Posterior capsule opacification & Intraocular lens

Seung Jeong Lim, MD, phD
Seran Eye Center
Yonsei university
College of medicine,
Seoul, Korea

MAIN PROBLEMS IN MODERN CATARACT SURGERY

1. P.C.O.
2. P.C.O.
3. P.C.O.

CAPSULAR OPACIFICATION (ANT & POST)

&

IOLs(MATERIAL & SHAPE)

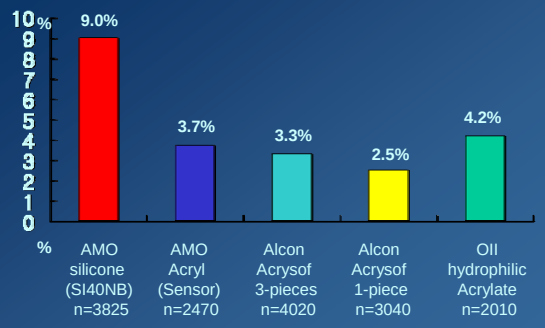
PURPOSE

: To compare the capsular opacification(Ant. & Post.) and Nd : YAG capsulotomy rates associated with 5 different Intraocular lens.

METHODS (Retrospective study)

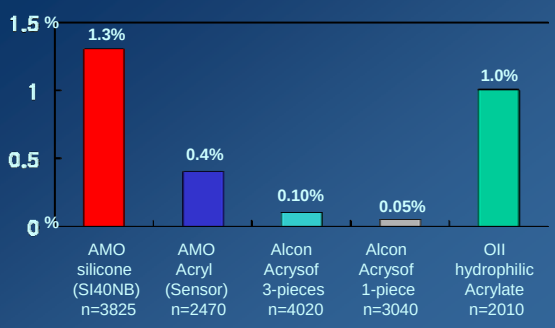
- Lenses Evaluated
  - AMO silicone IOLs (SI40NB) : n = 3825
  - AMO acrylic IOLs (Sensor AR40) : n = 2470
  - Alcon 3-pieces Acrysof IOLs(MA60BM) : n = 4020
  - Alcon one piece Acrysof IOLs(SA60AT) : n = 3040
  - OII hydrophilic Acrylate IOLs(Aquasense) : n = 2010
- Assessments
  - PCO rates and Nd : YAG rates (V/A< 2 lines loss)
  - ACO and Contracture (diameter<4mm)
- Clear cornea incision under topical anesthesia
  - A Single Surgeon (S.J. Lim)
  - Follow up : 2 years

Nd : YAG rates at 2 years (P.C.O.)



Seran Eye Center

Ant capsule relaxing Nd : YAG 2 Years



Seran Eye Center

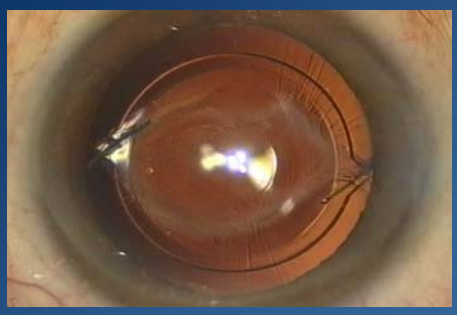
SILICONE IOLs

Relatively much higher P.C.O. rates (esp. fibrotic types)

Ant. Capsule tends to slide under the optic and adhere to the posterior capsule => fibrotic type P.C.O.

(maybe due to silicone material)

Seran Eye Center



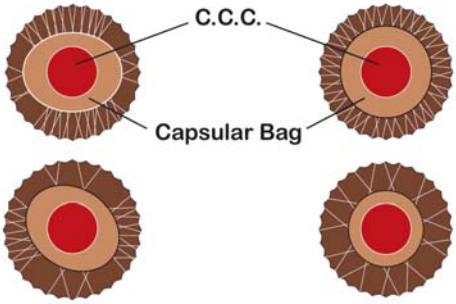
Seran Eye Center

FIBROTIC TYPE(MORE IMPORTANT)

KEY : PERFECT C.C.C.
I.O.L. POSITIONING
(FIXATION DIRECTION &
NO CAPTURING by C.C.C.)

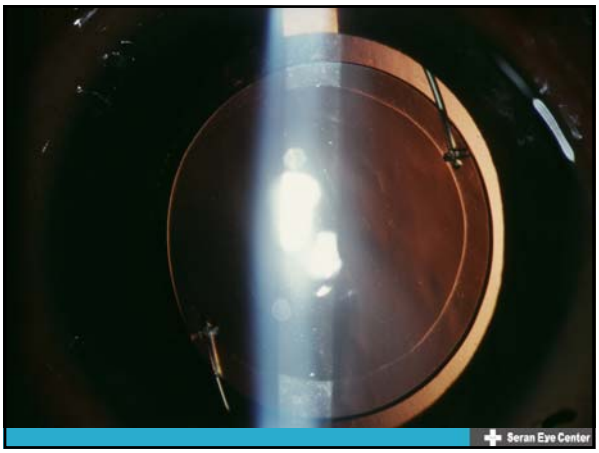
I.O.L. MATERIAL & SHAPE

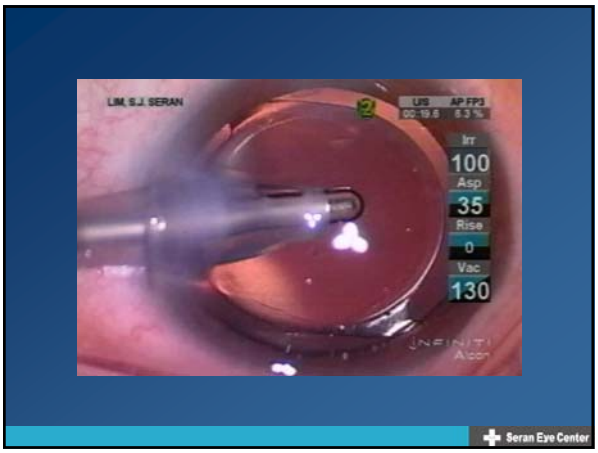
Seran Eye Center



Personal variations of
1.human crystalline lens shape & size
2. status of surrounding zinn zonules

Seran Eye Center





P.C.O. FACTORS

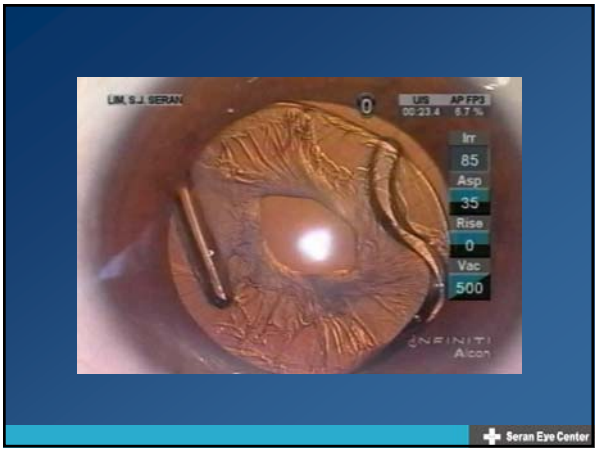
1. SURGEON FACTOR

- Clean Surgery
- Perfect C.C.C.
- Ideal IOL Fixation direction
- No optic capturing by C.C.C.

2. IOL FACTOR

- Material – Acrylate(hydrophobic > hydrophilic)
- Shape – Square Edge, Posterior convex optic, Optic volume

Seran Eye Center



Thank you

Seran Eye Center