

Cataract Surgery in Patients with Retinal Disease: A Practical Review

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Cataract patients with retinal disease present unique challenges. A series of case histories demonstrates the valuable role optometrists have in their co-management.

Cataracts and retinal disease are both commonly encountered in routine optometric practice. Advancing age is a major risk factor for both, and some retinal conditions (e.g. pathological myopia or diabetic retinopathy) are associated with an increased risk of cataract formation. Additionally, treatments for retinal disease such as vitrectomy surgery and intravitreal steroid injections can cause cataracts. Consequently, many patients have both cataracts and retinal disease.

As optometrists, you have an important role to play in managing patients with co-existing cataracts and retinal disease due to expanding scopes of optometric practice, ocular therapeutics training, increasing access to advanced retinal imaging technologies such as optical coherence tomography (OCT), and increasing involvement in ocular disease co-management.

I have performed cataract surgery for thousands of patients with retinal disease and over the years have found that it presents a unique range of challenges, as well as opportunities, compared to cataract surgery in otherwise normal eyes. Cataract surgery in the presence of retinal disease is more complex and patient expectations need to be managed appropriately. As their primary eye healthcare provider, patients with retinal disease will expect and value your expert

guidance before referral for cataract surgery as well as after surgery.

Important and potentially life changing decisions need to be made about the appropriate timing of surgery, choice of surgical technique, intraocular lens (IOL) type, refractive target, and the use of adjunctive treatments such as intravitreal drugs and retinal laser.

Using a series of case histories, this article reviews some important pre-operative and post-operative considerations in the management of patients with cataracts and a variety of common co-existing retinal diseases.

CASE 1. AGE-RELATED MACULAR DEGENERATION

Ms B was a 78-year-old woman referred for cataract surgery with a two-year history of deteriorating vision. She wanted to be able to see without glasses after cataract surgery, particularly when playing golf and bridge. She requested multifocal IOLs (MF-IOLs) because her husband had been happy with the results of cataract surgery using MF-IOLs, which enabled him to drive and read without glasses.

Exam Findings

Visual acuity (VA) OD: +1.0DS/+1.5DC x 180 = 6/12; OS: +0.50DS/+1.0DC x 170 = 6/12.

Bilateral cataracts and intermediate age-related macular degeneration (AMD) (Figure 1).

Management

Baseline investigations included retinal photography, OCT, OCT-angiography (OCT-A) and fundus autofluorescence (FAF) imaging. These showed no evidence of choroidal neovascularisation or geographic atrophy.

I advised Ms B that she should benefit from cataract surgery with improved clarity of vision and that things would appear brighter. However, I warned her that she would still need to wear glasses for many tasks because, due to the presence of AMD, she was not a good candidate for MF-IOLs



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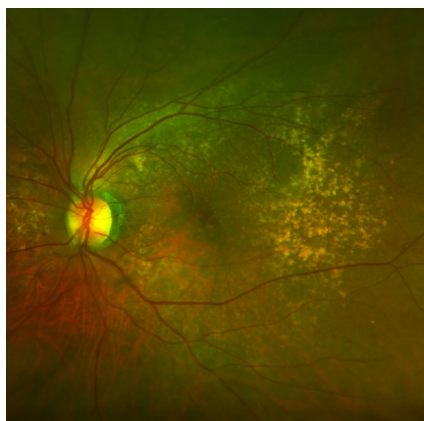


Figure 1. Age-related macular degeneration.

or pseudophakic monovision. I also advised her that due to the natural history of AMD, she may experience deterioration of vision in the long term despite having cataract surgery. Ms B was disappointed to hear that she would need to wear reading glasses after surgery but accepted my explanation and elected to proceed with surgery.

Cataract surgery with implantation of monofocal toric blue light filtering IOLs was performed, targeting bilateral emmetropia.

Outcome

At three months post-op, VA OD: plano = 6/9, OS: -0.25D = 6/9.

Ms B was happy with her vision and used glasses for near tasks. Her retinal condition was stable.

Discussion Points

1. Patients have increasingly high expectations of cataract surgery and like Ms B, many expect to be completely free of glasses after cataract surgery. Unfortunately, this is often not possible for patients with retinal disease so it is important that a frank discussion is undertaken about what is or is not possible before they proceed with surgery. Setting realistic expectations will help avoid having an unhappy patient after surgery.

2. AMD reduces contrast sensitivity, as do most conditions that affect the macula. Advanced technology presbyopia correcting IOLs such as MF-IOLs can provide excellent unaided vision at distance, intermediate and near ranges in healthy eyes, providing patients with a high degree of spectacle independence. MF-IOLs work by splitting light to produce multiple focal points and have the disadvantage of reducing contrast sensitivity. Extended depth of focus (EDOF) IOLs create a single elongated focal point to enhance the depth of focus, which improves unaided intermediate vision. They tend to produce worse near vision than MF-IOLs but do not reduce contrast sensitivity as much.¹ In healthy eyes, the reduction in contrast sensitivity associated with MF-IOLs and EDOF IOLs may not be noticeable to the patient, but in eyes with macular disease such as AMD, the combination of reduced contrast sensitivity caused by the IOL and the macular condition can lead to a noticeable reduction in quality of vision and unhappy patients.

3. Another commonly employed method to reduce spectacle dependence is pseudophakic monovision, typically making the dominant eye plano and the non-dominant eye myopic. In patients with significant macular disease this does not work well because monovision relies on the patient seeing well with both eyes; one eye for distance and one eye for near. If one or

both eyes has suboptimal vision, then their binocular vision will be compromised.

4. In the short term, presbyopia correcting IOLs or pseudophakic monovision can work well in patients that have mild macular disease with good retinal function, but I generally advise against these approaches, especially in patients with progressive retinal conditions such as AMD. In the initial months after surgery, patients may be happy and able to see well without glasses. However, in the longer term, when the retinal condition progresses with a deterioration in macular function, they commonly find themselves needing to wear reading glasses again and their vision will be compromised by the reduction in contrast sensitivity caused by the presbyopia correcting IOL or monovision.

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5. For patients with mild retinal disease that are highly motivated to reduce spectacle dependence and accept that their vision will potentially be compromised in the long term if the retinal condition progresses, I will occasionally use pseudophakic monovision targeting -1D to -1.5D in the myopic eye. This allows the patient to enjoy the benefits of monovision while their retinal function is good, and glasses can be worn to improve binocular contrast sensitivity if their retinal condition progresses in the future.

6. In patients with significant macular disease, I typically target both eyes for distance (plano to -0.5D). For patients who are low to moderate myopes and wish to preserve their ability to read without glasses, then I often target bilateral myopia (between -1D to -3D depending on patient preference and lifestyle). By targeting the same refractive error in both eyes, patients benefit from binocular summation so that one eye can partially compensate for the reduction in contrast sensitivity of the fellow eye.

7. In patients with AMD, I frequently use blue light filtering IOLs. All modern

IOLs contain ultraviolet light blocking chromophores, but blue light filtering IOLs have additional yellow chromophores to filter out shorter wavelength high energy blue light, which has been shown to induce oxidative stress and retinal damage in in-vitro studies. Blue light filtering IOLs may have potential benefits in protecting the retina from phototoxicity, especially in eyes with AMD, although this has not been proven in human studies.² Potential disadvantages of these IOLs include changes to natural circadian rhythms and alterations in colour perception, although these are rarely clinically meaningful.

8. I routinely use toric IOLs in patients where IOL calculations predict more than 0.5D residual astigmatism. Unlike MF-IOLs and EDOF-IOLs, toric IOLs do not reduce contrast sensitivity and work well in patients with retinal disease.³

9. Careful pre-operative assessment of the retina is particularly important in AMD patients. I routinely perform pre-operative fundus photography, macular OCT, OCT-A and FAF imaging in AMD patients to exclude subtle signs of occult choroidal neovascularisation due to exudative AMD which may benefit from intravitreal anti-vascular endothelial growth factor (VEGF) treatment. Retinal imaging helps to determine the severity of the condition and its impact on visual function, allowing an informed discussion with the patient about the likely outcome of surgery and the natural history of the condition. If significant macular atrophy is present, then I tell the patient that their VA will remain limited following surgery. Patients with progressive retinal conditions are advised about the natural history of their condition, otherwise they may erroneously attribute any subsequent deterioration in their retinal condition to the cataract surgery.

CASE 2. EPIRETINAL MEMBRANE

Mr T was a 65-year-old man referred for cataract surgery. He complained of a one-year history of deteriorating vision and reported that straight lines appeared wavy.



Figure 2. Epiretinal membrane.

Exam Findings

VA OD: -1.0D = 6/18; OS: -0.75D = 6/12.

Bilateral cataracts and bilateral epiretinal membranes (ERMs) (Figure 2).

A left superotemporal retinal tear was identified.

OCT scanning showed bilateral ERMs with macular thickening.

Management

Laser photocoagulation of the left retinal tear was performed in the clinic. Right combined femtosecond laser cataract surgery with pars plan vitrectomy and ERM peeling was performed for the right eye. A similar procedure was performed for the left eye two months later. Monofocal blue light filtering IOLs, targeting plano, were implanted in both eyes.

Outcome

At six months post-op, VA OD: -0.25D = 6/9; OS: -0.50D = 6/9 OS.

Post-op OCT showed a marked reduction in macular thickening with no residual ERM.

The patient was advised about the symptoms of a retinal detachment (RD) and discharged to the care of his referring optometrist for monitoring with OCT scans and ultrawidefield retinal imaging.

Discussion Points

1. All patients with ERMs should have a careful inspection of the peripheral retina prior to cataract surgery to exclude the presence of retinal tears, which can lead to RD. Cataract surgery is associated with an elevated risk of RD so treatment of high-risk retinal lesions should be considered prior to surgery.⁴

2. When a patient has a cataract and ERM, I try to determine whether their vision is affected primarily by the cataract, by the ERM or both conditions equally. The visual impact of a cataract can be estimated from its clinical appearance, particularly its optical density and type of cataract e.g. denser posterior subcapsular cataracts tend to have more impact than less optically dense cortical cataracts. The clinical features that indicate an ERM may be having a significant impact on vision include distortion demonstrable on Amsler grid testing, or disruption of the outer retinal anatomy on OCT scanning.⁵

3. If the cataract is the main cause of visual loss, and the ERM is relatively asymptomatic, then I will usually proceed with cataract surgery alone. However, I advise patients that ERMs are associated with an increased risk of post-operative cystoid macula oedema (CMO).⁶ Additionally, ERMs may progress more quickly following cataract surgery, particularly in the first post-operative year, so subsequent vitrectomy surgery with

ERM peeling may be needed if the ERM progresses to affect visual function.⁷

4. If the ERM is visually significant, I discuss the following options:

- Vitrectomy surgery with ERM peeling followed by cataract surgery performed three to 12 months later, when the eye has recovered from the vitrectomy,
- Cataract surgery followed by vitrectomy surgery with ERM peeling three to 12 months later, when the eye has recovered from cataract surgery, or
- Cataract surgery combined with vitrectomy surgery and ERM peeling in a single operation called a phacovitrectomy. This involves performing cataract surgery with IOL implantation immediately, followed by a pars plana vitrectomy and ERM peeling.

“patients with retinal disease will expect and value your expert guidance before referral for cataract surgery as well as after surgery”

5. The benefits of combined phacovitrectomy surgery include the need for one instead of two operations with a reduced total number of post-operative visits and a quicker visual recovery. Potential downsides of combined surgery include increased post-operative inflammation associated with performing a longer, more complex single operation instead of two shorter operations, and reduced predictability of refractive outcomes.^{8,9}

6. Phacovitrectomy surgery is performed by vitreoretinal surgeons with training in cataract surgery. The majority of cataract surgeons do not perform pars plana vitrectomy so there is a limited availability of surgeons that can perform combined surgery. There is also limited availability of appropriately resourced operating theatres where combined surgery can be performed. This is because many facilities where cataract surgery is performed do not have the specialised equipment or specially trained nursing staff required to undertake it.

7. The decision whether to perform sequential surgery or combined surgery

needs to be individualised to the patient according to their clinical condition, patient preferences, and availability of vitreoretinal trained cataract surgeons and facilities.

CASE 3. PREVIOUS VITRECTOMY SURGERY FOR RETINAL DETACHMENT

Mr C was a 57-year-old male computer engineer referred for cataract surgery. He had a history of bilateral macula-on RDs, which I had repaired with vitrectomy surgery two years prior. His optometrist recorded corrected VAs of 6/6 OU 12 months prior to referral.

Exam Findings

VA OD: -5.50DS/-1.50DCx 90= 6/12; OS: -5.00DS/-2.00DCx100= 6/12.

Bilateral nuclear cataracts. The maculae appeared normal on biomicroscopic exam and OCT scanning. Peripheral retinal laser scars were visible (Figure 3).

Mr C had a strong desire to become spectacle independent after surgery. He had researched multifocal IOLs extensively on the internet and requested trifocal IOLs.

Management

Bilateral cataract surgery with implantation of toric diffractive trifocal blue light filtering hydrophilic acrylic IOLs (Alcon PanOptix) was performed. Back-up monofocal IOLs were ordered and ready for use in case of per-operative complications such as zonular dehiscence or dropped nucleus.

Outcome

At three months post-op, Mr C was seeing 6/6 and N5 unaided with each eye. As expected with diffractive MF-IOLs, he reported seeing haloes around lights when driving at night but did not find them intrusive. The retinas were stable and Mr C was discharged to the care of his optometrist.

Discussion Points

1. Vitrectomy surgery is a common treatment for many vitreoretinal conditions including RD, floaters, ERM, macular hole, vitreomacular traction and others. The vitreous absorbs oxygen released from the retinal circulation and protects the lens from oxidation.

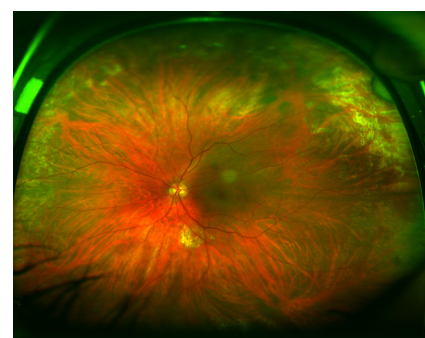


Figure 3. Peripheral retinal laser scars following previous vitrectomy surgery for retinal detachment.

Following vitrectomy surgery, oxygen reaches the lens more quickly, resulting in an acceleration of nuclear sclerotic cataract formation in over 70% of patients within three years of surgery.¹⁰⁻¹¹ Patients that have had vitrectomy surgery should be monitored for cataract development and surgery should be performed sooner rather than later because the cataracts can progress rapidly, making delayed surgery more technically difficult when the cataract is denser.

2. Retinal disease, in general, is considered to be a relative contraindication for the use of MF-IOLs. However, in cases where macular function and anatomy are normal and no progressive retinal disease is present, MF-IOLs can work well. If Mr C's previous retinal detachments had involved the maculae, then macular function would likely have been impaired and MF-IOLs would have been inappropriate. As usual, appropriate patient selection and counselling is vital to the success of cataract surgery with MF-IOLs.

3. Eyes that have had vitrectomy surgery behave differently to non-vitrectomised eyes during cataract surgery. The lack of vitreous support, combined with lens zonules potentially weakened by vitrectomy surgery, causes the lens and iris to move posteriorly when fluid is infused into the anterior chamber. This can lead to a sudden and profound deepening of the anterior chamber with potential consequences, including ocular pain when topical anaesthesia is used and an unstable anterior chamber, which makes surgery technically challenging. The rate of complications such as posterior capsule rupture and dislocated lens fragments is reported to be higher in vitrectomised eyes.¹²

Therefore, it is important that the surgeon is experienced in performing cataract surgery in vitrectomised eyes and prepared to deal with potential complications as they arise.

4. When planning surgery in vitrectomised eyes, I order an alternative back up IOL for use in case the originally intended IOL cannot be placed inside the capsular bag due to complications occurring

during surgery. When the capsular bag is compromised, I implant the back-up IOL using a sutureless scleral fixation (Yamane) technique.¹³ I also ensure that the surgical team is prepared and equipped to perform an immediate pars plana vitrectomy if a dropped nucleus occurs during surgery.

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CASE 4. HIGH MYOPIA WITH SYMPTOMATIC FLOATERS

Ms D was a 59-year-old female executive referred for right cataract surgery. She complained of deteriorating right vision and highly symptomatic right floaters for one year. She reported having to constantly blink to shift the floaters out of her visual axis. Her ocular history was notable for left cataract surgery two years prior, with a post-operative myopic refractive surprise and bilateral LASIK surgery 15 years previously. The pre-LASIK refractive error was approximately -9D OU. She had a family history of retinal detachment affecting her father and sister.

Ms D had a history of successful monovision with contact lenses and a strong desire to avoid having to wear glasses for social events.

Exam Findings

VA OD: -2.50D = 6/12; OS: -1.50D = 6/9.

Right posterior subcapsular cataract and left IOL with posterior capsule opacification (PCO).

There were numerous large right vitreous floaters, a right temporal peripheral horseshoe retinal tear adjacent to an area of lattice degeneration, and bilateral posterior staphylomata (Figure 4). The right eye was determined to be dominant using a hole-in-card test.

Management

Ms D was advised that IOL power calculations were significantly less

accurate in eyes with prior corneal laser refractive surgery and those with high axial myopia, leading to an increased risk of a post-operative refractive surprise as had happened with her left cataract surgery. If a refractive surprise occurred, Ms D was warned that she may need to wear glasses to see clearly or have additional surgery to correct the residual refractive error.

Biometry and IOL calculations using multiple post-LASIK IOL formulae, including the Barrett true-K formula, were performed and the measurements were double checked.

A left YAG posterior capsulotomy was performed and right retinal laser treatment for the horseshoe retinal tear was performed to reduce the risk of RD. Subsequently, a right phacovitrectomy, with removal of the floaters, was performed. A pseudophakic monovision strategy was used and a hydrophilic acrylic blue light filtering monofocal IOL was implanted, targeting plano.

Outcome

At one month post-op a right myopic surprise was noted with an uncorrected right VA of 6/12 and BCVA of 6/6 (-1.25D). Ms D was highly motivated to have better unaided distance vision, so I performed an IOL exchange procedure replacing the original IOL with a lower power IOL of the same model.

At three months post-op, Ms D was seeing 6/6 unaided with the right eye, adapted well to monovision, reported no floaters and was happy with her vision. No new retinal pathology was visible and Ms D was warned about the symptoms of a RD with advice to see an optometrist or ophthalmologist urgently if she developed any. She was discharged to the care of her optometrist and informed about the likely development of PCO in the future.

Discussion Points

1. Myopia and cataract surgery are both major risk factors for RD, so a careful peripheral retinal examination to detect retinal tears should be performed for all myopes prior to cataract surgery.¹⁴ Laser treatment of high-risk retinal lesions to reduce the risk of RD should be considered before surgery.

2. Highly myopic eyes are more prone to developing PCO after cataract surgery, potentially because the IOL does not adequately stretch the relatively large capsular bag in highly myopic eyes. This leads to reduced posterior capsule adhesion to the IOL optic, facilitating lens epithelial cell migration onto the posterior capsule.^{15,16} Vitrectomised eyes are also known to have an increased rate of PCO, possibly due to lack of vitreous support, reducing the compression pressure of the lens capsule on the IOL optic.¹⁷

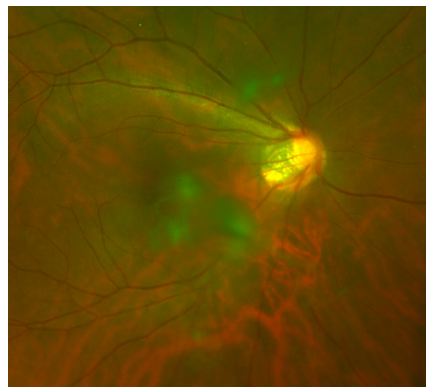


Figure 4. Large vitreous floaters.

3. IOL calculations are less reliable in highly myopic eyes and those that have had corneal laser refractive surgery.¹⁸ Even when using the latest generation of IOL calculation formulae and optical biometers, refractive surprises can occur. This means these patients should be pre-warned about the possibility before surgery. Surgeons should be prepared and equipped to manage refractive surprises if needed. Surgical options to deal with refractive surprises include corneal laser refractive surgery, piggy back IOLs and IOL exchange.

4. For extreme myopes, particularly those with axial lengths greater than 30mm, the calculated IOL power required may not be available in the surgeon's preferred IOL model and alternative models may need to be used. This sometimes requires a custom made IOL order, which can take many weeks to acquire from overseas.

5. A normal emmetropic eye without ocular disease might require a typical IOL power of +23D, whereas an eye with extreme axial myopia will require a much lower power IOL, sometimes even a zero (plano) power or minus power IOL. From an optical perspective, there is no benefit in implanting a zero power IOL. I use them, however, because they provide a physical barrier between the anterior and posterior segments. This helps prevent the vitreous from prolapsing into the anterior chamber, which can generate peripheral vitreoretinal traction and cause a RD (aphakic eyes have an increased rate of RD). Zero power IOLs also filter UV light, which may prevent retinal phototoxicity.

6. In high myopes, and other patients with risk factors for RD, I always avoid implanting silicone IOLs in preference for acrylic IOLs. This is in case the patient ever develops a RD needing treatment with vitrectomy and silicone oil. If the patient has a silicone IOL, the oil can adhere to the IOL causing reduced VA and poor visual quality. This is not generally a problem when acrylic IOL materials are used.

7. Patients at elevated risk of RD following cataract surgery should be warned about the symptoms of RD and advised to see an optometrist or ophthalmologist urgently if they occur.

8. In patients with cataracts and chronic symptomatic floaters, the floaters are often more noticeable following cataract surgery. This is because pre-existing floaters are more easily seen when the cataract has been removed and cataract surgery also promotes vitreous liquefaction leading to the development of additional floaters. Phacovitrectomy is an effective and efficient way to treat cataracts and floaters simultaneously.

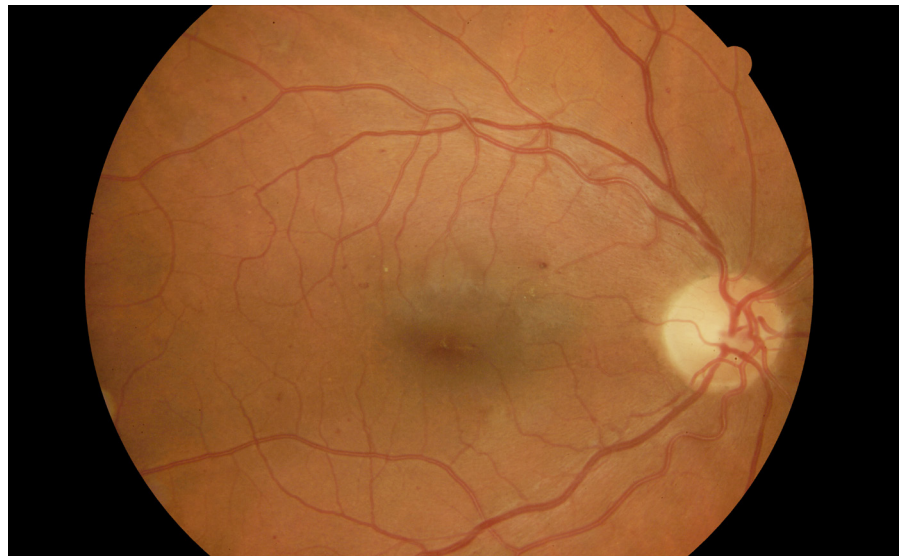


Figure 5. Non-proliferative diabetic retinopathy.

CASE 5. DIABETIC RETINOPATHY AND DIABETIC MACULAR OEDEMA

Mr J was a 55-year-old electrician referred for cataract surgery.

He complained of deteriorating vision over a six-month period. He had a seven-year history of type 2 diabetes, hypercholesterolaemia and hypertension, which were well controlled. A recent HbA1c was 7.1%. His medications included metformin, aspirin, atorvastatin and lisinopril.

Exam Findings

VA OD: +2.0DS/+1.0DCx120 = 6/12;
OS: +1.5DS/+1.5DCx 80 = 6/18.

Bilateral posterior subcapsular cataracts and bilateral mild non-proliferative diabetic retinopathy with scattered retinal microaneurysms and retinal haemorrhages (Figure 5).

OCT scanning demonstrated bilateral diabetic macular oedema (DME).

OCT-A showed macular microaneurysms with no significant macular ischaemia.

Management

Following discussion with Mr J's endocrinologist, treatment with fenofibrate was started. Bilateral intravitreal anti-VEGF therapy with aflibercept (Eylea) was initiated. After a series of monthly injections performed over six months, the DME had largely resolved and VA had improved to 6/9 OD, 6/12 OS.

Cataract surgery was then performed with insertion of blue light filtering monofocal toric IOLs targeting plano for both eyes, combined with intravitreal aflibercept injections.

Outcome

One month following surgery, Mr J's VA was 6/6 unaided in each eye.

At three months post-op, his VA had deteriorated to 6/12 OU associated with

recurrent DME. Intravitreal aflibercept injections were restarted and led to resolution of the DME. Following a course of four additional aflibercept injections, the VA recovered to 6/6 OU and no further injections were required over the subsequent 12 months.

Discussion Points

1. Diabetic patients tend to develop cataracts at an earlier age and are more prone to developing posterior subcapsular cataracts than patients without diabetes.²⁰

2. It is important to optimise glycaemic control, blood pressure and blood lipid levels prior to surgery. This should be done in conjunction with the patient's general practitioner or endocrinologist. Treatment with fenofibrate should be considered as it has been shown to reduce progression of diabetic retinopathy in type 2 diabetics.^{21,22}

3. Diabetic retinopathy and DME can progress faster after cataract surgery, which can lead to poor visual outcomes, so it is important to treat DME before cataract surgery is considered.²³ This may involve macular laser treatment or intravitreal injections of anti-VEGF agents and/or steroids. Additional intravitreal injections may be given at the time of cataract surgery and in the months following surgery. More intensive monitoring of the retina is needed in the post-operative period.

4. Diabetic patients are at increased risk of developing post-operative pseudophakic cystoid macular oedema (Irvine Gass syndrome) and may benefit from a prolonged course of post-operative topical steroid and non-steroidal anti-inflammatory drugs to minimise this risk.²⁴

5. As discussed in Case 1, presbyopia correcting IOLs should generally be avoided if significant retinal pathology, such as diabetic retinopathy or DME, are present.

6. Vitreoretinal interface abnormalities, such as ERM and VMT, are more common in diabetic patients and should be identified on pre-operative OCT. If they are visually significant, phacovitrectomy should be considered.

PRACTICAL TIPS FOR OPTOMETRISTS

Because cataracts and retinal disease commonly co-exist, make a conscious effort to thoroughly assess the retina before attributing visual symptoms to cataracts alone.

To avoid unhappy patients, set realistic expectations before referral for cataract surgery. Advise patients that underlying retinal diseases may limit their visual results following cataract surgery and often preclude the use of MF-IOLs and monovision strategies. They will likely still need optical correction with glasses or contact lenses for some tasks after surgery. Patients should also be made aware that retinal conditions, such as diabetic retinopathy and epiretinal membranes, may progress after cataract surgery.

Patients with exudative AMD, retinal vein occlusions or diabetic retinopathy may benefit from adjunctive therapies such as intravitreal anti-drugs (e.g. anti-VEGF agents or steroids) or retinal laser treatment, so consider referring them to a retinal specialist for assessment prior to cataract surgery. Ideally, diabetic patients should have control of their blood glucose and blood pressure optimised before referral for cataract surgery.

Myopic patients are at increased risk of retinal detachment and this risk increases following cataract surgery. These patients should have a careful examination of the peripheral retina to detect any high risk pathology, such as retinal tears, that may benefit from laser treatment prior to surgery. These patients should also be warned about the symptoms of retinal detachment and advised to seek urgent optometric or ophthalmic care if they occur.

Some patients with ERMs, macular holes, vitreomacular traction, diabetic retinopathy or symptomatic floaters may benefit from combined cataract and vitrectomy surgery (phacovitrectomy) to address the cataract and retinal condition simultaneously. There are numerous pros and cons to combined surgery versus sequential surgery. Consider referring these patients to a vitreoretinal surgeon that performs cataract surgery to discuss whether combined surgery would be appropriate for them.

CONCLUSION

Patients with retinal disease pose unique challenges during cataract surgery, and they may be prone to a more difficult post-operative recovery. However,

with careful pre-operative assessment, appropriate surgical techniques and careful post-operative monitoring, these patients can still achieve excellent results and optometrists are well placed to guide them along their journey. 

"Diabetic retinopathy and DME can progress faster after cataract surgery, which can lead to poor visual outcomes, so it is important to treat DME before cataract surgery is considered"

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