Variation in technique amongst ophthalmologists compared to best practice guidelines

by Roibeard O’hEineachain in Dublin

There is variation amongst ophthalmologists compared to best practice guidelines, suggested by published research, when performing Nd:YAG Laser capsulotomies, according to Edward Loane PhD, MRCOphth, Mater Misericordiae University Hospital, Dublin.

“We have confirmed through an audit that there is a large variation among Irish ophthalmologists when performing YAG capsulotomy and the variation we found nationally here is comparable to international findings. It emphasises to me that even ‘simple’ things can be done better,” Dr Loane said at a meeting of the Irish College of Ophthalmologists.

He noted that Nd:YAG laser capsulotomy was introduced in the early 1980s and is now the standard treatment for posterior capsular opacification following cataract surgery. The intervention is required in about 25 per cent of cases within five years of surgery. The incidence tends to be lower in eyes implanted with square-edged optic IOLs.

“YAG laser capsulotomy is usually the first laser procedure that ophthalmic surgeons learn and it is considered quite a simple procedure. However, despite this, there is a lack of consensus on the technique and post procedural management after the laser,” he said.

Dr Loane therefore conducted an audit of Nd:YAG laser capsulotomy as practised by the membership of the Irish College of Ophthalmologists. For that purpose, he designed an online questionnaire using the Google platform. It consisted of 15 questions and was designed to be completed in less than four minutes. He used the questionnaire from a similar audit conducted in the UK as a template. There were 52 respondents to the questionnaire, representing about 30 per cent of those who were invited to participate, he said. Most of the respondents were consultants.

Practice variations

Regarding their technique, 100 per cent dilate their patients’ pupils before performing Nd:YAG laser capsulotomy. Research favours this approach since it allows for capsulotomies larger than the undilated pupil, which in turn reduces the incidence of glare and haloes. Approximately two-thirds of respondents said they made their capsulotomies larger than the undilated pupil. However, 24 per cent said they make their capsulotomies the same size as the undilated pupil, and five per cent said they made their capsulotomies smaller than the undilated pupil.

A high proportion (42 per cent) perform circular capsulotomies, which have the disadvantage of often resulting in a large floater, although it does avoid the central visual axis, he said. However, the inverted-U technique, the choice of 23 per cent of respondents, also avoids the central visual axis but does not have the potential to cause a large floater. Dr Loane pointed out. The cruciate technique, preferred by 27 per cent of respondents, has the advantage of fewer laser shots but crosses the visual axis.

In terms of lens defocusing, 84 per cent said they defocus posteriorly, an approach which research suggests is the best because it reduces the incidence of lens pitting, Dr Loane said. Only four per cent defocused anteriorly, and the remaining 12 percent did not defocus their laser at all, he added.

Dr Loane noted that just 58 per cent used a contact lens specifically designed for Nd:YAG laser procedures. Despite the many advantages it provides. Among those who did use a lens for the procedure, the reasons cited were to stabilise the eye, to improve the delivery of laser energy, and for magnification purposes, which are all benefits use of the lens can provide, he said.

Regarding the frequency of lens pitting, half of respondents said that it occurs sometimes in their patients. 40 per cent said it occurs rarely, and 10 per cent said it occurs often. Dr Loane said that with good technique, which includes defocusing the laser posteriorly and using a specific contact lens for the procedure, lens pitting should only occur rarely.

He noted that the majority of respondents reported a very thorough approach to the recording of the details of their procedures. All noted the procedure in the patient’s file. Around three-quarters recorded the number of laser shots and the amount of laser energy used. Just over 80 per cent recorded details concerning any drops used after the procedure.

Less commonly reported were details concerning the shape of the capsulotomy, the use or non-use of a contact lens, and the incidence of lens pitting.

Another finding of the audit was that a high proportion of Irish ophthalmologists give their patients IOP-lowering medication much more often than necessary. In fact, 70 per cent said they use them always, and 20 per cent use them sometimes or rarely. Among the surgeons who use these drops, the vast majority (80 per cent) only apply them once at the end of the procedure.

“Think this could be improved and it is suggested internationally it should only really be used in eyes that are at risk. That is, in patients with glaucoma. Otherwise patients don’t really need topical IOP-lowering drops because the small incidence of a pressure rise following YAG laser is not damaging to a healthy eye,” Dr Loane said.

The respondents also tended to follow-up on their patients more thoroughly than may be necessary. The current thinking is that follow-up visits should be restricted to those with co-morbidities. However, it was conceded that this was a controversial point and that all patients should receive clear instructions regarding retinal detachment warning signs at the very least.