Recent technological advancements in the field of ophthalmology are exciting, particularly when they translate into benefits for your patients. In this newsletter, we will update you on two recent publications, and outline how patient outcomes were improved. This is relevant for your glaucoma patients undergoing cataract surgery, and your diabetic patients requiring treatment for macula oedema.

**Northern Sydney Cataract Retina Glaucoma** is a purpose-built ophthalmic practice. We are devoted to providing world-class care with a personalised approach. Our location in Northbridge helps us provide a relaxed environment. With sub-speciality, fellowship-trained ophthalmologists, high quality staff, and state of the art diagnostic equipment, you can be sure that your patients are well looked after.

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**Endoscopic Cyclophotocoagulation (ECP)**

I have been performing Endoscopic Cyclophotocoagulation (ECP) for about 3 years now, and would like to draw your attention to an article that was printed in the most recent edition of Clinical and Experimental Ophthalmology.

I perform ECP laser on patients who require cataract surgery, and have co-existing glaucoma. It is a simple and painless procedure that is performed at the same time as the cataract operation. There are only two of these laser units in Sydney; at Sydney Eye Hospital and at the Ophthalmic Surgery Centre in Chatswood. The laser is used to ablate the ciliary processes where aqueous fluid is produced, thus reducing aqueous production and intraocular pressure (IOP). This method has been used extensively in Europe for over a decade. The beauty of the laser is that the ablation is performed under direct vision of the ciliary processes via an endoscopic camera, offering complete control of the volume of ciliary body ablation.

ECP is performed at the time of cataract surgery, just after the intraocular lens is inserted. It adds just a few extra minutes to the cataract procedure (Phaco), and no additional wounds are required. It does however, induce more inflammation than standard cataract surgery, so increased intra-operative steroids are required.

A review published in the British Medical Journal in 2012 outlined the outcome of combined Phaco-ECP in 58 eyes. The average patient age was 79 years. The average pre-operative IOP was 21.5mmHg. Most patients had primary open angle glaucoma. An average drop in IOP of 7mmHg was found, with the post-operative mean IOP being 14mmHg at 18 months and 2 years post-operatively.

The drop in IOP was not explained by a change in the patients’ glaucoma medications, as the mean number of topical agents used pre and post-operatively was the same, at 2 agents. The safety of the procedure was highlighted, with no cases of hyphaema, hypotony, lens instability or dislocation, cystoid macular oedema, retinal tears or endophthalmitis.

The article published in the most recent Clinical and Experimental Ophthalmology was from a group in the USA. They compared the effect of combined Phaco-ECP with Phaco alone. Over 300 eyes were included in the study, with a 3 year follow-up period. At the conclusion of the study, both groups had well controlled IOP (14.6mmHg in the Phaco-ECP group vs 15.5mmHg in the Phaco alone group). However, the number of topical glaucoma medications required to control this IOP was less in the combined Phaco-ECP group (0.2 vs 1.2).

As you know, compliance with glaucoma agents is very real issue, as are the side effects of these drops. So any intervention that can reduce the need for these medications would be a great benefit.
The standard patient that I perform Phaco-ECP on has the following:
• chronic mild to moderate glaucoma
• a visually significant cataract with good potential vision
• is on one or two glaucoma drops

Note that I perform Phaco-ECP under a non-gap arrangement for insured patients. Patients with advanced glaucoma, where an IOP of less than 14 is targeted, should have incisional glaucoma surgery (trabeculectomy) rather than just Phaco-ECP.

As an aside, after Phaco-ECP, the anterior chamber angle will be wide open, and selective laser trabeculoplasty is an easy option to further decrease the IOP at least one month post-operatively. This is an inexpensive and simple office-based procedure.

With these modern and safe laser techniques, patients have more options than just topical agents alone, which is helpful, given the inherent side effects and need for compliance and persistence with glaucoma drops.

Diabetic Macula Oedema

A review of the evidence focussing on Protocol T. Protocol T is a very interesting recent study. It was undertaken by the DRCrnet group.

Protocol T

Protocol T randomly allocated 660 patients with DME, equally to Eylea, Lucentis and Avastin. Each patient had a visual acuity of between 6/9 and 6/96. Mean duration of diabetes was 17 years and mean HbA1c was 7.7%.

Results at 12 months showed that if patients had 6/12 vision or better pre-treatment, then Eylea and Lucentis were similar with a mean gain of +8.3 and +8.0 letters, whilst Avastin showed a slightly lower improvement of +7.5 letters. If the vision was worse than 6/12, then Eylea was more effective with a huge mean gain of +18.9 letters, followed by Lucentis at +14.2 and Avastin at +11.8. Note that in the group of patients with vision better than 6/12, the gain was very good and really was only limited as patients can’t go much beyond 6/6!

Optical Coherence Tomography was used to measure the effects of the 3 agents anatomically.

Eylea and Lucentis showed significantly better results compared to Avastin, with mean thickness improvements of -169µm, -147µm and -101µm respectively. This reflects that Avastin really isn’t as good as the other two.

With Lucentis and soon Eylea available on the PBS, the era of blindness from DME should be essentially over. This is incredibly exciting and a paradigm shift in treatment of this disease.


Simbrinza Eye Drops

A new fixed combination glaucoma drop will soon be available to our patients on the PBS. Simbrinza contains brinzolamide (azopt) and brimonidine (alphagan). Twice a day dosing is recommended. Simbrinza is the only fixed combination preparation without a beta-blocker, and hence not contraindicated in asthmatic patients. I have had early access simbrinza over the last few months, which has enabled some of my advanced glaucoma patients to treated with 4 different glaucoma medications, in a simple way – duotrav (travatan/timolol) nocte and simbrinza (azopt/alphagan) bd. So, 4 drugs in 2 bottles, 3 drops per day. Jay yohendran.