Commentary: Optic capture – An intelligent approach toward intraocular lens placement in zonular laxity

A cataract surgeon faces various challenges from time to time, the most tricky of which is managing zonular laxity during cataract surgery. It is generally diagnosed during preoperative evaluation through signs such as an irregular anterior chamber, presence of white, pseudoexfoliative material on the anterior capsule or the iris, and phacodonesis in advanced cases with the subluxated cataractous lens.[1] Sometimes, however, it can be missed and is picked up only on the operation table.

Traditional approaches to deal with capsular instability

The commonest approach is the use of a capsular tension ring (CTR), which helps in the centration of the intraocular lens implant, in up to 3 clock hours of zonulopathy. However, it cannot prevent late postoperative lens dislocation.[2] In large zonulopathies exceeding 4 clock hours, a modified Cionni ring is used, which is basically a CTR with eyelets for suturing.

Another approach is the sulcus placement of a three-piece IOL, with optic capture.

Sulcus placement of three-piece IOL with optic capture

Placing the haptics in the sulcus (between the lens capsule and iris) provides more stability to the lens implant.[3] The three-piece IOL has haptics, which is rounded and cylindrical and is ideal for sulcus placement. It has an optic, that is, posteriorly vaulted, thus it does not scrape the back of the iris. In optic capture, the optic is pushed back into the bag through the anterior capsulotomy, so that the anterior capsular rim covers the optic on the sides.[4] This simple maneuver ensures better stability of the optic, especially when coupled with a CTR placed in the capsular bag to stabilize it. Sometimes when the IOL is slightly shorter than the desired length, optic capture prevents postoperative rotation and decentration of the IOL. Also, the refractive shift is minimal and there is no need to adjust the IOL power.[5]

A single piece IOL placed in the sulcus can cause postoperative UGH (uveitis, glaucoma, and hyphema) syndrome as the haptics are bulkier and rub against the posterior surface of the iris.

Performing successful cataract surgery in patients with zonulopathy is a feat in itself. Amongst the big list of do's and don'ts in these cases, this simple modification in lens implantation can go a long way in preventing future IOL dislocations.

This article is a retrospective study of the cases who underwent this procedure of sulcus placement of three-piece IOL with optic capture.[6]

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