Surgical Management of Subluxated IOLs

Most cases can be managed with an IOL fixation technique, rather than IOL exchange.

BY MANUEL DOMINGUES, MD; MANUEL FALCÃO, MD; AND TIAGO MONTEIRO, MD

Choosing the proper surgical approach to a subluxated IOL remains a challenge for the anterior segment surgeon. In the past 3 decades, many techniques for IOL fixation or repositioning have been proposed, most of which consist of variants of iris or scleral fixation when there is insufficient capsular support for IOL implantation in the ciliary sulcus. Each of these techniques has its own specific advantages and complications.

The surgeon tasked with repositioning a subluxated IOL does not always have access to the patient’s previous surgical records. This may cause difficulties in surgical planning because important factors such as the extent of zonular dialysis, anterior capsular support, and posterior capsular integrity will become completely known only during the surgical procedure.

SURGICAL PLANNING

Pseudoexfoliation, myopia, a miotic pupil, uveitis, and diseases associated with progressive zonular weakening and capsular contraction are predisposing conditions for intra- or postoperative IOL dislocation. In the algorithm for surgical planning for the management of dislocated IOLs (Figure 1), we must first exclude pseudophacodonesis.

When facing global instability of the bag-zonular complex, a scleral fixation technique must be employed. We have previously published a monoscleral fixation technique, called Cupid fixation, which allows the repositioning of any type of foldable IOL under topical anesthesia. With this technique, the body of the subluxated IOL is perforated with a 10-0 polypropylene suture on a straight needle, as Cupid’s arrow would pierce a heart (Figure 2). The IOL is then fixated to the sclera overlying the ciliary sulcus, beneath a previously created limbal intrascleral pocket. The Cupid fixation technique can be combined with anterior vitrectomy and iris reconstruction. In cases of severe IOL-bag dislocation, an IOL exchange technique and secondary iris-fixated aphakic lens implantation is a viable alternative.

ADVANTAGES OF IOL FIXATION

As described above, dislocated IOLs can be centered and fixated using several surgical techniques. The anterior...
The surgeon must correctly identify the cause of the IOL dislocation and understand the ways in which the remaining anatomic structures (iris, sclera, and capsular remnants) may provide support for securely repositioning the IOL. The current trend in medicine, and in ophthalmology in particular, drives surgical decisions toward microincisional, less invasive procedures performed under topical anesthesia. The planning of surgical management for a dislocated IOL should take this matter into consideration. The core decision of the surgeon is whether the primary dislocated IOL can be repositioned or must be exchanged. In our opinion, most surgical cases can be managed with one of the IOL fixation techniques described above, including the Cupid fixation technique and any iris or scleral fixation technique (e.g., iris sutures, capsular support, capsular sutures). The advantages of repositioning rather than IOL exchange include (1) a less invasive procedure; (2) a smaller corneal incision, yielding a lower risk of endophthalmitis and no corneal suture-related issues such as postoperative astigmatism; (3) the use of topical or regional anesthesia; (4) a faster procedure with less anterior chamber inflammation and trauma, resulting in less inflammatory postoperative response and a lower risk of endothelial or macular damage; and (5) faster visual recovery. Avoiding IOL exchange also eliminates the need for secondary IOL biometric calculations. The economic burden of a secondary IOL charged to the patient or to the health insurance system should additionally be taken into account.

**SUMMARY**

In our opinion, the least invasive, most effective, and safest surgical approach in the event of IOL dislocation is to employ an IOL fixation technique whenever it is feasible and safe. IOL replacement should be reserved for the most challenging situations, in which refixation is impossible.

**Manuel Domingues, MD,** is an ophthalmologist in the Department of Ophthalmology at Clínica de Porto and Hospital de Braga in Braga, Portugal. Dr. Domingues states that he has no financial interest in the products or companies mentioned. He may be reached at e-mail: domingues.mf@gmail.com.

**Manuel Falcão, MD,** is an ophthalmologist in the Department of Ophthalmology, Hospital de Braga, and Faculty of Medicine, University of Oporto, Portugal. Dr. Falcão states that he has no financial interest in the products or companies mentioned.

**Tiago Monteiro, MD,** is an ophthalmologist in the Department of Ophthalmology, Hospital de Braga. Dr. Monteiro states that he has no financial interest in the products or companies mentioned.

---

**TAKE-HOME MESSAGE**

- Pseudoexfoliation, myopia, a miosis pupil, uveitis, and diseases associated with progressive zonular weakening and capsular contraction are predisposing conditions for intra- or postoperative IOL dislocation.
- Advantages of IOL fixation over IOL exchange include a less invasive procedure, a smaller corneal incision, the use of topical or regional anesthesia, a faster procedure with less anterior chamber inflammation and trauma, and faster visual recovery.
- Avoiding IOL exchange eliminates the need for secondary IOL biometric calculations and the economic burden of a secondary IOL charged to the patient or to the health insurance system.

---