discussed with the patient so that she or he will know what to expect in terms of pain, discomfort, consciousness level, visual experiences, and complications.

Depending on the type of implant, topical or local (regional) anesthesia, along with sedation, is generally used. Intravenous access is generally recommended to treat potential adverse events when sedation/analgesic agents are administered.[292] Given the lack of evidence for an optimal anesthesia strategy during anterior segment intraocular surgery, the type of anesthesia management should be determined by the patient's needs and the preferences of the patient and surgeon.[293]

Considerations

Intraocular refractive surgery is one of several alternatives for the correction of ametropia. Phakic IOLs allow correction of up to 20.00 D of myopia and are approved for reduction of myopia up to 20.00 D. They have optical and structural advantages compared with keratorefractive surgery at high levels of intended refractions.[294] Patients with thin corneas or atypical topography may be at increased risk of corneal complications with keratorefractive surgery. In these situations, intraocular refractive surgery may be considered as an alternative to keratorefractive surgery. Risks include those complications generally associated with intraocular surgery and must be considered carefully.

Retinal detachment following refractive lens exchange in the setting of high myopia has been described to occur in 2% to 8% of eyes, and the risk is cumulative over time.[295, 296] Phakic IOLs have not been associated with increased risk of retinal detachment compared with other intraocular interventions in highly myopic patients.[151, 297, 298] In highly myopic eyes, the relative risk of loss of BCVA was less for phakic IOLs than for refractive lens exchange in patients between the ages of 30 and 50 years.[299] The refractive stability (10 years) of phakic IOLs over LASIK was corroborated by another study, at the expense of reduced endothelial cell counts.[300]

Phakic Intraocular Lens Implantation

Specially designed IOLs may be surgically placed in the anterior chamber, attached to the iris, or placed in the posterior chamber anterior to the crystalline lens in the phakic eye to correct refractive error.[301-306] Advantages include rapid visual recovery, stability of achieved correction, preservation of accommodation, and the ability to correct high myopic refractive errors. Potential complications include endophthalmitis, endothelial cell loss, chronic iridocyclitis, cataract formation, iris distortion, pigment dispersion, elevated IOP, glaucoma, and IOL dislocation.[307, 308] Three styles of phakic IOLs have been approved by the FDA for use in the United States and other designs are in clinical trials. (See Table 5.) Prototypes of multifocal phakic IOLs have demonstrated potential for the treatment of presbyopia.[309, 310]

The earliest two FDA-approved phakic IOLs require a peripheral iridectomy or iridotomy to prevent pupillary block. The iridectomy may be performed either before surgery or at the time of lens insertion. Neodymium yttrium-aluminum-garnet (Nd:YAG) laser iridotomy is most frequently performed 7 to 14 days before surgery. Single or paired iridotomies, approximately 0.2 to 0.5 mm in size, are placed superiorly, with care to avoid straddling the lid margin to lessen the risk of postoperative glare and ghosting. The newest FDA-approved phakic IOL incorporates a central hole, minimizing the risk of pupillary block, and eliminating the need for peripheral iridectomy or iridotomy.[311]

The IOL power is determined using standard biometry similar to IOL power calculation methods for cataract surgery. Insertion of a phakic IOL is an intraocular procedure that requires the same sterile technique and surgical setting as cataract surgery. In the case of posterior chamber phakic IOLs, adequate dilation is required. Anterior chamber–style, iris-fixated, or angle-supported phakic IOLs are inserted with a nondilated pupil with or without the use of pharmacologic miosis. The FDA-approved iris-supported lens is held in place through a process called enclavation in which a knuckle of iris is brought anteriorly within the haptic portion of the IOL on either side. Care must be taken when dilating with either type of phakic IOL in place because of the risk of lens dislocation.[312]