Comparison of Visual Outcome in 1,120 Eyes Using Rotational Asymmetric Multifocal IOLs - 5 Years of Experience in Different Addition Power

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Purpose:

- To compare the postoperative of visual outcomes between three types of add power of rotational asymmetric multifocal intraocular lens - low add Lentis comfort MF 15 (+1.5D), medium add Lentis Mplus MF20 (+2.0D) and Lentis Mplus MF30 (+3.0D)

Methods:

- 1,120 eyes were enrolled into this retrospective study.
- Patients between 25 and 89 years of age who received monocular cataract surgery with rotational asymmetric multifocal intraocular lens implantation were analyzed.
- Group A implanted Lentis comfort MF 15, group B implanted Lentis Mplus MF20 and group C implanted Lentis Mplus MF30.
- Patients were evaluated between November 2015 and October 2019 for preoperative uncorrected distance visual acuity (UDVA), postoperative UDVA and postoperative uncorrected near visual acuity (UNVA).

Results:

- Group A comprised 495 eyes, group B involved 157 eyes and group C contained 468 eyes.
- Three groups had a statistically significant improvement in postoperative UDVA.
- The mean monocular UDVA changed from 0.50 logMAR ± 0.27 (SD) preoperatively to 0.09 logMAR ± 0.17 postoperatively (P=0.02) in group A. In group B, UDVA changed from 0.46 logMAR ± 0.22 (SD) preoperatively to 0.08 logMAR ± 0.10 postoperatively (P=0.03). And UDVA changed from 0.47 logMAR ± 0.27 (SD) preoperatively to 0.08 logMAR ± 0.14 postoperatively (P=0.01) in group C.
- UNVA was 83% achieving J3 or better in group A, 95% achieving J3 or better in group B and 90% achieving J3 or better in group C.

TABLE 1. Baseline Demographic of Patients for 5 Years Experience on Rotational Asymmetric Refractive Lentis

	MF15	MF20	MF30	Total
Eyes	**495**	**157**	**468**	**1,120**
%	44.2%	14.0%	41.8%	100.0%

* Data period: November 2015 to Oct 2019
* Age, yrs: 63 (28~89)
* Gender M/F ratio - 43:57
* OD/OS ratio - 49:51

Figure 1. Day 1 Postoperative Monocular Uncorrected Distance Visual Acuity (UDVA) in 1.120 Eyes

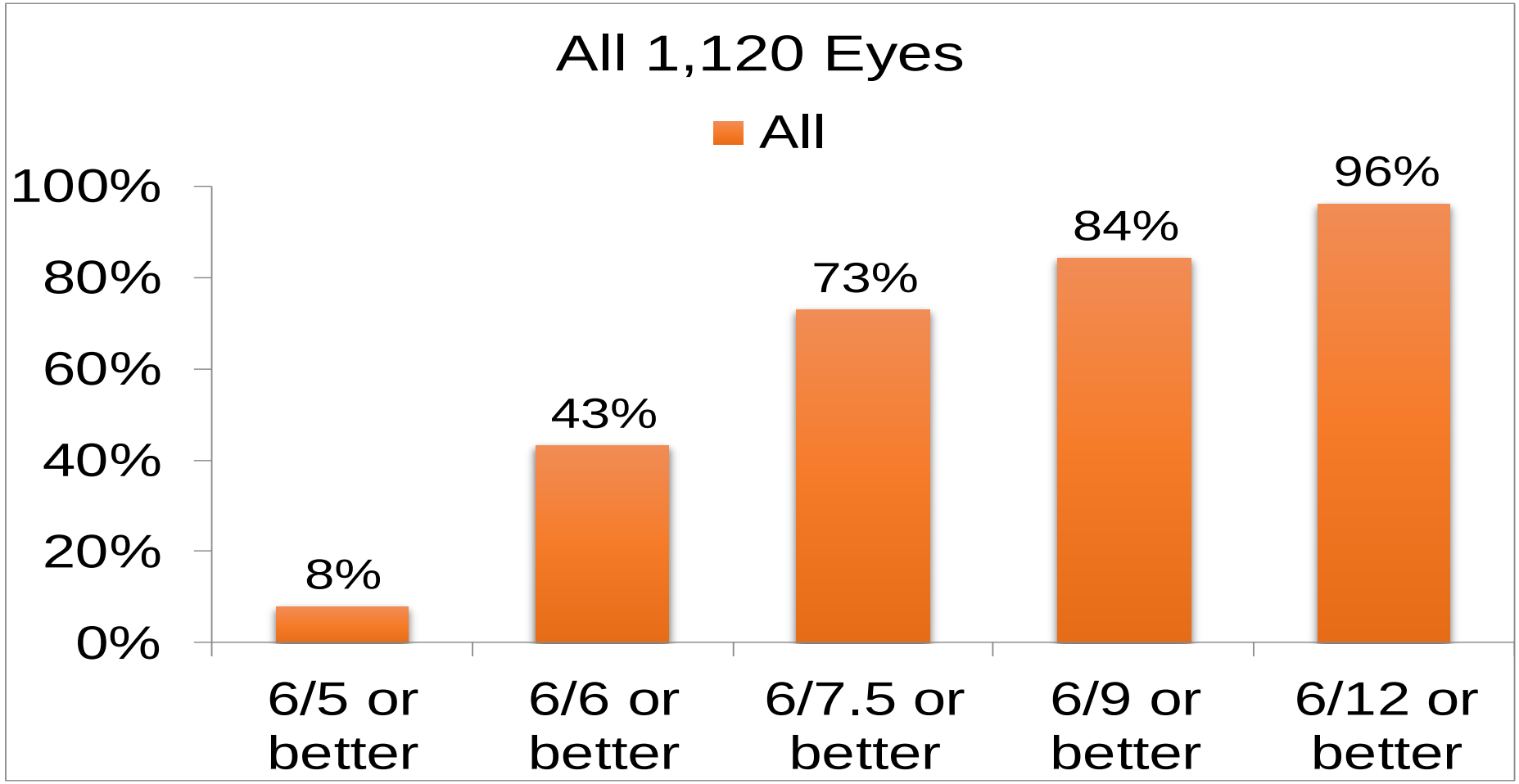

Figure 2. Day 1 Postoperative Monocular Uncorrected Near Visual Acuity (UNVA) in 1,120 Eyes

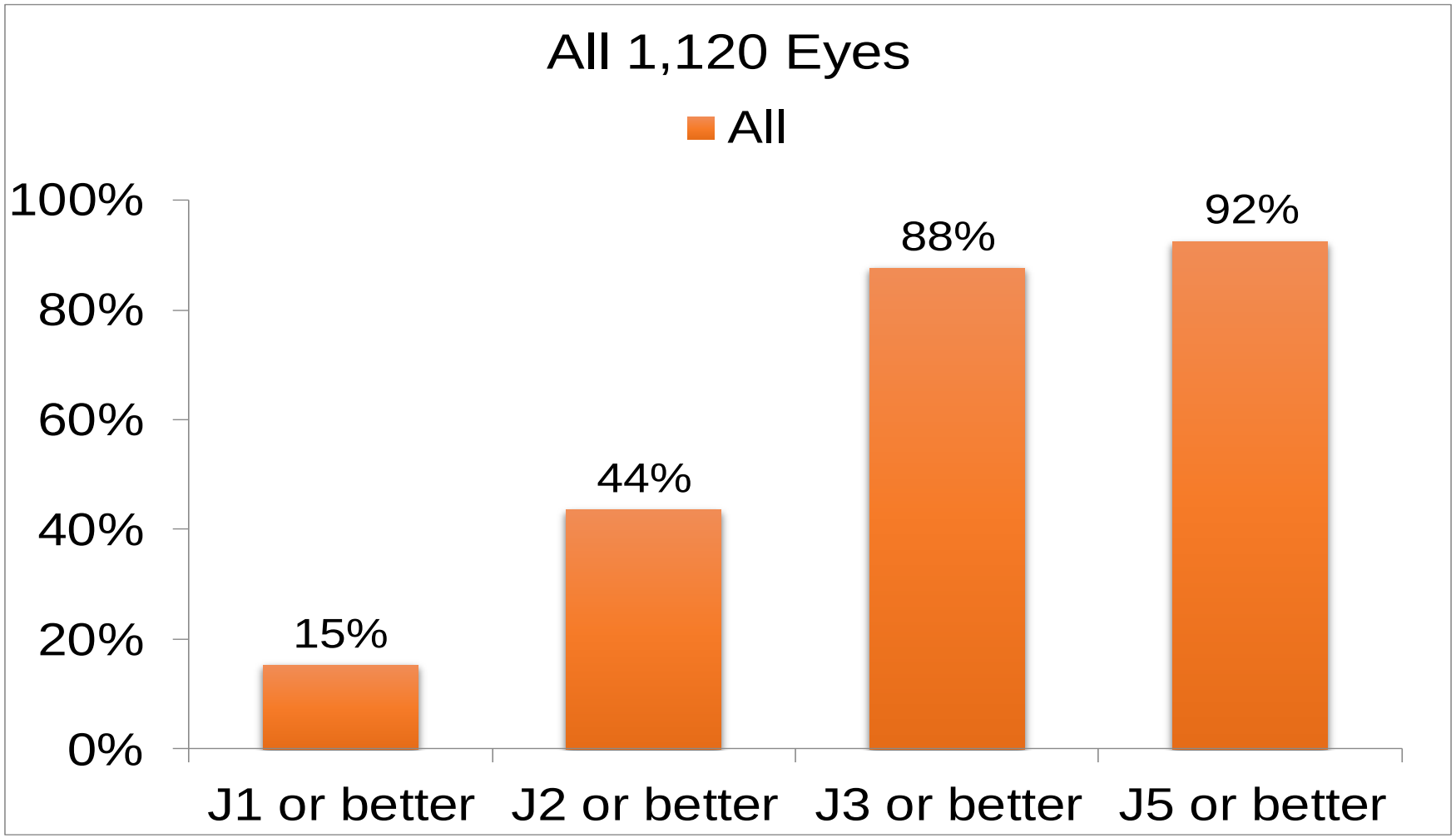

Figure 2. Day 1 Postoperative Monocular Uncorrected Distance Visual Acuity (UDVA) between Lentis Groups

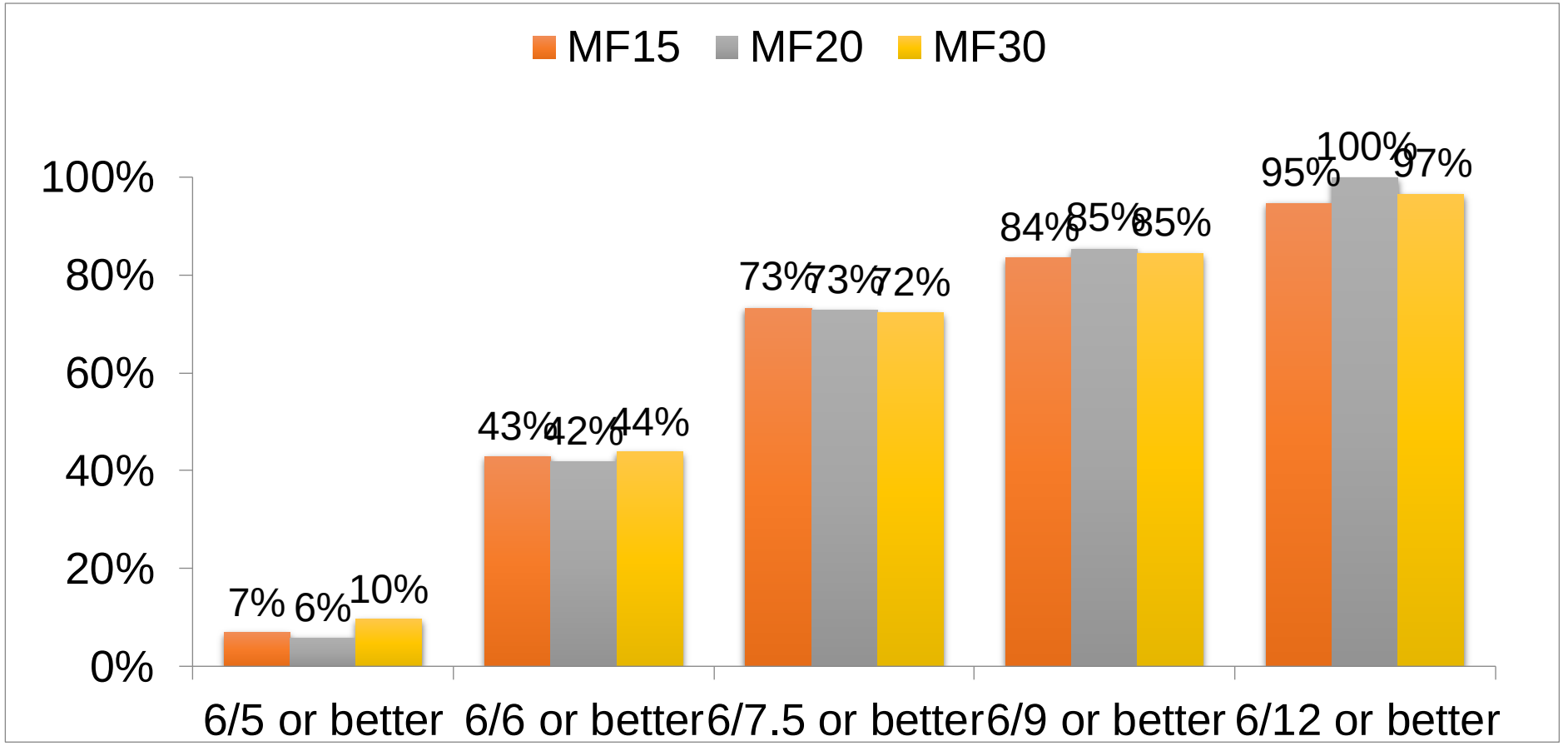

Figure 3. Day 1 Postoperative Monocular Uncorrected Near Visual Acuity (UNVA) between Lentis Groups

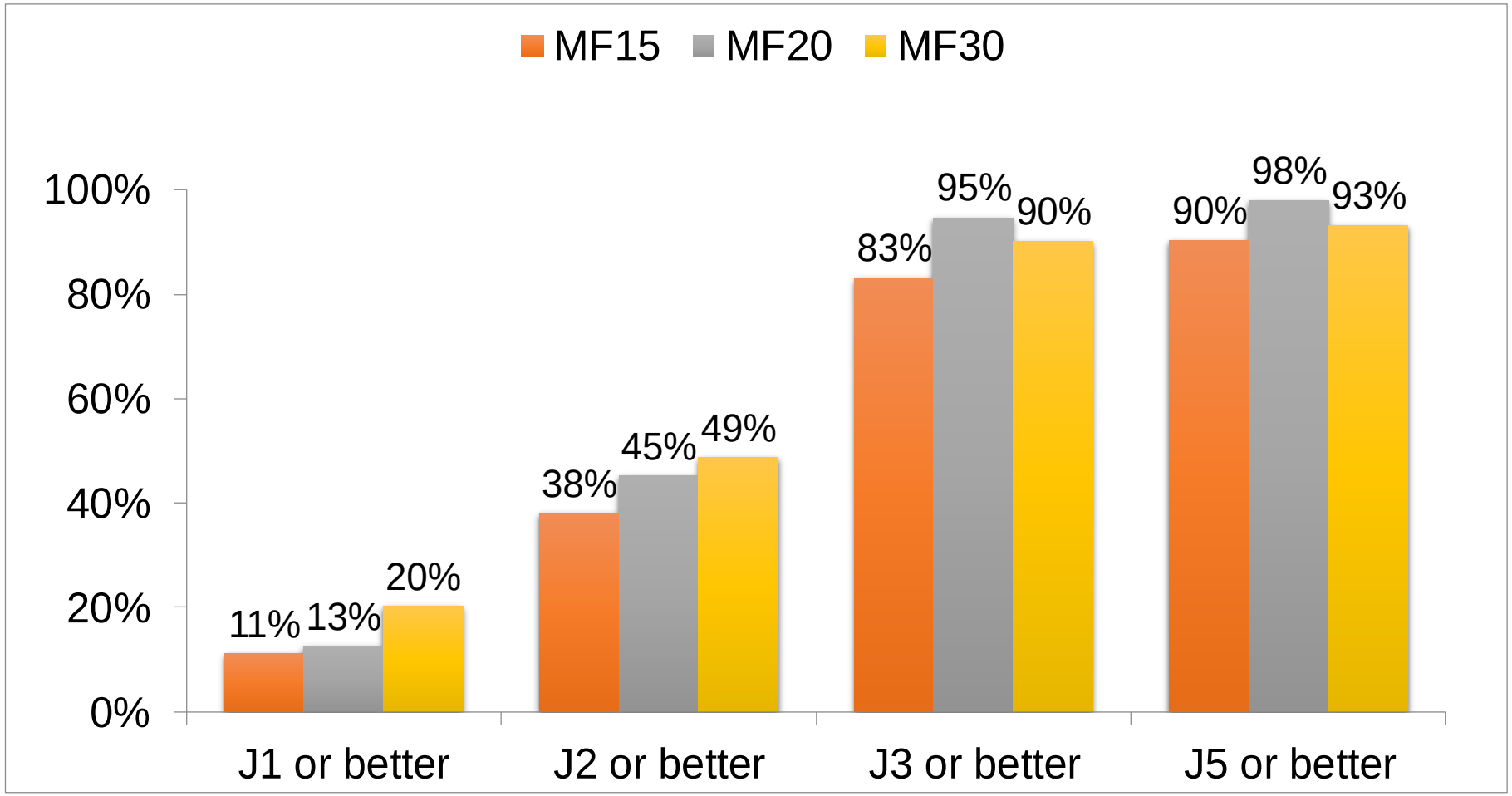

Figure 1. Percentage of Using Different Lentis IOLs to Change over the Time

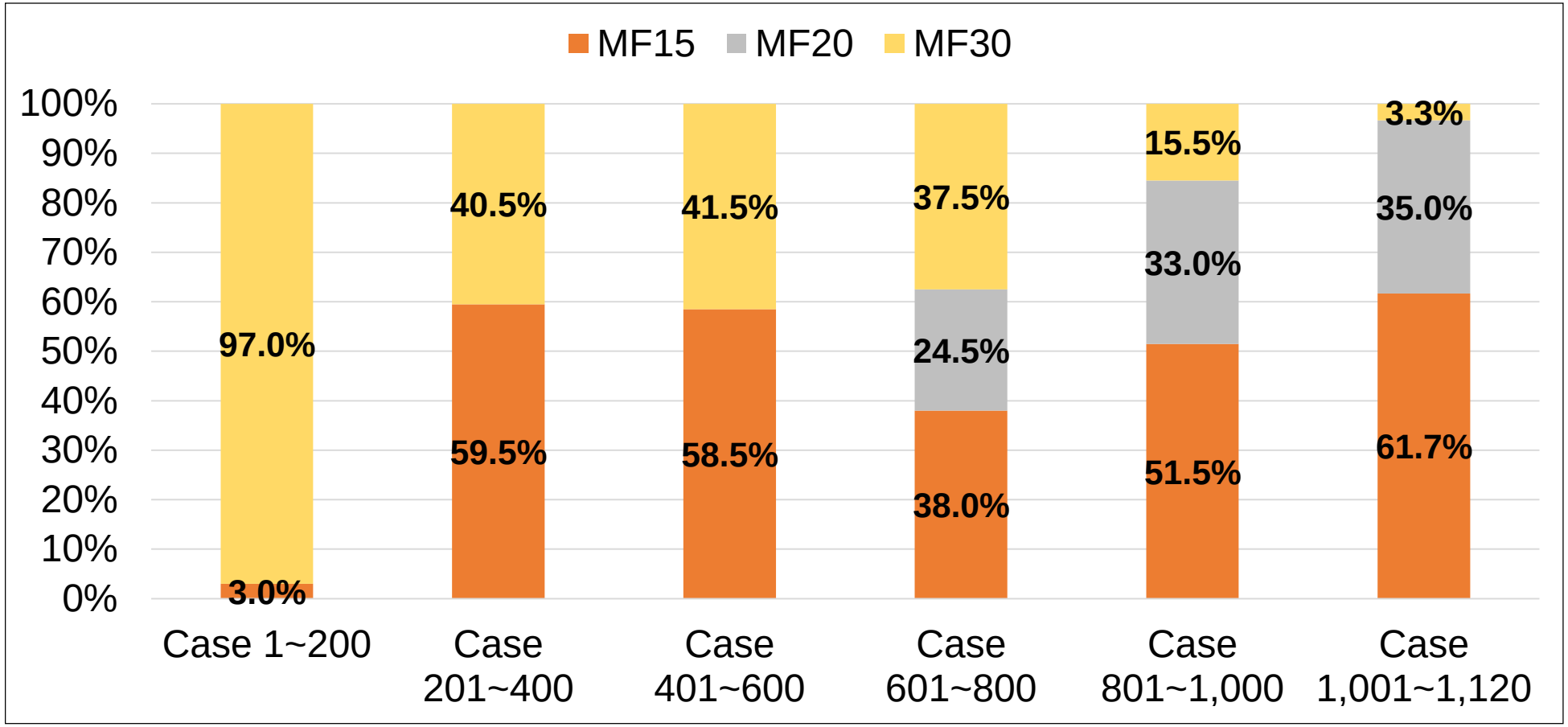

TABLE 2. Bilateral or Blended Vision Analysis for Latest 202 Eyes

	No of Pt's (Eyes)	%
Patients	115 (202)	100%
Type of Lentis IOL		
MF15/MF15 (bilateral)	44 (88)	38%
MF20/MF20 (bilateral)	20 (40)	17%
MF30/MF30 (bilateral)	4 (8)	3%
MF15/MF20 (blended)	15 (30)	13%
MF15/MF30 (blended)	2 (4)	2%
MF20/MF30 (blended)	3 (6)	3%
MF15	17 (17)	15%
MF20	10 (10)	9%
MF30	1 (1)	1%

* Data period: March to October 2019

Conclusions:

- The study showed that the medium add MF20 provide very good uncorrected visual acuity from distance to the extended near range.
- This blended vision approach using MF20 (+2.0D) with low add (+1.5D) or high add (+3.0D) will be useful to offer various plan of cataract surgery improving surgical outcomes and patient’s satisfaction.