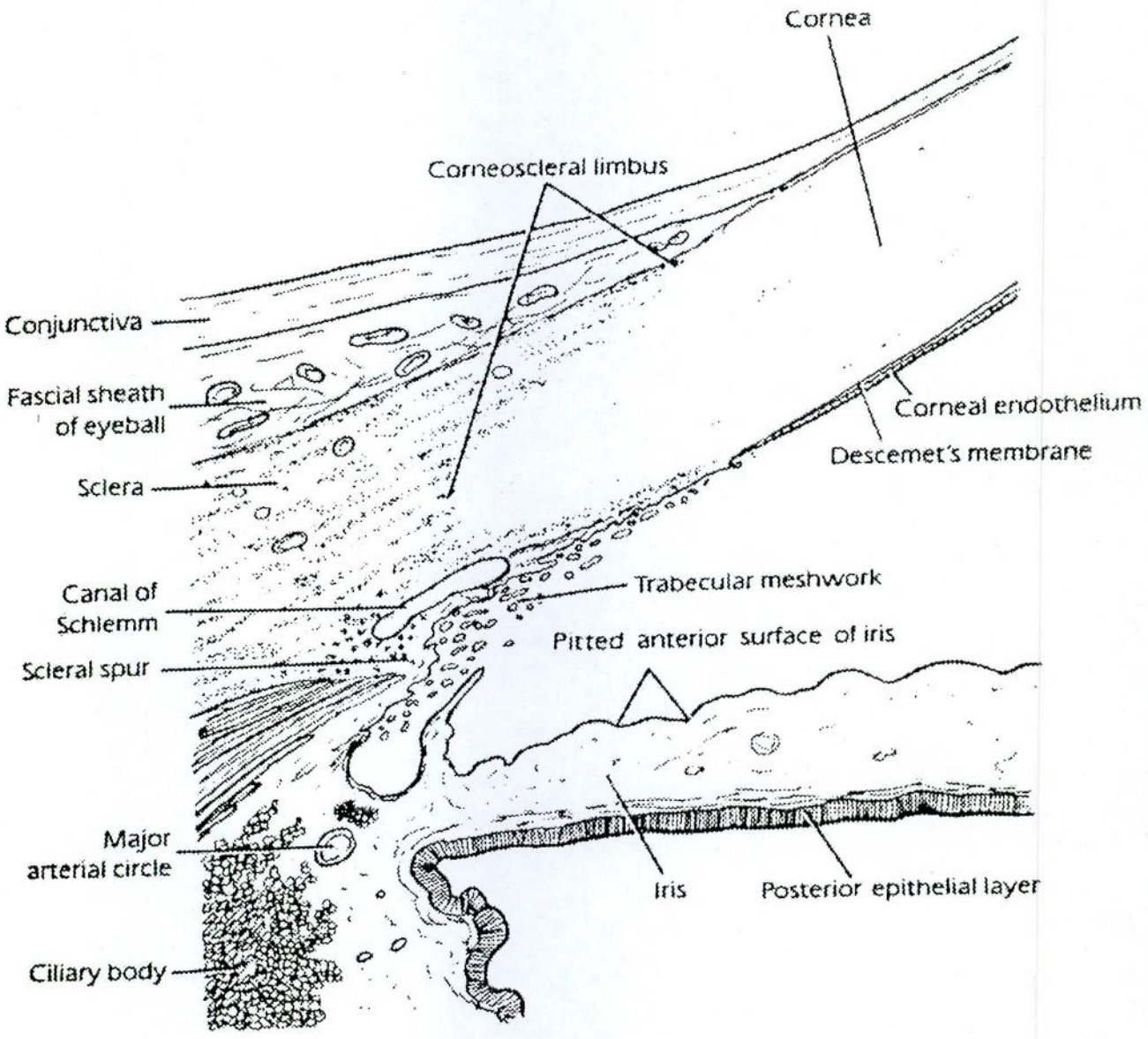

Figure (1): Anterior chamber angle structures [10].