



Michael Amon

A new piggyback lens offers new, safe options – first results with the Rayner Sulcoflex

Stefanie Petrou Binder MD
in Stockholm

THE new Sulcoflex IOL (Rayner 653L) allows piggyback implantation in pseudophakic eyes, offering exact refractive results after cataract surgery or refractive lens exchange, according to an Austrian research group.

“Piggy-back implantation was safe and easy, with less trauma occurring than seen with IOL exchange. The postoperative refraction was stable and predictability was good,” said Michael Amon MD of the University of Vienna’s Department of Ophthalmology, Vienna, Austria, who presented his study results at the XXV Congress of the ESCRS.

Dr Amon performed a pilot study with six pseudophakic eyes, two of which had multifocal lenses implanted after presbyopic lens exchange. The mean patient age was 55 years. The range of ametropia in the study eyes was from +2.0 D to -2.0 D. The follow-up time was four months, the first implantation having taken place as recently as May of 2007.

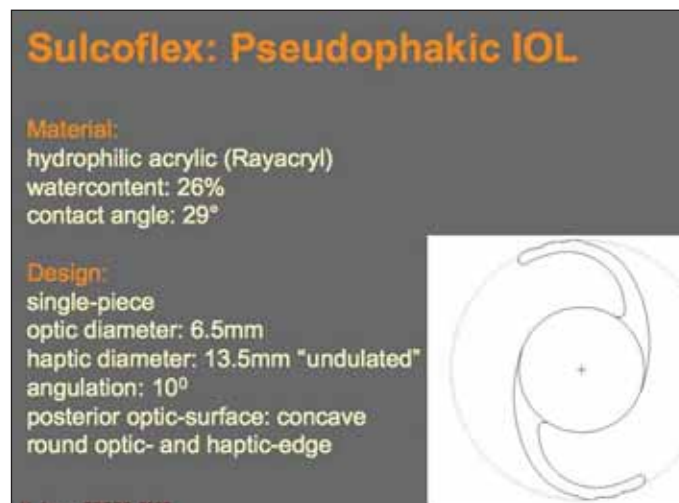
Dr Amon examined visual acuity, refraction, and performed ultrasound biomicroscopy (UBM), Scheimpflug photography, and photo documentation. He also used the laser flare-cell meter (LCFM), which is an important test for quantification of the inflammatory reaction after surgery.

The mean refractive outcome in the study eyes was within 0.25 D of emmetropia. Intraocular pressure was within the normal range of 11-22 mmHg at all visits.

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UBM and Scheimpflug photography revealed a good distance between the two IOLs, and between the iris and the IOL in all cases at four months after implantation.

Dr Amon noted no lens rotation or tilting. Decentration was under 0.5mm and the sulcus position was achieved in 100 per cent of eyes. There was no optic capture, iris trauma or pigment dispersion in any of the eyes, he said.



UBM: Demonstrating the good distance between IOL and iris

Laser flare-cell metre measurements were in the normal range, within 5-30 photon counts/ms, and were lower than the values noted after phaco with IOL implantation, Dr Amon pointed out.

The Sulcoflex lens is implanted in the ciliary sulcus as a piggyback lens, he explained. He performed the surgery via a 3.0mm clear corneal incision, using a standard inserter. He noted that IOL placement coincided with the controlled unfolding of the lens.

During implantation, Dr Amon placed the leading haptic under the iris in the sulcus area, followed by rotating the trailing haptic behind the iris for correct positioning. Due to the soft haptic material, the presence of residual intraocular viscoelastic substance in some of the eyes required him to push the haptic into the sulcus position. This, however, was intended, as surgeons want to cause the least possible amount of stress on the uveal tissue, he observed.

Dr Amon administered antibiotics intra-operatively. He noted no intra-operative complications.

The Sulcoflex lens is a hydrophilic acrylic IOL, which guarantees quite high uveal biocompatibility, Dr Amon noted. The large optic diameter (6.5mm) provides better quality of vision and no optic capture. The round edge reduces dysphotopsia and the concave posterior surface causes no distortion of IOL optics.

The haptics are angulated at 10° for uveal clearance and no pigment dispersion. In addition, the haptics are soft with rounded edges for less tissue reaction. They are undulated with a large diameter to ensure centration and rotational stability, he said.

The potential indications for the Sulcoflex pseudophakic IOL include both primary and early/late secondary implantations. It can be used for the correction of ametropia, the multifocal version can be piggybacked for spectacle independence, and a toric Sulcoflex version can be used to correct astigmatism. Potentially the lens also could offer a blue light filter to enhance retinal protection, and could be used in paediatric

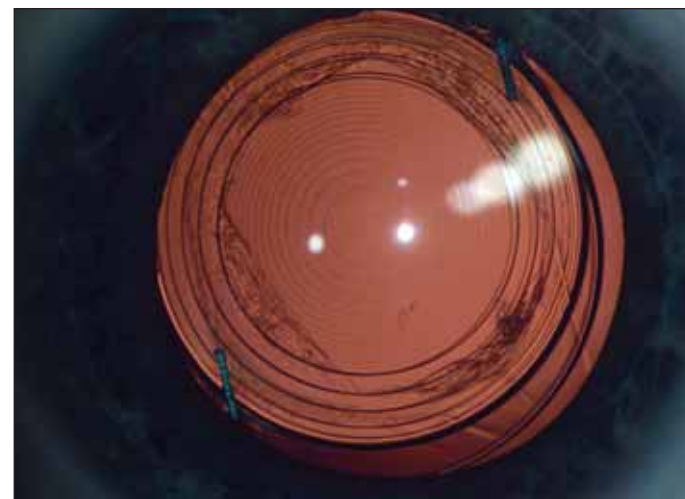
Indications for the Sulcoflex IOL:

primary, early/late secondary implantation

ametropia (enhancement after RLE, Prelex,...)
near and far vision (multifocal, monovision)
astigmatism (toric, toric/multifocal)
blue light filter
pediatric cataract (correction of refractive change)
aphakia

higher order aberrations (customised)
“test-implant” (emmetropia/myopia or monovision; easy to remove)
reduction of IOL stock (toric IOL stock)
total or partial pupil-occlusion (dysphotopsia)

M. Amon, ESCRS, 2007



Courtesy of Michael Amon MD

cases for correction of a refractive change. Additionally, the device is easy to remove, if necessary, Dr Amon noted.

He observed that the demand today for exact refractive results after cataract surgery or refractive lens exchange is high, and stressed the importance of having atraumatic surgery and avoiding IOL exchange whenever possible. This lens should provide an additional benefit to the patient in case of a second surgical intervention.

Dr Amon added that the Sulcoflex device avoids contact and distortion of the optical zones, as seen after conventional piggyback implantation. It is easy and safe to implant with less trauma to surrounding tissues than IOL exchange can cause. Follow-up exams thus far revealed no complications. This device is a promising new IOL concept with various indications, he said.

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