شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

بسم الله الرحمن الرحيم

HANAA ALY

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جامعة عين شمس

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قسم

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Ocular Crowding Value in Egyptians with History of Acute Angle Closure Glaucoma

Thesis

Submitted for Partial Fulfillment of Master Degree
in **Ophthalmology**

By

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Mohammed Ibrahim Abdelmordy Sherief

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Abb.	Full term
AACG	*Acute Angle Closure Glaucoma*
AC	*Anterior Chamber*
ACD	*Anterior Chamber Depth*
AL	*Axial Length*
AUC	*Area Under the Curve*
BCVA	*Best Corrected Visual Acuity*
CCT	*Central Corneal Thickness*
C/D	*Cup Disc ratio*
CI	*Confidence Interval*
COPD	*Chronic Obstructive Pulmonary Disease*
ILM	*Internal Limiting Membrane*
IOL	*Intra Ocular Lens*
IOP	*Intra Ocular Pressure*
ITC	*Irido Trabecular Contact*
LT	*Lens Thickness*
LPI	*LASER Peripheral Iridotomy*
LV	*Lens Vault*
NPV	*Negative Predictive Value*
OCT	*Optical Coherence Tomography*
OCV	*Ocular Crowding Value*
OLCR	*Optical Low Coherence Reflectometry*
PACG	*Primary Angle Closure Glaucoma*

List of Abbreviations (Cont…)

Abb.	Full term
PCI	*Partial Coherence Interferometry*
PPV	*Positive Predictive Value*
ROC	*Receiver Operating Characteristics*
SD	*Standard Deviation*
SSRI	*Selective Serotonin Reuptake Inhibitor*
SNRI	*Serotonin Norepinephrine Reuptake Inhibitor*
TCA	*Tri-Cyclic Antidepressants*
US	*Ultra-Sound*
VA	*Visual Acuity*
WDT	*Water Drinking Test*
WTW	*White To White distance*
YAG	*Yttrium Aluminum Garnet*

INTRODUCTION

Glaucoma is a leading cause of ocular morbidity and blindness worldwide ***(Thylefors et al., 1995).***

Glaucoma is defined as "a group of diseases with certain features including an intraocular pressure that is high for the continued health of the eye" ***(Prum et al., 2016).***

All forms of the disease have in common a characteristic potentially progressive optic neuropathy that is associated with visual field loss as damage progresses, and in which IOP is a key modifiable factor ***(Bowling, 2018).***

The term angle closure refers to occlusion of the trabecular meshwork by the peripheral iris [iridotrabecular contact – (ITC)], obstructing aqueous outflow. Angle closure glaucoma can be primary, when it occurs in an anatomically predisposed eye or secondary to another ocular or systemic factor ***(Bowling, 2018).***

Previous studies have stated that primary angle closure glaucoma (PACG) is responsible for nearly half the cases of glaucoma-related blindness in the world ***(Quigley and Broman, 2006).***

It is typically associated with greater rapidity of progression and visual morbidity than POAG ***(Bowling, 2018).***

In the Primary Angle Closure Preferred Practice Pattern® (PPP) guidelines (2016), acute angle closure glaucoma (AACG) was described as a suddenly occluded angle with symptomatic high IOP. Since approximately half of fellow eyes of acute angle-closure glaucoma patients can develop AACG within 5 years, the fellow eye is also at high risk of AACG and, it is of paramount importance to assess the risk of AACG properly ***(Prum et al., 2016).***

Notably, many ways have been used for detecting a closed angle to diagnose primary angle closure disease (PACD) instead of assessing the risk of AACG. For example, gonioscopy examination is the current gold standard for the detection of PACD ***(Nongpiur and Wei, 2013).***

Objective measurements of the depth of the AC are often clinically useful in glaucoma management. Indications include assessment of PAC risk, and monitoring of progression in conditions where the AC is shallower, such cilio-lenticular block. Older methods used slit lamp with or without special attachment, but an accurate and repeatable measurement can be obtained using ultrasonography or optical interferometry methods ***(Bowling, 2018).***

The traditional biometric parameters such as anterior chamber depth or lens vault are not strong predictors of AACG. We speculate that the crowding condition of the eye would be a more important factor to trigger an AACG. Ocular crowding value can be calculated as follows: (LT+CCT-ACD)/AL; LT: lens thickness, CCT: central corneal thickness, ACD: ant. Chamber depth and AL: axial length of the globe ***(Wei et al., 2018).***

AIM OF THE WORK

The aim of the work is to identify the risk of AACG through evaluation of ocular biometric parameters of Egyptians with history of AACG and comparison with their uninvolved fellow eyes and another group of healthy eyes, using AL Scan optical biometer.