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LETTER

Immediate Sequential Bilateral Cataract Surgery: Are We Overstating the Case? [Letter]

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Dear editor

We read with great interest the systematic review by Al-Swailem et al evaluating immediate sequential bilateral cataract surgery (ISBCS) versus delayed sequential bilateral cataract surgery (DSBCS).[1] While the authors conclude that ISBCS is a safe and effective alternative surgical approach, several conceptual and methodological considerations suggest that a more cautious interpretation may be warranted.

Cataract surgery remains, in the vast majority of cases, an elective and non-urgent intervention.[2] The rationale for immediate bilateral surgery should therefore not be framed in terms of clinical necessity, but rather convenience or system efficiency.[3] In this context, DSBCS offers an intrinsically safer framework by preserving the opportunity for staged clinical decision-making without compromising overall visual rehabilitation.

From a patient-centered perspective, the magnitude of benefit associated with ISBCS deserves careful interpretation. Functional vision and quality of life are largely driven by the better-seeing eye or binocular visual acuity, particularly following first-eye surgery.[4] Importantly, cataract surgery extends beyond visual rehabilitation, contributing for instance to reduced risk of falls and fractures, preservation of independence, and decreased overall healthcare burden in the elderly population.[5] These benefits could be largely achieved after the first-eye procedure.

In this context, prioritizing immediate bilateral surgery may introduce a less apparent trade-off at the system level. Allocating operating room time and resources to treat two eyes in a single patient, rather than two patients sequentially, may reduce the total number of individuals who can benefit from timely surgical intervention. This "eye-centered" approach does not necessarily translate into proportional gains in patient-level outcomes and may, paradoxically, limit the broader public health impact of cataract surgery. Therefore, while ISBCS may accelerate binocular recovery in selected individuals, its advantage over a staged approach becomes less compelling when viewed through the lens of population-level benefit.

The safety profile reported in the review, showing no significant differences in severe complications such as endophthalmitis or cystoid macular edema, should be interpreted within the inherent limitations of the available evidence. Rare but devastating bilateral complications are unlikely to be adequately captured even in large datasets. The absence of reported bilateral events does not equate to their impossibility, and when such events occur, their consequences are profound and irreversible, raising important ethical considerations beyond statistical equivalence.

The economic advantages attributed to ISBCS also remain insufficiently substantiated. While reductions in hospital visits and administrative costs are often emphasized, it is unclear whether these translate into a true net benefit in real-world practice.[3] Immediate bilateral procedures typically require prolonged operating room time and duplicated preparation protocols, as each eye must be managed as a completely independent surgical event. The cost of consumables and intraocular lenses remains essentially unchanged, and the anticipated efficiency gains may therefore be less substantial than suggested.

Importantly, commonly used cost-effectiveness frameworks such as QALY analyses fail to capture several critical dimensions of surgical care.[6] These models are inherently limited in their ability to account for procedure-related complexity, intraoperative cognitive load, and perioperative management challenges. In the context of ISBCS, performing bilateral surgery

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in a single session may increase logistical and physiological demands, particularly in elderly or frail patients, who often represent the majority of the cataract population. Limited postoperative autonomy, reduced support systems, the challenge of managing bilateral visual impairment in the immediate postoperative period, and difficulties with administering medications to both eyes simultaneously are not adequately reflected in QALY-based assessments. As a result, the true burden on patients, as well as on caregivers and healthcare providers, may be underestimated.

The interpretability of the findings is further limited by the substantial heterogeneity and selection bias across the included studies, as acknowledged by the authors. Most data derive from carefully selected patients with uncomplicated cataracts treated in highly controlled environments. This restricts external validity and limits extrapolation to the broader cataract population, where comorbidities and surgical complexity are frequently encountered.

In the contemporary era of refractive cataract surgery, where the goal extends beyond visual rehabilitation to spectacle independence, additional concerns emerge.[7] The inability to adjust intraocular lens power based on first-eye outcomes removes a key safeguard against refractive surprises. Although comparable refractive accuracy is reported, these findings likely reflect standard cases and do not fully account for the variability encountered in modern personalized refractive planning.

In conclusion, while ISBCS may represent a reasonable option in carefully selected patients, its broader adoption should be approached with caution. Surgical decision-making in cataract care should continue to prioritize safety, adaptability, and refractive precision over procedural efficiency alone. Future studies should aim to incorporate not only clinical outcomes but also surgeon-related factors, perioperative complexity, and patient support requirements, which remain insufficiently captured by current economic and methodological frameworks.

Disclosure

The authors report no conflicts of interest related to this communication.

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