



Jorge L Alio

W Bruce Jackson

Pros and cons of presbyopia options

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Devon Schuyler
in Las Vegas

PRESBYOPIC patients seeking to improve vision have an increasing array of choices, each with its own pros and cons, Jorge L Alió MD told a session of the annual AAO meeting.

"If you cannot find a convincing tool in today's available alternatives, just wait," said Dr Alió, who gave an overview of the various surgical treatments available for presbyopia.

Choices available to patients for treatment of presbyopia now include scleral surgery, presbyLASIK, corneal inlays, multifocal IOLs, accommodative IOLs, and monovision, said Dr Alió, professor and chairman of ophthalmology at the Instituto Oftalmológico de Alicante at Universidad Miguel Hernández in Alicante, Spain.

The pros of scleral surgery are that the technique is safe, it's neither corneal nor intraocular, and it's appropriate for early presbyopia. The cons are that the results are variable, subject to regression, and limited to no more than 1.5 D. In addition, the mechanism of action is unproven.

The advantages of presbyLASIK are that the treatment has produced good results in early and intermediate presbyopia, including bilateral improvement of near visual acuity. The disadvantages are the potential for delayed recovery of distance BCVA with some techniques, the possibility of LASIK complications, and the fact that most data are in hyperopes.

Corneal inlays are designed to improve near vision either by creating a central,

3.0mm area of myopia, or by increasing the depth of focus using the pinhole principle. There are several advantages to this investigational technique. It is minimally invasive, reversible, and preserves distance visual acuity. Disadvantages include complications similar to LASIK, reduced monocular sensitivity under low light conditions, and the fact that improvement in near vision is monocular rather than physiologic.

Multifocal IOLs are able to effectively recover near vision, are appropriate for myopic, emmetropic, and hyperopic patients, and have been proven over time. On the other hand, results can be unpredictable, light always may scatter, and vision is not good at all distances.

The pros of accommodative IOLs are that they produce normal contrast sensitivity, results are physiologic, and far vision is always good. The cons are that accommodation can only be partially recovered, results are variable, fatigue can affect vision, and follow-up is short.

Finally, the advantages of monovision are that it's effective, simple, accessible, reversible, and appropriate for both early and intermediate presbyopia. The disadvantages are that it's monofocal, that binocularity and stereopsis are decreased, and that it's insufficient in advanced presbyopia.

Latest PresbyLASIK results

W Bruce Jackson MD discussed his approach to presbyLASIK and presented results using the AMO VISX Star S4 system.

Dr Jackson, who is the director of the University of Ottawa Eye Institute at The Ottawa Hospital in Ontario, Canada, presented results on 93 eyes in 56 patients

with hyperopia and presbyopia who underwent presbyLASIK. The presbyopic correction was dependent on pupil size, and there was no nomogram adjustment. One eye required retreatment for distance.

The researchers found that one year after surgery, 92 per cent of patients had monocular UCDVA of 20/25 or better and all patients had binocular UCDVA of 20/25 or better. In addition, 81 per cent of patients had monocular UCNVA of J3 or better and all had binocular UCNVA of J3 or better.

A total of two eyes lost more than two lines of distance BCVA, but no eye was worse than 20/32. In addition, a total of three eyes lost more than two lines of near BCVA, but no eye was worse than J1. Patient satisfaction was high, with most patients satisfied with their overall visual sharpness and clarity (81 per cent), distance vision in bright light (93 per cent), and near vision in bright light (74 per cent) comparing pre-op with correction to postop without correction. There was "a small drop in contrast sensitivity," he said, but this was within normal limits.

"Spectacle independence can be achieved and maintained with high patient satisfaction," said Dr Jackson.

He said that presbyLASIK is a good alternative for young presbyopes with low refractive errors who do not want intraocular surgery, and pointed out that for patients post cataract IOL implantation who have a hyperopic residual, the refractive error can be corrected as well as enhancing near vision using this technique.

He added that the best candidates for the procedure are those in their late 40s with about 2 D of hyperopia and no ocular surface disease. He also recommended meticulous use of the WaveScan, marking

the cornea at 3 and 9 o'clock if unable to get an Iris Registration (IR), working in a room that's 68 to 72 degrees F and has humidity between 40 and 45 per cent, cutting flaps at least 9.0mm in size, keeping the bed dry, and paying careful attention to the tear film after the procedure.

Michael C Knorz MD, who attended the session, told *EuroTimes* that Dr Alió did a good job of addressing the pros and cons of presbyLASIK. He praised Dr Jackson's research, but emphasised that presbyLASIK provides just 1 D of add power, and therefore works only in early presbyopia. He also pointed out that the improvement in near vision comes at the expense of a slightly reduced distance vision.

"The main risk is overselling the procedure by telling patients they will not need a reading add," said Dr Knorz, FreeVis LASIK Centre at University Medical Centre, Mannheim, Germany.

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