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RESPONSE TO LETTER

Primary Rhegmatogenous Retinal Detachment Repair by Pars Plana Vitrectomy With and Without Scleral Buckling: A Propensity Score Analysis [Response to Letter]

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Dear editor

We thank Visioli et al for their interest in our research and their insightful comments regarding propensity score (PS) methodology. As noted, PS analysis serves as a strategy to reduce surgical selection bias that might be introduced by surgeons in observational studies. However, only a small number of authors have applied this method to examine outcomes and complications associated with retinal detachment repair.[1–3]

Concerning the questions regarding our PS approaches and variable selection in this research, we provide responses here. Both PS matching and Inverse Probability of Treatment Weighting (IPTW) yield effective case analyses, yet they differ in their strategies for balancing treatment groups. PS matching necessitates excluding unmatched data, which consequently decreases the sample size. IPTW, conversely, retains the entire dataset, thus preserving statistical power while achieving balance through weighting. Additionally, IPTW generates population-level treatment effects directly, eliminating the additional marginalization steps necessary in PS matching.[4] These advantages led us to utilize IPTW for analyzing treatment effects while retaining our full dataset. In selecting covariates, discussions were held with co-authors, and the parameters were incorporated following a review of previous studies.[1,2]

We agree that the lack of consistency in adjusting preoperative factors of PS for retinal detachment repair found in literature may hinder methodological clarity. In further studies, generating standardized preoperative PS parameters based on expert consensus in this area may greatly improve PS methodology in surgical decision-making for retinal detachment repair.

By acknowledging the fundamental importance of surgeon expertise and preferences in retinal detachment surgical decisions, we view PS analysis as a valuable complementary tool for evaluating outcomes in these cases.

Disclosure

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