

High Patient Satisfaction With the AT LISA tri 839MP

After implantation, patients achieve quality vision at all distances.

BY PETER MOJZIS, MD, PhD, FEBO

In February 2010, I reported my experience with the AT LISA toric 909M (Carl Zeiss Meditec), which at that time was the only multifocal toric IOL available for microincision cataract surgery (MICS).¹ In my study of 22 eyes implanted with this lens, the average rating for patient satisfaction at 6 months was 8.9 on a 10-point scale. I was extremely impressed with the high level of patient satisfaction this lens provided, and I have continued to implant the AT LISA toric 909M in the majority of my presbyopic astigmatic patients.

Now, however, another lens provides an even more impressive level of patient satisfaction: the AT LISA tri 839MP. This IOL includes three areas for light distribution: 50% for far, 20% for intermediate, and 30% for near foci. Therefore, the AT LISA tri boosts visual acuity in the intermediate range without sacrificing visual acuity at the near or far ranges. In return, I have seen a substantial increase in the number of patients with high satisfaction after surgery. Below are two case studies that illustrate patient satisfaction after implantation of the AT LISA tri 839MP.

CASE STUDIES

Case No. 1. A 75-year-old man who wore glasses his entire life came to our clinic complaining of poor visual acuity and asking for a lens he “read about in the newspaper.” Not only does he run a small company, but he also leads an active lifestyle outside of work, and this lack of visual acuity began to affect his ability to perform daily tasks, both at and outside of work. This patient had a complete list of all multifocal lenses available on the market. He was intrigued that one IOL, the AT LISA tri, could provide perfect visual acuities for intermediate, near, and distance vision.

We revealed dense nuclear cataract in both eyes and very blurred vision at the posterior fundus. The patient informed us that he wished to be spectacle independent after surgery. His preoperative corneal topography values were less than 1.00 D (OD: K1 44.74@74°, K2 44.29@164°, 0.47 D; OS: K1 44.88@99°, K2 44.41@9°, 0.47 D).

Preoperatively, for far vision, UCVA was 1.6 logMAR and BCVA was 0.8 logMAR in both eyes (objective refraction: OD, 13.25 D; OS, -12.50 D). For near vision, UCVA was 1.4 logMAR in both eyes and BCVA was 0.8 and

0.6 logMAR in the right and left eyes, respectively. For intermediate vision (66 cm), the patient could not read without correction; BCVA was 0.8 logMAR in both eyes. Distance-corrected intermediate BCVA was 0.2 and 0.4 logMAR in the right and left eyes, respectively.

Three months after surgery, both distance UCVA and BCVA increased to 0.1 logMAR, and near UCVA and BCVA and distance-corrected near BCVA improved to 0.4 logMAR. Additionally, intermediate UCVA and BCVA as well as distance-corrected intermediate BCVA were 0.0 logMAR. Contrast sensitivity recordings were within a normal range. In the macula, only small drusen were observed.

At all visits, the patient reported that he was very satisfied with his vision. He is able to maintain his active lifestyle and perform his work-related tasks.

Case No. 2. A young female lawyer presented to our clinic with a preoperative refraction of -4.00 D. She was complaining of bad intermediate visual acuity, especially noting difficulty with computer work. I was apprehensive when selecting a lens, as lawyers tend to require extreme precision and have high expectations, but after much consideration I decided to implant the AT LISA tri.

Preoperatively, distance UCVA and BCVA in the right eye was 1.4 and 0.0 logMAR, respectively, increasing to -0.2 logMAR postoperatively. Respective near UCVA and BCVA was 1.3 and 0.1 logMAR preoperatively, both improving to 0.2 logMAR postoperatively. Preoperative intermediate UCVA and BCVA was 1.1 and 0.2 logMAR, respectively, improving to 0.0 logMAR postoperatively. Preoperative corneal topography in this eye was: K1 42.67@106°, K2 41.87@16°, 0.80 D.

In the left eye, preoperative distance UCVA and BCVA was 1.5 and 0.0 logMAR, respectively, both improving to -0.1 logMAR. Preoperative near BCVA was 0.1 logMAR, improving to -0.1 logMAR. Preoperative intermediate UCVA and BCVA was 1.1 and 0.2 logMAR, respectively, both improving to 0.0 logMAR. In this eye, the preoperative corneal topography was: K1 42.99@77°, K2 42.29@167°, 0.70 D.

After implantation, the patient reported that her visual acuity was perfect at all three distances; the most exciting part is that she reported perfect vision at night, because we know that multifocal IOLs tend to produce a decrease in contrast sensitivity in low-light conditions. In this case,

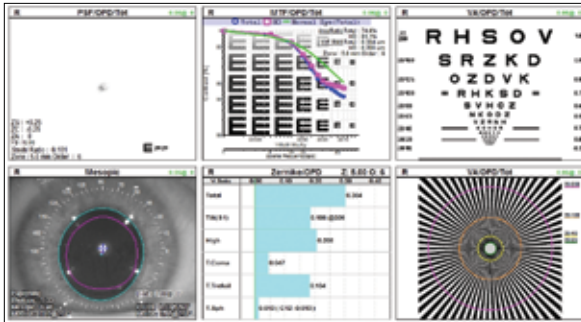


Figure 1. Optical quality recording with high values of Strehl ratio (0.101) and total modular transfer function (74.6%).

the patient achieved spectacle independence at all distances. Just as with case No. 1, this instance confirms that the AT LISA tri not only produces high patient satisfaction for vision at all distances and in all light conditions, but it is also almost pupil independent.

OTHER ADVANTAGES

Since October 2011, I have successfully completed 60 implantations of the AT LISA tri in 30 patients. All of my patients are comfortable with their postoperative visual acuities, at all distances and under any lighting conditions. Specifically, patients seem to be most satisfied with distance visual acuity, followed by near and intermediate; we test near and intermediate vision at 33 and 66 cm, respectively. Additionally, I have noticed that the majority of cases achieve spectacle independence for all tasks.

Another advantage is that the AT LISA tri is suitable for MICS. The ability to perform MICS is very important for me, because it provides better control of surgically induced astigmatism and corneal aberrations. It is also important for my patients, because of the rapid visual recovery.

SURGICAL RESULTS

At the ESCRS Winter meeting in Prague in February 2012, I presented a study on the visual outcomes and optical performance of the trifocal AT LISA tri implantation.² Lenses were implanted using the BLUEMIXS 180 injector and a 1.6-mm incision. At 3 months, all eight patients had statistically significant improvements for distance visual acuity as well as for intermediate visual acuity compared with preoperative exams. Near BCVA also improved, but this was not statistically significant.

In the terms of refractive outcomes, we found statistically significant improvement in the sphere, manifest cylinder, and spherical equivalent; specifically, 100% of eyes had a spherical equivalent within ± 1.00 D and 93.8% of eyes had a spherical equivalent within ± 0.50 D. The efficacy

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index was 1.27, and the safety index was 1.32. Regarding the defocus curve, objective visual acuity was always greater than 0.1 log-

MAR, and the AT LISA tri provided perfect visual acuity from 33 cm (near) to infinity. Additionally, contrast sensitivity was in the normal range at 3 months, and patients had no severe visual complaints of halos or glare, although halos were present in some cases. The presence of halos was, however, lower with the AT LISA tri than with other multifocal IOLs.

These measurements have resulted in improvement of daily life for my patients, mainly due to the excellent vision at all distances but also because of the prospect of spectacle independence.

CONCLUSION

The reason why I would recommend the AT LISA tri 839MP lens for my patients is multifaceted. First, there are the advantages associated with premium IOLs, including better visual quality at multiple distances. Second, the AT LISA tri can be implanted with the BLUEMIXS 180 injector via a sub-1.8-mm incision, which provides more control of surgically induced astigmatism and corneal aberrations. Third, this lens is stable in the capsular bag and the optical quality is perfect. This, I believe, is the main reason that patients are spectacle independent at every distance. For instance, the optical quality measurement was performed at 5-mm pupil using the OPD Scan III (Nidek); the mean total modular transfer function value was 58.3% and the mean Strehl ratio was 0.12 at the 3-month follow-up visit (Figure 1). Fourth, preloaded lens provides excellent visual acuity for all distances. ■

Peter Mojzis, MD, PhD, FEBO, practices at Eye Department of Regional Hospital in Havlickuv Brod, Czech Republic and Eye Clinic of Jessenius Faculty of Medicine in Martin, Slovakia. Dr. Mojzis states that he has no financial interest in the products or companies mentioned. He may be reached at e-mail: mojzispeter@hotmail.com.



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