# Anterior segment complications of Silicone oil tamponade.

Essay

Submitted for partial fulfillment.

Of master degree in ophthalmology

Presented by

### Neira Tawfik Hegazy

M.B., B.Ch. Faculty of Medicine Ain Shams University

Under supervision of

Prof. Dr. Mohamed Omar Rashed

Professor and head of Ophthalmic department Faculty of medicine, Ain Shams University

Prof. Dr. Magdi El Barbary.

Professor of Ophthalmology
Faculty of medicine, Ain Shams University

Asst. Prof. Dr. Samir Kassem.

Asst. Professor of Ophthalmology Faculty of medicine, Ain Shams University

Faculty of Medicine Ain Shams University Cairo-Egypt 1997











To My Family

### **ACKNOWLEDGMENT**

It is a pleasant obligation to express my indebtedness to *Prof. Dr. Mohamed Omar Rashed*, Professor and head of Ophthalmic department, faculty of medicine, Ain Shams University for his sincere guidance, meticulous supervision and continuous encouragement throughout this work.

I would like to express my thanks and deepest gratitude to *Prof. Dr. Magdi El Barbary*, Professor of Ophthalmology, faculty of medicine, Ain Shams University for valuable instructions, helpful criticism and suggestions all through this work.

My thanks and gratitude are owed to **Asst. Prof. Dr. Samir Kassem,** Asst. Professor of Ophthalmology, Ain Shams university, whose planning, constant guidance, and valuable instructions made the accomplishment of this work possible.



# **Contents**

1. Table of abbreviations.	
2. List of figures.	
3. Introduction.	
4. Operative complication.	
5. Early postoperative complications.	
6. Late complications.	
a. Cataract.	30
b. Glaucoma.	51
c. Keratopathy.	67
d. Emulsification.	91
e. Hypotony.	98
f. Fibrous tissue ingrowth.	102
g. Rubeosis iridis.	103
7. Summary.	105
8. References.	
9. Arabic summary.	

## **Table of abbreviations**

I.O.L.	Intraocular lens
T.P.A.	Tissue Plasminogen activator.
I.O.P.	Intraocular pressure
T.M.	Trabecular meshwork.
P.V.R.	Proliferative vitreoretinopathy.
R.D.	Retinal detachment.
S.O.	Silicone oil
A.C.	Anterior chamber
E.M.	Electron microscope
L.M.	Light microscope

## List of figures.

Fig.1: Large silicone oil globule filling the anterior chamber in phakic eye.	P.7
Fig.2: Postoperative posturing in the face down position.  P.	.10
Fig.3: Large globule of silicone oil in the aphakic eye.	.11
Fig.4.a:Diagram shows how silicone oil globule blocks the upper iridectomy.	P.15
Fig.4.b:Diagram shows how silicone oil in the anterior chamber return to the	
posterior segment in the prone position in the presence of a 6 o clock iridectomy.	
P.	.16
Fig.5a: Diagram shows the effect of absence of a 6 o clock iridectomy.	.18
Fig.5b: Diagram shows the effect of presence of 6 o clock iridectomy.	.20
Fig.6: Inferior iridectomy in an aphakic eye after silicone oil injection.	.21
Fig.7: Diagram shows that inspite of closure of the 6 o clock iridectomy, oil	
does not pass to the anterior chamber as the oil bubble is small to cause a complete	
pupillary block.	.24
Fig.8: Diagram shows that a slightly larger quantity of oil causes pupillary block	
and silicone oil is forced into the anterior chamber.	2.25
Fig.9: Diagram shows pupillary block in phakic eye.	.27
Fig10.: Mature cataract and freely floated silicone bubble in the anterior chamber	
<b>5.30</b>	
Fig.11: Beginning subcapsular cataract after vitrectomy and silicone oil tamponade.	p.35
Fig. 12.: Section through cataractous lens showing silicone oil globules engulfed by	
	.36

Fig.13: EM parts of phagocytic cell with large vacuolar inclusions presumed to	
represent engulfed silicone oil attached to the anterior lens capsule.	P.37
Fig.14: Posterior subcapsular lens opacities.	P.38
Fig.15: Opacities in the nucleus and cortex 18 months after silicone oil injection.	P.39
Fig.16: Dense cataract 2 years after silicone oil injection.	P.39
Fig.17: Diagram shows silicon oil removal via the pars plana in the phakic eye.	p.40
Fig.18a: Cataract develop inspite of silicone oil removal.	p.44
Fig.18b: Successful outcome after E.C.C.E with posterior chamber I.O.L	
implant in the same eye.	P.44
Fig.19: Emulsified silicone oil in the anterior chamber angle with gonioscopiclens.	p.55
Fig.20: Silicone oil globules engulfed by cells lining the trabecular meshwork.	P.56
Fig.21: Anterior chamber angle shows multiple gaint cells (arrows).	P.57
Fig.22: Eelectrpn micrograph of the filtration angle of the anterior chamber shows	
the spaces between the trabeculae are occupied by phagocytic cells containing	
large membrane bound vacuoles representing engulfed silicone oil.	P.58
Fig.23: Trabecular meshwork showing phagocytic cell contains silicone oil vacuole	
between the collagenous trabeculae.	P.59
Fig.24: Diagram shows silicone oil removal via the limbus in the aphakic eye	p.60
Fig.25 : Molteno - tube in the anterior chamber	P.65