

Management of intra-operative complications: Posterior capsule rupture and zonulysis

ABSTRACT

Posterior capsule rupture (PCR) most frequently occurs during phacoemulsification of the nucleus but may follow excessive hydrodissection, during aspiration of cortex or after intraocular lens insertion. It is important to recognize PCR early to avoid aspirating vitreous and dropping the lens fragment. Immediate management involves injecting dispersive ophthalmic viscoelastic device (OVD) into the anterior chamber (AC) to stabilize the AC (and lens fragment), preventing PCR enlargement and vitreous herniation. The fragments are next mobilised into the OVD trap. Remaining nuclear fragments are supported by inserting a 3 piece IOL into the AC, sulcus or capsular bag depending on the visibility of residual capsular support, nuclear size and amount of vitreous in the AC. Alternatively, a trimmed Sheet's glide inserted through a widened incision under the nuclear fragments can provide adequate support. Nuclear fragments are then removed by phacoemulsification using reduced parameters. The infusion should be raised to compensate for the wound leakage as appropriate. Presenting vitreous should be dealt with using dissociated anterior or posterior vitrectomy. Visualization should be enhanced by using diluted triamcinolone acetonide. The posterior cutter should be inserted through a snugly fitting limbal incision to maintain AC stability. If zonulysis is noticed during surgery, a capsule tension ring (CTR) should be inserted to expand the capsular bag if the capsulorhexis is intact. The CTR may be manually inserted or injected, from the area of intact to non-intact zonules and should be as late as possible, but as soon as it is required. If the IOL is decentred or tilted, a capsular tension segment or similar device should be sutured to the sclera to provide the needed support.