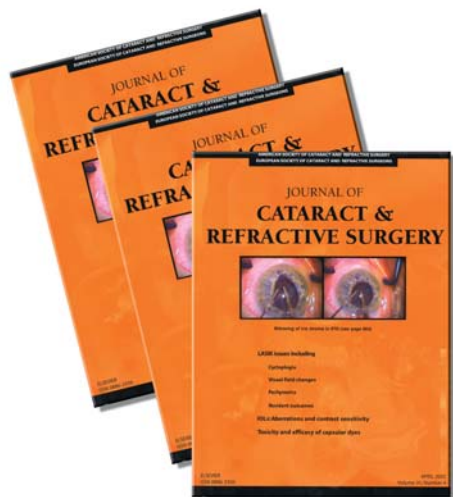


# Journal Watch

by Sean Henahan

## Vision science highlights from the world's leading journals of medicine and science



### Time to lose the MemoryLens?

Dr AJ Aldave and colleagues report a case of late postoperative opacification of the MemoryLens intraocular lens (Ciba Vision) requiring IOL explantation. The case involved a 75-year-old man with insulin-dependent diabetes mellitus who received a 21.5 dioptre Mentor MemoryLens in the left eye. The patient noted a steady decline in his visual acuity, attributed to progressive diabetic retinopathy. An examination revealed a best corrected visual acuity of counting fingers and a well-positioned posterior chamber IOL in the capsular bag with fine deposits scattered over the anterior optic surface and moderate anterior capsule opacification, producing a diffuse haze that made visualisation of the posterior capsule and retina difficult. Nearly four years after the initial operation, the lens was explanted. Adherence of the posterior optic surface to the capsule made IOL removal from the capsular bag impossible, necessitating removal of the capsule and the IOL. After an anterior chamber IOL was implanted, the patient's postoperative visual acuity was 20/400 secondary to diabetic retinopathy. Histopathologic examination of the IOL optic revealed calcium deposition on the anterior and posterior optic surfaces.

The authors note that cause of the problem, calcium deposition on the anterior and posterior optic surfaces, was the same as that reported by others.

The case report prompted a response from David Apple, who asks, "Is it time to remove the MemoryLens IOL from the market?" Dr Apple notes his own experience with the lens going back to the late 1990s, citing problems with

calcification. He cites other reports of more than 100 cases of calcification with the MemoryLens. He also reports a new complication with the lens, schisis/cavitation within the IOL substance.

Dr Apple concludes, "It is time to remove the MemoryLens from the market. It simply does not have the safety criteria necessary for long-term use."

*D.Apple et al., JCRS, "Is it time to remove the MemoryLens IOL from the market?," September 2005, Volume 31, Issue 9, Pages 1681-1682.*

*AJ Aldave, JCRS, "Late calcification deposition on the hydrophilic acrylic MemoryLens", September 2005, Volume 31, Issue 9, 1681*

### AMD linked to Chlamydia

Harvard University researchers report a possible link between Chlamydia pneumoniae infection and macular degeneration. They found the bacterium in the diseased eye tissue of five out of nine people with neovascular age-related macular degeneration, but did not find it in the eyes of those without AMD. They also report lab work indicating that *C. pneumoniae* is capable of modifying the function of cell types involved in regulating normal eye function. In particular, they found that *C. pneumoniae* infection led to increased production of vascular endothelial growth factor. They hypothesise that *C. pneumoniae* may be the key link between Complement Factor H and AMD.

*M Kalayoglu et al., Graefes's Archive for Clinical and Experimental Ophthalmology, "Identification of Chlamydia pneumoniae within human choroidal neovascular membranes secondary to age-related macular degeneration", November 2005.*

### Atomic vision

A new imaging technique has for the first time shown how atoms move at the moment that light hits a retinal pigment epithelial cell. Researchers at the University of California, Berkeley used femtosecond stimulated Raman spectroscopy to track the intricate motion of the atoms in this process. The geometric changes involved in activating the rhodopsin protein occur in less than a picosecond.

*P Kukura et al, Science, "Structural Observation of the Primary Isomerization in Vision with Femtosecond-Stimulated Raman," 11 November, Vol. 310, no. 5750, pp. 980-982.*

### Gene variant increases AMD risk

A variant in a gene called Complement Factor H (CFH) appears to contribute to the increased risk of advanced age-related macular degeneration. It does so largely or entirely through its impact on the development of a

precursor of advanced AMD, soft drusen, an international study group reports. The researchers looked at the CFH gene and its relationship with the presence of soft drusen and AMD in 581 Icelandic patients with advanced and 435 with early AMD, and also 322 US patients with advanced disease and 109 with early AMD. Several research groups recently showed that CFH increases the risk for advanced AMD. However until this study, the relationship between CFH, soft drusen, and advanced AMD was unclear.

*KP Magnusson PLoS Medicine, "CFH Y402H Confers Similar Risk of Soft Drusen and Both Forms of Advanced AMD", 23 November 2005, 3(1):e5.*

### Cataract surgery rates linked to reimbursement methods

US Physicians who are reimbursed for each procedure they perform (fee-for-service) have significantly higher rates of cataract surgery and related surgical costs, compared to physicians who receive a lump sum for each patient they manage (contact capitation).

The researchers analysed claims and other data for an average of 91,473 commercial beneficiaries and 14,084 Medicare beneficiaries receiving eye care from a network of ophthalmologists and optometrists in St. Louis, Missouri. Compared with fee-for-service, contact capitation reimbursement was associated with significant decreases in cataract extraction rates and costs. Patients were approximately one half as likely to have cataract extraction under contact capitation as compared with fee-for-service. The researchers comment that their findings support the hypothesis that elective procedures are more responsive to physician incentives than non-elective procedures.

*W Shrank et al., Arch Ophthalmol., December 2005, Vol. 123 No. 11, 2005;123:1733-1738.*

### Lose weight, or lose sight

A meta-analysis by Israeli ophthalmologists suggests a possible link between obesity and major eye disease- age-related macular degeneration, cataracts, glaucoma, and diabetic retinopathy. The review of 20 large, long-term epidemiology studies found an unexpectedly strong association between body-mass-index and eye disease. The researchers say this gives clinicians another good reason to counsel patients on weight control.

*M Belkin et al., Refuah, Obesity and eye Disease, November 2005.*