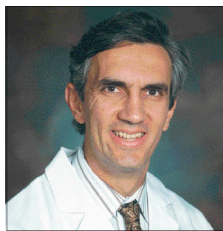


Most IOL explants preventable



Nick Mamalis

Sean Henahan in Paris

MOST IOL explants could be avoided with improved surgical techniques, better biometry and more careful patient selection, according to a survey of ASCRS and ESCRS members conducted by Nick Mamalis MD, Moran Eye Centre, Salt Lake City, Utah, US.

Dr Mamalis will report the results of his sixth annual survey of explanted foldable IOLs at the XXII ESCRS Congress.

"Small incision cataract surgery with foldable IOLs continues to increase in popularity worldwide, with a consequent increase in complications requiring explantations of these lenses," he notes.

He asked members of the two organisations to provide data on each foldable lens that required removal or secondary surgical intervention. Nearly 300 respondents provided information on the IOL material and design, signs and symptoms, pre- and post-op visual acuity and other relevant clinical information.

Overall, 27% of problem cases involved three-piece silicone IOLs; 16% involved one-piece plate silicone lenses; another 16% involved

three-piece acrylic lenses; and 14% involving one-piece acrylic lenses with haptics. Surgeons also reported cases involving hydrogel lenses, collamer lenses and multifocal IOLs.

Complications varied depending on the type of foldable IOL. The overall pattern indicated that incorrect lens power and lens dislocation and decentration accounted for a majority of cases.

Respondents reported incorrect lens power, glare/visual aberrations and lens dislocation/ decentration as the leading reasons for removal of the three most commonly explanted IOLs reported in the survey- three-piece silicone IOLs, three-piece acrylic IOLs, and one-piece acrylic IOLs. Glare and optical aberrations were also cited as reasons for explanting those types of lenses, as were lenses damaged during insertion, retinal problems, and endophthalmitis.

The situation was a bit different for hydrophilic acrylic, or hydrogel, IOLs. Postoperative lens calcification and opacification accounted for 80% of one-piece hydrogel explants and 72% of three-piece hydrogel explants. Glare and optical aberrations accounted for slightly more than 10% of three-piece hydrogel explants.

Lens dislocation and decentration were also the most common complication associated with one-piece silicone IOLs. Multifocal silicone IOLs presented a different picture. The leading reason for explantation of those lenses was problems with glare and optical aberrations, accounting for 40% of cases. Incorrect lens power was cited in 30% of cases, and dislocation and decentration in another 15% of cases.

A look back at six years worth of survey data suggests a pattern

in reasons for foldable IOL explantations. For example, while the percentage of three-piece silicone removed because of incorrect lens power dropped from 50% to 30% between 1998 and 2003, the percentage of cases associated with dislocation and decentration increased from 20% to 34%. Complications associated with glare and optical aberrations remained the same, at about 12%.

Dislocation and decentration cases also increased with three-piece acrylic IOLs, up from 15% to 27%. The number of cases associated with glare decreased from 42% to 22% in the same period, while the number of cases associated with incorrect lens power dropped.

Lens dislocation and decentration still accounts for a majority of plate silicone one piece IOL explants, having increased from 50% in 1998 to 61% in 2003. The number of lenses removed because of damage during insertion had dropped to below five percent. However, incorrect lens power still accounts for 20% of cases.

Incorrect lens power also accounts for 30% of multifocal silicone IOL explants. However, the number of cases associated with glare and optical aberrations has declined from a high of 70% to 40% in 2003.

The data from this survey strongly suggest that the majority of complications involving foldable IOLs are avoidable, Dr Mamalis emphasised.

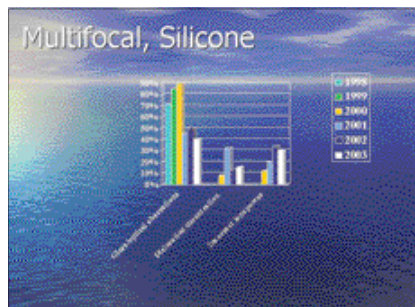
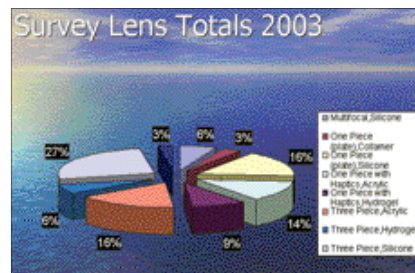
Good surgical technique, including a continuous curvilinear capsulorhexis with capsular bag fixation of the IOL is essential. Careful folding and insertion of the IOL can also go a long way to preventing problems later on, he said.

The high percentage of IOLs explanted simply because the wrong power of lens was used highlights the importance of accurate biometry. There is a need for new technologies for axial length measurements and IOL calculations.

"New, highly accurate methods of measuring axial length include partial coherence interferometry. In addition, non-contact A-scan measurements of axial length in the hands of a highly skilled technician will also provide more accurate measurements of the axial length. Highly accurate axial length measurements coupled with modern IOL formulas will help improve the accuracy of IOL power calculations," he told *EuroTimes*.

Careful patient selection is also vital. This is especially important in patients in whom multifocal IOL placement is being contemplated, he stressed.

There are other issues that are beyond the surgeons' control that would also make a difference, notably improved quality in manufacturing. Surgeons need to be particularly vigilant when implanting IOLs made of new materials.



The ASCRS/ESCRS explant survey is ongoing. Surgeons who would like to submit cases of explanted foldable IOLs can download the forms at the ASCRS website, www.ascrs.org.

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