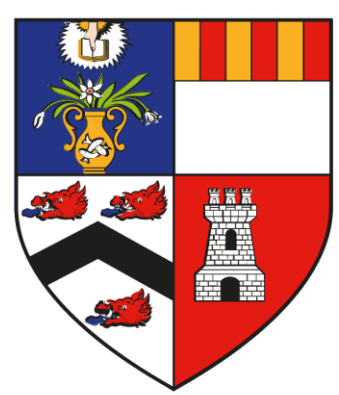




Outcomes of Systemic and Intravitreal Steroid Therapy in Uveitis Patients Undergoing Cataract Surgery: A Systematic Review and Meta-Analysis

[Abdulwahab Alomar¹](#), Hassan Alnajdi¹, Jawad Alnajdi², Zahra Pasdar³, Rehab Ismail^{1,3}

¹University of Aberdeen, School of Medicine, Aberdeen, Scotland , ²- University Of Kuwait, College Of Medicine ³- Aberdeen Royal Infirmary, Aberdeen, Scotland.



TAKE-HOME MESSAGE: Current evidence regarding intravitreal dexamethasone in uveitic cataracts is limited and inconclusive. While it may offer comparable visual outcomes and faster inflammatory control than systemic steroids, these findings are exploratory and require highly individualized clinical judgment.

Introduction

- Surgical outcomes for uveitic cataracts are frequently limited by postoperative inflammation and cystoid macular oedema (CMO).
- While corticosteroids are standard perioperative care, the optimal delivery route remains heavily debated.
- **Aim:** to compare intravitreal corticosteroids with systemic corticosteroids in patients undergoing uveitic cataract surgery.

Methods

- **Design:** Systematic review and meta-analysis of randomised controlled trials (RCTs).
- **Total Study screened from Pubmed Embase and Cochrane :** 346
- **Final Included studies:** 4 RCTs comprising 133 patients; 3 RCTs (93 eyes) were pooled for meta-analysis.
- **Intervention vs. Control:** Intraoperative intravitreal dexamethasone implants or intravenous methylprednisolone compared directly against systemic (oral) steroids.

Results (Primary Outcomes)

BCVA at 1 month ¹⁻³	(MD = -0.05; p = 0.27; I=62%)
BCVA at 3 month ¹⁻³	(MD = -0.03; p = 0.5; I=58%)
BCVA at 6 month ¹⁻³	(MD = -0.03; p = 0.66; I=76%)
CMO ¹⁻³	(RR = 0.40; p = 0.23; I=0%)

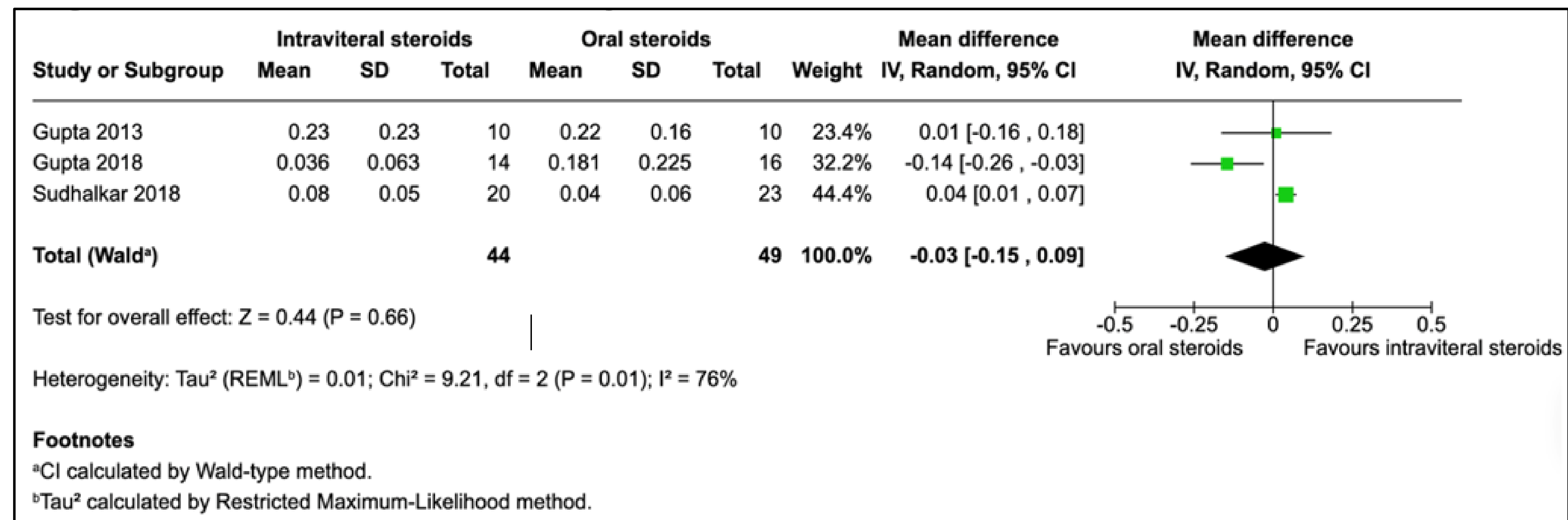


Figure A : Forest Plot for CMO Incidence

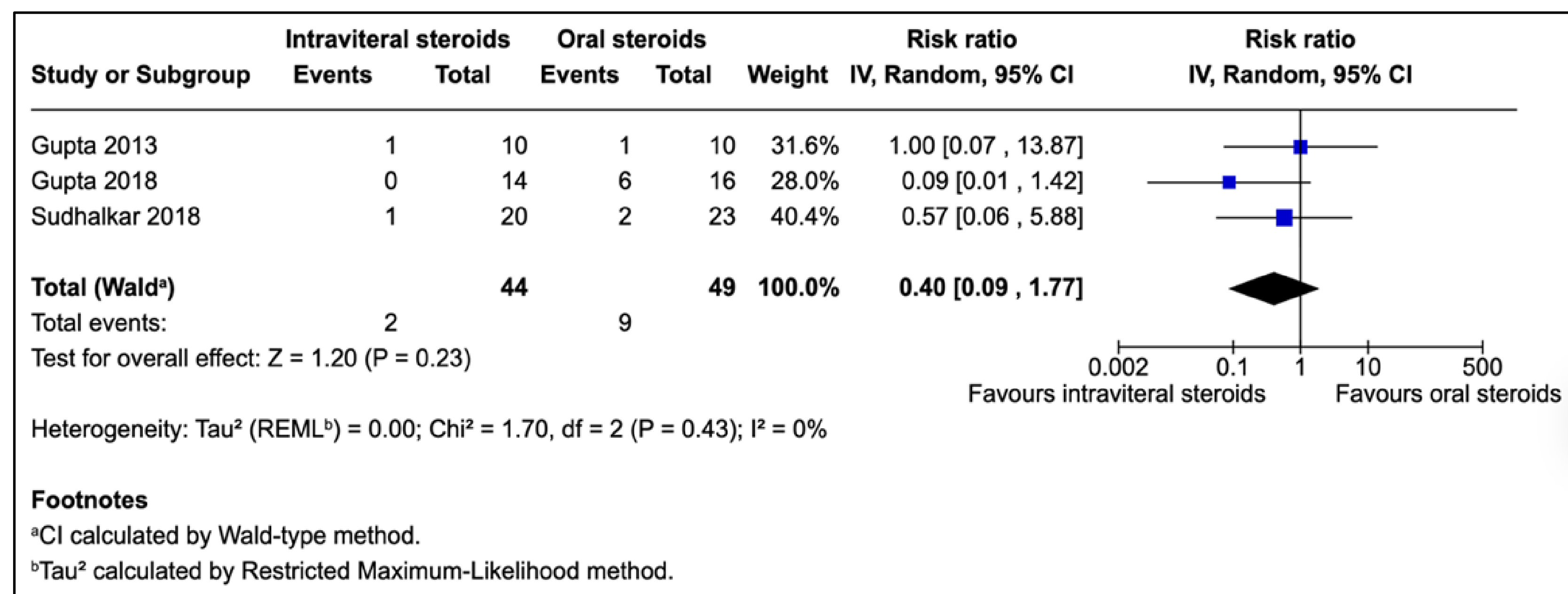
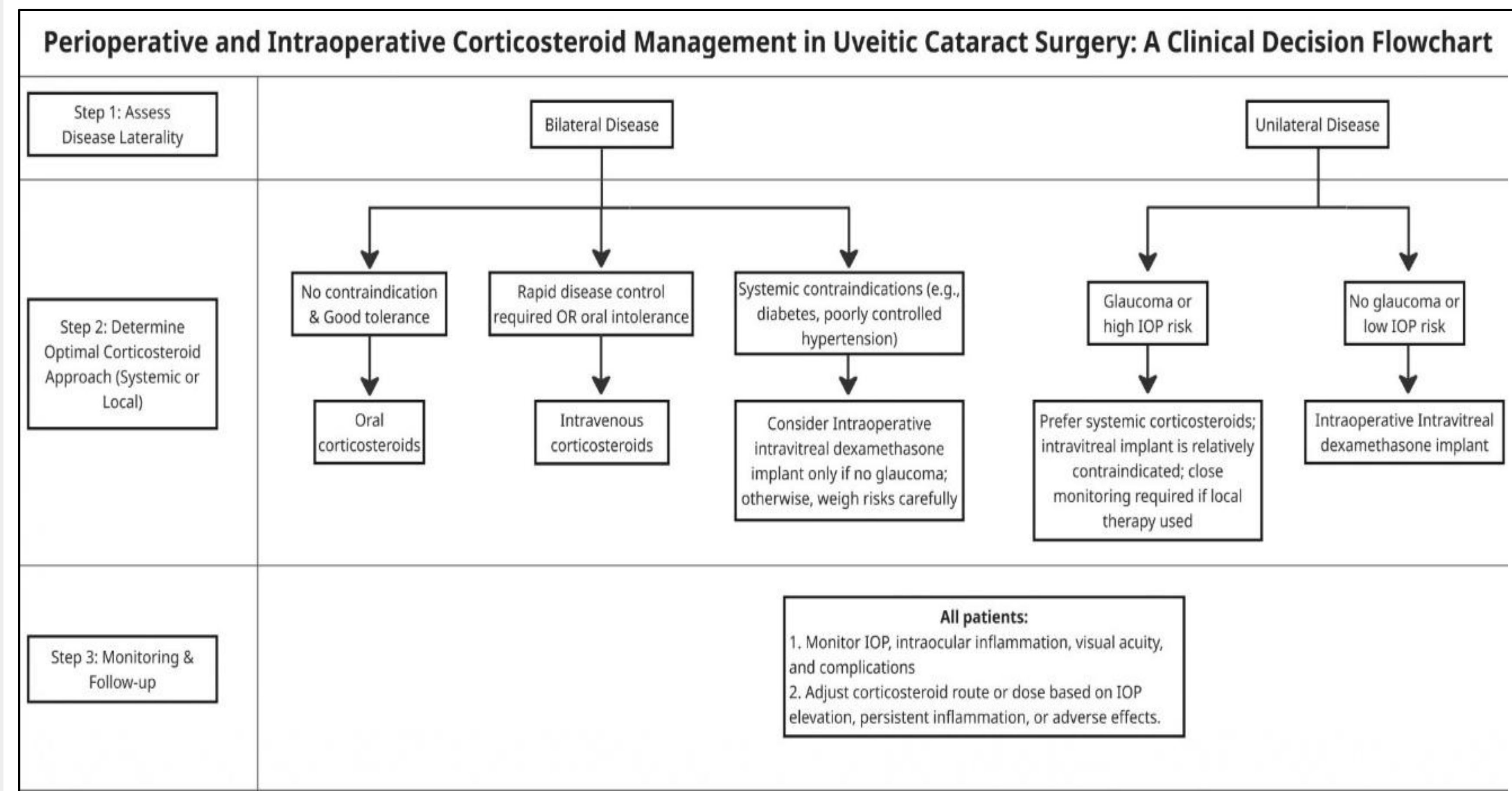


Figure B : Forest Plot for BCVA at 6 months

Limitations

- Small number of RCTs (n=4; meta-analysis n=3)
- Limited sample size → risk of type II error
- Short follow-up (≤ 24 weeks)
- Heterogeneity in steroid protocols and concomitant therapies
- Some studies with risk of bias concerns
- GRADE: low to very low certainty evidence
- Trial sequential analysis: evidence inconclusive

Clinical Decision Framework



Conclusion

Caution is warranted given the underpowered and low-certainty evidence; however, intravitreal dexamethasone provides a comparable, localized alternative to systemic steroids with the potential for faster inflammatory control.

References

- 1- Gupta A, Ram J, Gupta A, Gupta V. Intraoperative Dexamethasone Implant in Uveitis Patients with Cataract Undergoing Phacoemulsification. *Ocul Immunol Inflamm.* 2013;21(6):462-467. doi:10.3109/09273948.2013.822087
- 2- Sudhalkar A, Vasavada A, Bhojwani D, et al. Intravitreal dexamethasone implant as an alternative to systemic steroids as prophylaxis for uveitic cataract surgery: a randomized trial. *Eye.* 2020;34(3):491-498. doi:10.1038/s41433-019-0534-8
- 3- Meacock WR. Steroid prophylaxis in eyes with uveitis undergoing phacoemulsification. *British Journal of Ophthalmology.* 2004;88(9):1122-1124. doi:10.1136/bjo.2003.032482
- 4- Gupta G, Ram J, Gupta V, et al. Efficacy of Intravitreal Dexamethasone Implant in Patients of Uveitis Undergoing Cataract Surgery. *Ocul Immunol Inflamm.* 2019;27(8):1330-1338. doi:10.1080/09273948.2018.1524498