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LETTER

Clinical Outcomes of Implantable Collamer Lenses for the Treatment of Myopia in Eyes with Anterior Chamber Depth (<3.0 mm) at a Single Center in the United States [Letter]

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Dear editor

We read with interest the article titled "Clinical Outcomes of Implantable Collamer Lenses for the Treatment of Myopia in Eyes with Anterior Chamber Depth (<3.0 mm) at a Single Center in the United States" published by Hirabayashi M et al.[1] The authors have taken a bold step in exploring off-label ICL implantation in eyes with ACD below the FDA-approved threshold, contributing valuable data. However, there are several clinical and evidence-based concerns that warrant consideration.

The lack of randomization and the selective inclusion of eyes with ACD <3.0 mm based on surgeon discretion introduces selection bias. Patients with other anatomical risk factors—such as narrow angles or plateau iris configuration may have been excluded, potentially skewing the outcomes. Similar studies have demonstrated that careful patient selection is a key determinant of successful ICL outcomes, particularly in borderline ACD.[2]

Although early visual and intraocular pressure (IOP) outcomes were reported, the study lacks standardized long-term follow-up, which is essential in evaluating ICL safety in shallow anterior segments. Several studies have reported progressive angle narrowing and anterior subcapsular cataract formation as potential delayed complications, especially in patients with limited anterior chamber space.[3,4] Without systematic gonioscopy, endothelial cell density measurement, or extended postoperative surveillance, late complications may go unrecognized. ACD was measured solely using the Pentacam AXL, a Scheimpflug imaging device. While non-contact methods are convenient, discrepancies have been noted when compared with ultrasound biomicroscopy or very high-frequency (VHF) digital ultrasound, particularly in shallow eyes.[5] The reliability of ACD measurements near clinical decision thresholds (<3.0 mm) could benefit from multi-device confirmation to ensure surgical safety.

Although the authors suggest that ICL implantation in eyes with ACD <3.0 mm may be "as safe or safer" than in eyes with deeper chambers, this assertion may be premature. The statistically lower complication rate in the shallower group (0.4% vs 3.7%) could reflect cautious case selection and not necessarily a true safety advantage. A more robust conclusion would require stratification of outcomes by ACD range (eg, 2.5–2.7 mm vs 2.8–2.9 mm), as postoperative vault and anatomical crowding can vary widely within the sub-3.0 mm group.[6] The study presents encouraging short-term results, future prospective studies with standardized diagnostic protocols, device cross-validation, and longer follow-up are needed to strengthen the case for expanding ICL indications to include eyes with ACD <3.0 mm.

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