



Thomas Kohnen

Akreos MI60 posterior chamber IOL stable at one year

Stephanie Petrou Binder MD
in Munich

IMPLANTATION of the Akreos MI60
intraocular lens (IOL) is safe and effective

through a 1.8mm incision, according to
a multicentre European study presented
at the 23rd Congress of the DGII
(German Speaking Society for Intraocular

Lens Implantation, Interventional and
Refractive Surgery) in Munich.

"The MI60 gave us very good
centration and very little tilting, which is
particularly important with
ultrathin microincisional
IOLs, as has proven to be
an issue in the past. The
visual results are also quite
good," said Thomas Kohnen
MD, Goethe University Eye
Clinic, Frankfurt, Germany,
who presented the one-year
outcomes of this multicentre
study.

The 24-month, prospective
study included 125 patients
who received monocular
MI60 implants in centres
located in five European
clinics in Spain, Sweden, Italy,
France, and Germany.

The Akreos MI60 is a
one-piece hydrophilic acrylic
ultrathin posterior chamber
IOL. It is aspherical in shape
with a spherical aberration
of 0.0 μm . The device is
implanted through a 1.8mm
incision, has a four-point
fixation, a 360° posterior
lens edge, and 10° of haptic
angulation.

The study outcomes
revealed an average IOL
strength of 21.2 ± 2.5 D
(ranging from 15.5 to 30 D).
Mean wound enlargement
during the operation was
 0.10 ± 0.2 mm, which is
typical for this kind of
surgery and has been verified
in a number of other studies,
Prof Kohnen observed.

The incision size for
the phaco portion of the
operation was 1.5 ± 0.3 mm,
because it was performed
bimanually. Incision size was
 1.7 ± 0.2 mm in eyes that
had previous implant surgery
and reached an average of
 1.8 ± 0.15 mm after IOL
implantation.

The uncorrected visual
acuity (UCVA) was 0.26
after the first week following
surgery. The mean UCVA
at one month was 0.23, and
remained unchanged at three
months. The mean spherical
aberration was 0.25 at one
week, 0.19 at one month and
0.24 at three months.

The average best-corrected
visual acuity (BCVA)
preoperatively was 0.46.

Postoperatively, the values went from
0.11, then 0.4 and 0.2 during the next
three follow-up visits. BCVA was 20/20
by the fourth follow-up visit (between
day 30 to 60), he noted.

Researchers examined tilting and
centration in these ultrathin IOLs using
Scheimpflug camera imaging at one
week to six months post-surgically. The
investigators used the NidekEAS-1000,
taking images at 180° and 90°. Prof
Kohnen noted that the curvature of the
anterior IOL surface was suitably shaped
to align along the posterior corneal
curvature. The calculations were done
using the camera's own software, he said.

IOL tilting examinations revealed
tilting of between 1.51 to 1.79 degrees
in selected patients. Decentration was
noted within a range of 0.22 to 0.31
degrees.

Comparing the tilting and decentration
results with the Akreos from this
investigation to his past experience with
standard lenses, such as with AcrySof and
Tecnis IOLs, showed a smaller degree
of tilting with Akreos microincisional
ultrathin lenses. Standard IOLs had
a tilting of 2.3 to 3.0 degrees and a
decentration of 0.23 to 0.29 degrees. The
Akreos outcomes were quite comparable
overall, he observed.

Wavefront analysis was performed in
two of the collaborating study centres
(Germany and Sweden), using the
Zywave aberrometer to study higher
order aberrations at one month and
three months postoperatively for eyes
with 3mm, 4mm, and 5mm pupillary
diameter. The third-, fourth-, and fifth-
order aberrations increased notably with
increasing pupil size.


Prof Kohnen used bimanual
phacoemulsification to treat the cataracts.
He employed topical anaesthesia with
a mid-sized clear cornea incision (1.5 ± 1.29 mm) in 72 per cent of patients.
He enlarged the incisions to an average
mean incision size of 1.7 ± 0.2 mm. He
employed two viscoelastic substances,
Amvisc Plus (Bausch & Lomb) which he
used in 59 per cent of cases, and Coatel
(Bausch & Lomb) in 37 per cent.

Prof Kohnen performed 4cm to 6cm
capsulorhexes on the optic in 96 per cent
of eyes. He also performed posterior
capsule polishing in all eyes.

The surgical technique was an
injection-wound-assisted technique. For
device implantation, he used the Viscoject
Medical System with a 1.8mm cartridge.
The incision was hydrated and no
suture was made in 94.4 per cent of the
operated eyes.

kohnen@em.uni-frankfurt.de

Dependable Technology.
Superior Results.
Peace of Mind.

ziemer 
AMADEUS II
COMPREHENSIVE MICROKERATOME SYSTEM



The „three-in-one“ Microkeratome:
LASIK and SBK
Surface ablation / epi-LASIK
Lamellar Keratoplasty SALK / DALK

www.ziemergroup.com

United States: ZIEMER USA, INC.
Wood River, IL 62095
phone: 618-251-9537, toll-free: 866-708-4490
e-mail: usa@ziemergroup.com

international: ZIEMER OPHTHALMIC SYSTEMS AG
CH-2562 Port (Switzerland)
phone: +41 32 332 7050
innovation@ziemergroup.com
Promotional Code: A07A08

EXCITINGLY CLEVER

GALILEI DUAL SCHEIMPFLUG ANALYZER
MAXWELL OCULAR WAVEFRONT ABERROMETER
FEMTO LDV FEMTOSECOND SURGICAL LASER
AMADEUS II ADVANCED AUTOMATED MICROKERATOME
PASCAL DYNAMIC CONTOUR TONOMETER