Risk of retinal detachment after cataract surgery low but constant in long term

Dermot McGrath
in Paris

**Patients** without previously diagnosed risk factors who undergo phacoemulsification and cataract extraction have only a marginally greater risk of developing a retinal detachment over the long term than the general population, according to a detailed study carried out by Danish researchers.

Speaking at the XXII Congress of the ESCRS, Gøril Boberg-Ans MD said that while cataract extraction with phacoemulsification carries a low but constant risk of retinal detachment in the long term, the study demonstrated that complicated surgery does involve an increased risk for retinal detachment close to the time of operation.

“This is pretty much as we would expect. Otherwise the observed retinal detachments seem to be unrelated in time to surgery, indicating that uncomplicated surgery may be a major risk factor for retinal detachment in these eyes not only in the first years after surgery but constantly thereafter, in our observation time.

Furthermore, we see that known risk factors for postoperative retinal detachment such as myopia, low age and male gender were also found in longterm follow-up,” she said.

Examination of the records of 6,388 eyes in 5,093 patients who underwent standard phacoemulsification and IOL implantation between 1996 to 1998 at the Department of Ophthalmology, Herlev Hospital, Copenhagen, Denmark, showed that retinal detachment occurred in 43 eyes (0.67%) with an average follow-up of 5.5 years. Of the 43 eyes identified with retinal detachment, 29 were male and 14 female. Retinal detachment occurred in those eyes after a mean postoperative follow-up of 29.7 months, ranging from two weeks to 72 months. Of four retinal detachments that were diagnosed within three months of surgery, all had perioperative complications during the primary cataract surgery for these patients.

The study found that 11 retinal detachments occurred within the first year after surgery. Myopia, male gender and age less than 60 years at the time of operation were established as risk factors.

Modern techniques may be reducing risk

Dr Boberg-Ans told EuroTimes that the results fitted well with known risk factor data from other international studies. She said that while modern surgical techniques have undoubtedly played some role in reducing the risk of retinal detachment it was too early yet to make sweeping judgements.

“Modern techniques have decreased the risk of retinal detachment but there is no evidence that smaller incisions are responsible for the improved results. I believe that non-traumatic standardised techniques, with stable pressure and minimal vitreous and retinal trauma, both direct and indirect, is probably the major factor,” she said.

One of the principal strong points of the study, she noted, was the fact that it was so comprehensive.

“Denmark has a large centralised public health and eye care system. With the use of the Danish National Health register we are quite certain to have included close to 100% of the patients. Only patients not wanting treatment or investigation could have been lost and this study has one of the longest and strictest follow-up periods with the highest number of follow-up cases ever reported,” she said.

New avenues of research

Dr Boberg-Ans noted that while the study did not reveal any startling new data in relation to possible links between cataract surgery in uncomplicated cases and subsequent retinal detachment, it did, nevertheless, suggest some tantalising new avenues of research.

“It is interesting, for example, to note that the Kaplan-Meier graph which plots the cumulated probability of postoperative retinal detachment in these 6,338 eyes shows an almost linear progression. For this type of graph, one would normally expect to see a hump after surgery and then a slight decrease in risk over time in the postoperative period if surgery had been the only influencing factor at work,” she said.

“As we don’t have reliable data on how the curve would have looked if no surgery had been performed we can only speculate. But the fact that the risk seems to be constant is certainly intriguing,” she added.

On the question of whether there was any influence at all from surgery in the Danish retinal detachment figures, Dr Boberg-Ans said that the risk does increase with a factor between 4 and 10, but further studies needed to be done to shed more light on this.

“There probably is some impact from the surgery but we still cannot establish the exact mechanism of this. The likelihood is that it is due to changes in the vitreous body and fluid mechanics. And over time these changes give rise to retinal detachment in eyes with a predisposed genetic risk,” she said.

J.C. Norregard and associates reported in 1996, that the one-year risk for retinal detachment in individuals more than 50 years old who did not undergo surgery was 0.029%, while the four-year risk was 0.12%.

According to Dr Boberg-Ans, the estimated seven-year cumulated incidence of retinal detachment in their study is 0.8% (n=6388) with an estimated incidence rate of 0.14% per year.

“The increased incidence rate for retinal detachment is constant for at least 6 years after surgery. Without risk factors, the incidence rate is 0.05% per year, about 4 times higher than natural history in phakic eyes,” she said.

Gøril Elisabeth Boberg-Ans MD
gba@lasik.dk

---

**Image Description:**

- **Kaplan-Meier plot:** This graph illustrates the cumulated probability of postoperative retinal detachment (RD) over time. The x-axis represents the follow-up period in years, and the y-axis shows the probability of retinal detachment.
- **Probability of RD:** A bar chart showing the probability of retinal detachment at different time points after surgery.

---

**Note:**

- The Kaplan-Meier plot shows the cumulated incidence of retinal detachment over time, indicating that the risk remains constant after the first year.
- The bar chart provides a visual representation of the probability of retinal detachment at various postoperative time intervals.