CLEAR CORNEAL SUTURELESS 3 PORT VITRECTOMY

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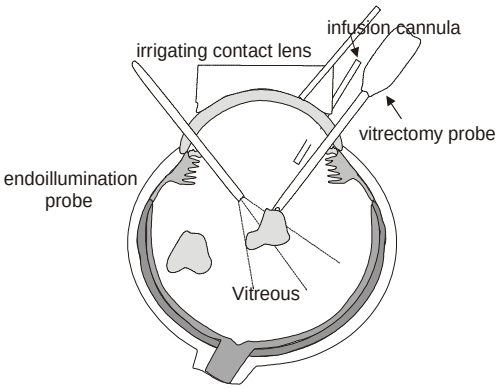
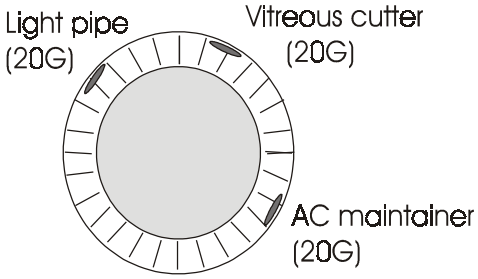
The phaco surgeons have shown us the advantages of clear corneal (limbal) cataract surgery. It can be performed under topical anesthesia, is faster, the eye looks "white" postoperatively and has minimal astigmatic effect (0.9 mm incision size). I thought of using this procedure by serendipity. My colleagues called me up at the OT saying that a very small fragment has dropped "in" during phaco.
He had two side portsin place,one for his capsulorhexis and the other for the chopper. I thought of using these two ports for my cutter and light pipe and I used the AC maintainer for infusion. Inside there were multiple pieces of nucleus with some amount of cortex. I used a fundus contact lens with viscoelastic to couple it to the cornea and managed to "eat up" the nucleus and the cortex (luckily it was a grade 2 nucleus). I went through the capsulorrhexis opening and preserved the edges by removing the cortex below with a simcoe irrigation aspiration cannula.
Then I managed to put a foldable IOL on the rhexis from the sclereal tunnel.
Postoperatively the patient recovered excellent vision(6/18) on the next day. Since then I have been performing this technique for various cases :
1) Membranectomy
2) Soft nucleus drop - Phaco or small incision cataract surgery.
3) IOL drop, endocapsular ring drop.
4) silicon oil removal in aphakes and pseudophakes.
5) cortical vitreous cleanup with Anterior chamber IOL insertion.
6) simple vitreous haemorrhage in aphakes and pseudophakes.
7) Vitrectomy for vitreous opacities.
8) Subluxated soft (Marfan's) cataracts.

Prerequisites:
1) Good, healthy cornea.
2) Aphakic/Pseudophakic eyes.
3) Dilated pupil.

Surgical Technique:
1) Peribulbar anesthesia is given.
2) 3 limbal incisions (not clear corneal). Paracentesis is made using a MVR blade (20 G).
3) superior rectus stitch is taken.
4) The inferotemporal quadrant is used for inserting the AC maintainer. The superior 2 incisions (nasal and temporal) are utilized for the vitrector and the light pipe for endoillumination.
5) The incisions are made with the MVR tip pointing towards the optic nerve head (0.5 mm tunnel)
6) A Pediatric sized irrigating contact lens(Machemer) is used with visoelastic to couple it to the cornea.
7) To allow the viewing lens to be placed flat on the corne the incisions have to be limbal.
8) Vitrectomy is performed.
9) The procedure is modified depending on the indication.
10) Soft nuclei can be cut and aspirated with the vitrector.
11) IOL is retrieved with an intravitreal forceps
12) Silicon oil is removed using active suction
13) In pseudophakes with small IOLs you can penetrate the posterior capsule at the optic edge for entering the vitreous cavity.
14) PC or AC IOL is inserted from a limbal/corneal tunnel.
15) The 3 limbal incisions and paracentesis are hydrated and can be left sutureless.





Incisions

Advantages:
1) faster procedure.
2) No suture irritation postop
3) Easier access to anterior segment complications
4) Sutureless surgery for posterior segment.
5) Lesser patient morbidiity.

Complications:
1) corneal damage.
2) Iris damage.
3) IOL decentration.
4) Shallow anterior chamber.
5) Hyphema.