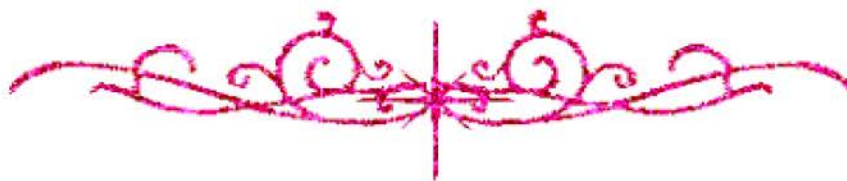


بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ





شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



جامعة عين شمس

التوثيق الإلكتروني والميكروفيلم

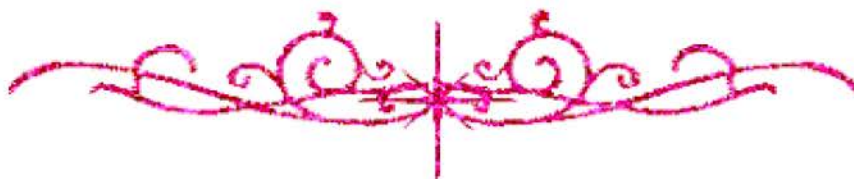
قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
علي هذه الأقراص المدمجة قد أعدت دون أية تغييرات



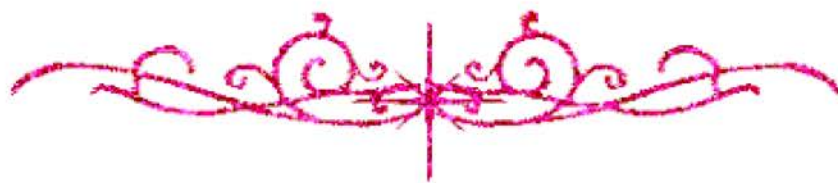
يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار



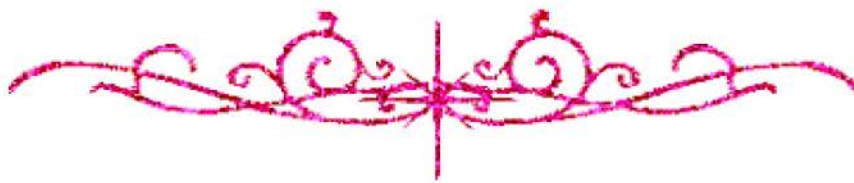


بالرسالة صفحات لم ترد بالأصل





بعض الوثائق الأصلية تالفة



B11E94

EVALUATION OF SOFT ACRYLIC INTRAOCULAR LENSES

Thesis

Submitted in Partial Fulfillment
of The M.D. Degree in Ophthalmology

By

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Zagazig University*

2000

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

﴿قَالُوا سُبْحَانَكَ لَا عِلْمَ لَنَا إِلَّا مَا عَلَّمْتَنَا

﴿إِنَّكَ أَنْتَ الْعَلِيمُ الْحَكِيمُ﴾

صدق الله العظيم

سورة البقرة - آية رقم (٣٢)

Dedication

To My Parents

*For nurturing my development and imbuing
fundamental values*

To My Wife

*For your support, your encouragement, your
tolerance every day*

Acknowledgement

After thanking **GOD**,

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LIST OF ABBREVIATIONS

IOL	: Intraocular lens.
PMMA	: Poly-methyl-methacrylate.
PHEMA	: Poly-hydroxy-ethyl-methacrylate.
UV	: Ultra violet.
Tg	: Glass transition temperature.
BAB	: Blood aqueous barrier.
LECs	: Lens epithelial cells.
PCO	: Posterior capsule opacification.
Nd : YAG	: Neodymium : Yttrium - aluminium - garnet.
CME	: Cystoid macular oedema.
CBS	: Capsular block syndrome.
IOP	: Intraocular pressure.
D	: Diopter.

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INTRODUCTION

INTRODUCTION

The goal of cataract surgery with IOL implantation is to provide the best possible long term vision in the shortest amount of time.

With the advent and evolution of small incision surgery, patients have experienced both, improved visual outcomes and reduced recovery time. Phacoemulsification has enabled surgeons to greatly reduce incision size for cataract removal (*Barret et al., 1987*).

For longtime, small incision surgery relied upon foldable IOLs fabricated from silicone and hydrogel. Although their efficacy in small incision cataract surgery has been well documented, several characteristics of their physical properties including : a low refractive index, lack of mechanical fixation with ocular tissues and rapid spring like unfolding action may be undesirable in clinical settings (*Menapace et al., 1991 and Oshika et al., 1992*).

The newest of the soft foldable IOLs are flexible acrylic lenses. The material in the acrylic IOLs is a cross-linked co-polymer consisting of an acrylate/methacrylate copolymer, giving it viscoelastic properties. These materials have a temperature dependent viscoelasticity that makes them softer at body temperature.

The material was engineered to demonstrate balance between viscous and elastic behavior resulting in slower & more controlled unfolding than that of a silicone lens (*Koch, 1993*).

The refractive index is 1.55 resulting in the thinnest lens possible without compromising optic diameter, even in high powers. This also reduces the likelihood of postoperative iris chafing and/or posterior synechia formation (*Oshika et al., 1996*).

AIM OF THE WORK