

Comparison of the Carlevale and Yamane Techniques: Visual Outcomes and Complications

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INTRODUCTION :

Purpose-built scleral-fixated intraocular lenses IOLs) (Carlevale) and transconjunctival haptic-fixation (Yamane) are widely used when capsular support is inadequate. Comparative evidence remains limited and often involves small cohorts.

AIM :

Compare visual outcomes and complication profiles between Carlevale and Yamane techniques.

METHODS

Retrospective comparative review of secondary IOL implantation using either technique. Baseline demographics, surgical indications, preoperative and postoperative best visual acuity (BVA), and complications were collected. Follow-up: 10 to 164 weeks.

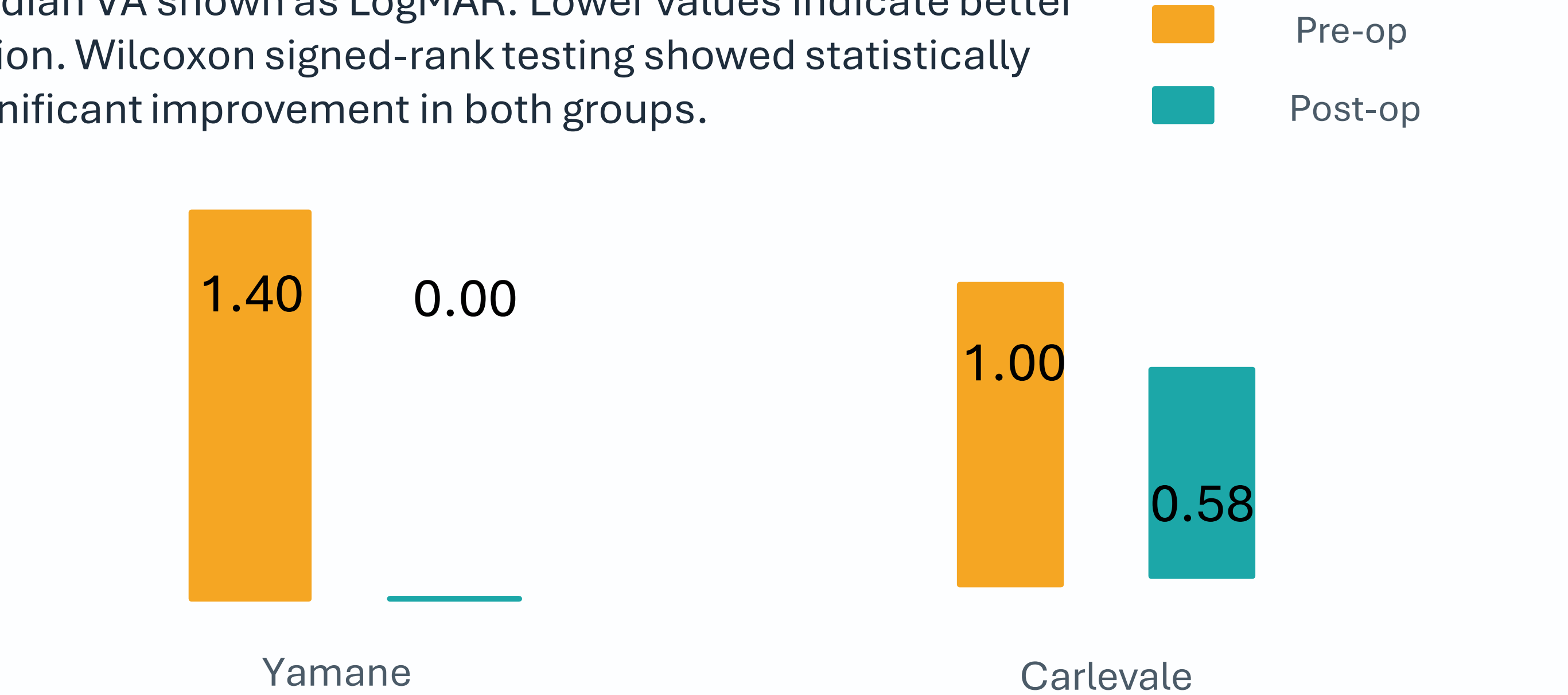
COHORT

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eyes Carlevale Yamane M:F

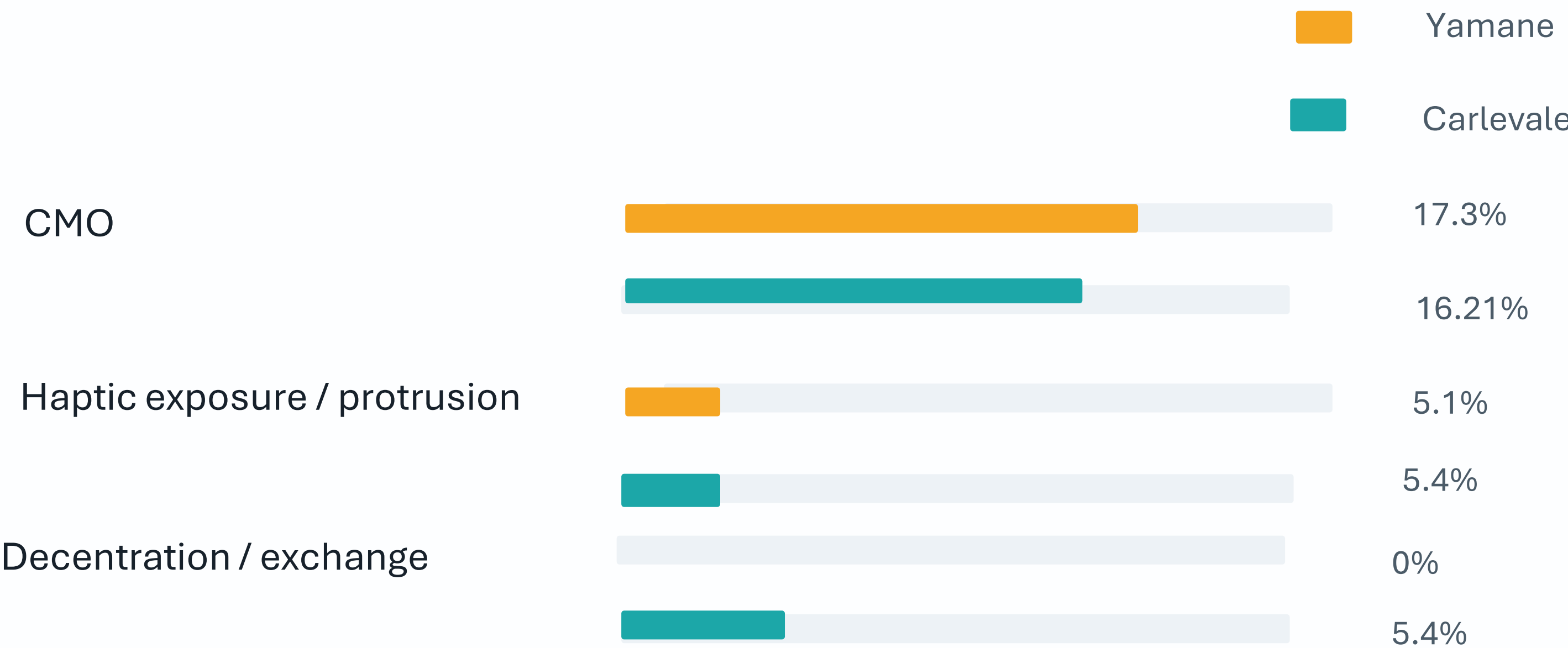
Single-centre cohort including eyes undergoing secondary IOL fixation for insufficient capsular support.

VISUAL OUTCOMES: BVA IMPROVED IN BOTH GROUPS

Median VA shown as LogMAR. Lower values indicate better vision. Wilcoxon signed-rank testing showed statistically significant improvement in both groups.



COMPLICATIONS



RESULTS:

- In the Yamane group, median BVA improved from 1.40 to 0.00 LogMAR (p < .001).
- In the Carlevale group, median BVA improved from 1.00 to 0.58 LogMAR (p < .001).

- Cystoid Macular Oedema (CMO) was the most frequent recorded complication in both the groups with 17 patients (17.3%) developing CMO in the Yamane group (12 patient resolved with topical medication and 5 patients required steroid injection) . In the Carlevale group 6 patients(16.21%) developed CMO (5 patients resolved with topical medication and 1 patient needed steroid injection) .
- Haptic exposure was seen in 5 patients in Yamane group (4 patients required repositioning) and 2 in the Carlevale group (1 underwent further surgery).
- 2 patients in Carlevale group was noted to have IOL decentration clinically and underwent IOL exchange

CONCLUSION :

- Both Yamane and Carlevale group had improvement in BVA post operatively
- CMO was the most frequent complication in both groups but it resolved with topical treatment in the majority of patients
- This study provides a large real -world direct comparison between the techniques
- Limitations include retrospective design and IOL tilt was not quantified; but tilt was not a significant complication in our cohort
- Further large-scale prospective studies with objective evaluation of IOL tilt and long-term follow-up are required.

REFERENCES

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