Sohag University
Faculty of Medicine
Department of Ophthalmology

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Correlation between Corneal Topographic Patterns and Refractive Status of the Eye in Sohag City, Egypt

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Correlation between Corneal Topographic Patterns and Refractive Status of the Eye in Sohag City, Egypt

Protocol for thesis Submitted for Partial Fulfillment of the Master Degree in Ophthalmology

Presented by

Ahmed Abdallah Abd-Elal

Resident in ophthalmology Department
Akhemim Cental Hospital

Supervised by

Mohammed Iqbal Hafez

Professor of ophthalmology, Faculty of Medicine, Sohag University

Amr Mounir

Assistant Professor of ophthalmology, Faculty of Medicine, Sohag University

Mohamed Ezz Eldawla

Lecturer of Ophthalmology, Faculty of Medicine, Sohag University

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INTRODUCTION

The cornea is the most important refractive surface of the eye, and its shape directly affects the quality of vision and degree of refractive error. Knowledge of normal shape of the human cornea, and the possibilities of inter-individual variations in corneal topography in populations helps in many diagnostic and therapeutic cases such as contact lens fitting, management of ectatic disorders, and evaluation of patients for refractive surgery.(1,2,3) In order to determine the early changes in the anterior level of the cornea that occur in the early stages of the disease, we first need to analyze the spectrum of normal topography that exists in populations. Since the prevalence of keratoconus in the Middle East including Egypt has been proven to be higher, So, It's important to release studies about this material.(4,5,6,7,8)

Corneal topography is a well-known method for evaluating corneal shape. The common topographic corneal patterns have been discussed widely, and different patterns have been proposed as normal topographic patterns. This classification becomes especially important in differentiating diseases that affect the cornea, such as mild keratoconus, from normal when planning to have a corneal-based surgery. Knowing the frequency of each normal pattern in specific populations, such populations with different refractive status, is necessary for estimating the probability of being abnormal in each individual patient.

Aim of the work

To evaluate corneal topographic pattern & its correlation with refractive status of the eye .

Patient And Methods

Type of the study :

Prospective observational cross-sectional study.

This study will be established in The Future Center for refractive surgery, Sohag, Egypt.

This study will include 100 eyes of 100 patients aged over 15 years. All patients were subjected to topography imaging and subjective, manifest and cycloplegic refractions.

Inclusion Criteria:

1. Patients aging more than 15 years old
2. All patients are with visual acuity (uncorrected, with habitual correction, and best spectacle correction).
3. There is no restrictions on the range and regularity of keratometry.

Exclusion Criteria:

1. Patients with a history of any trauma to the eye.
2. Patients with recent contact lens wear.
3. History of ocular surgery.
4. Patients with distance corrected visual acuity or abnormal retinoscopy examination (e.g., scissoring reflex).
5. If there was any error in reading the topographic map.
6. Patients with antimetropic refraction.

Topography Technique:

Using Oculus Pentacam® which is s a rotating Scheimpflug camera.
The rotational measuring procedure generates Scheimpflug images in three dimensions.
The Scheimpflug principle describes the optical imaging condition when the plane of an object is not parallel to the film of the camera and has to cut each other in one line or one point of intersection with the advantage to achieve wide depth of focus.
Scheimpflug imaging attains a wide and high depth-of-focus, providing sharp images that include information from an anterior corneal surface through to the posterior crystalline capsule; this depends mainly on media transparency and pupil size.

Ethical Considerations:

- Informed consent will be taken from all cases' parents.
- Ethical approval will be taken from the scientific ethics committee.
- A written informed consent will be obtained from each participant patient**.**
- Patients will be informed that Topography and all measurements done medically indicated.

The study is submitted for evaluation and approval to the medical research ethics committee of the Sohag Faculty of Medicine.

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