

A Positional Stability of Haptics of Phakic IOL: 6-Month Follow-up

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The author has no financial interests in the subject matter of this poster

Introduction

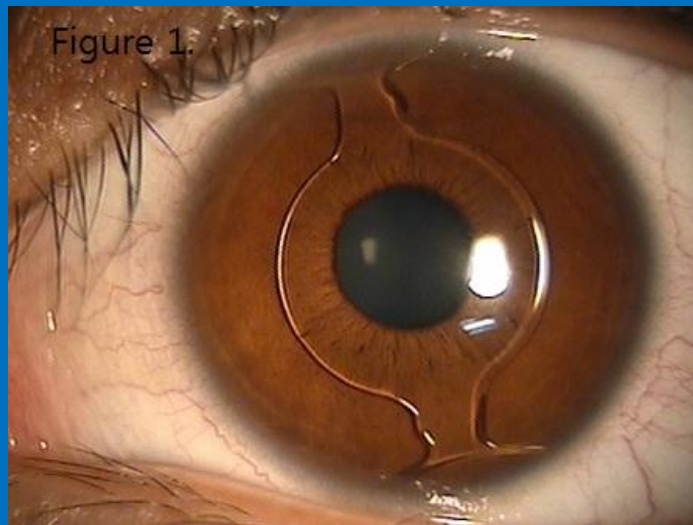
- The major concern of angle-supported phakic intraocular lens(pIOL) is endothelial damage.
- There are two possible causes of corneal damage after implantations.
 - First, by rubbing at one's eye.
 - Second, by an improper position of pIOL structure supported by angle.
- There was no study that has demonstrated the positional change of the haptic of pIOL and its stability during pressure on eyeball.

Purpose

- To evaluate the possibility of endothelial damage caused by the improper position and unstability of the haptics of a pIOL during the 6-months after implantation in myopic eyes.

Methods

- A pIOL was implanted in 44 eyes of 22 patients with moderate to high myopia. (Figure 1)
- Nonindentation-gonioscopic photographs were captured digitally at 1, 3, and 6 months postoperatively.
- At the same time, indentation-gonioscopy was performed to check the haptic movement by pressing Sussman lens onto cornea to imitate the eyeball rubbing.
- The endothelial cell density(ECD) was accessed preoperatively and 1,3, and 6 months postoperatively.



Results

- During the follow-up, slight haptic movement in a rotational direction occurred only in one eye.
- The position of the haptics in an aspect of anatomical structure of iridocorneal angle was not changed. (Figure 2.)
- Nonindentation-gonioscopy
 - All the haptics of pIOL were placed on the peripheral iris.
 - 86.93% (153/176) of the haptics were touching ciliary body band only.
 - The rest of them (13.06% (13/176)) were reaching to scleral spur.
 - There was no encroachment on the trabecular meshwork and its anterior structure.



Results

- In the eyes with iris adherent posterior to the scleral spur(C insertion), the haptics detached iris insertion focally and touched ciliary body. (Figure 3.)

Figure 3.



Results

- Indentation-gonioscopy with Sussman four mirror lens
 - During indentation, the optics of pIOL showed a backward movement temporarily.
 - But, the haptics kept their positions.
- Endothelial cell density
 - The mean loss was 0.6% (from 2821 ± 316 cell/mm² at preop to 2652 ± 371 cell/mm² at postop 6 months)

Discussion

- This study demonstrated:
 - The most anterior point of contact between the angle structure and haptics was scleral spur.
 - Pressing the eyeball with Sussman lens didn't change the touching point between the haptics and the eye wall.
 - No other complications occurred during or after the surgery in all eyes; no pupil ovalization, no increase in IOP, the iridocorneal angle remained open with normal iris pigmentation.
- The results suggest :
 - It is less likely to cause endothelial cell loss by haptics of pIOL postoperatively.

Conclusion

- The haptics of pIOL kept their distance from the Schwalbe's line and maintained in a relatively stable position during the postop 6 months.
- The long-term follow-up is necessary to evaluate the effect on the angle structure by focal pressure of the haptics.