A Simple Surgical Technique to Repair Large Iridodialysis

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Summary

A large and clinically symptomatic iridodialysis often requires surgical repair. In literature, many complex and surgically complicated techniques have been described which are not possible for a general ophthalmologist to replicate in routine operation theater settings. We describe a simple technique of repairing a large iatrogenic iridodialysis and implantation of a posterior-iris-fixated intraocular lens (IOL) in a single-sitting. We found it to be a safe, less traumatic, simple surgery which requires minimum instrumentation, provides maximum patient comfort and has satisfactory cosmetic results.

Keywords: large iridodialysis, coredialysis, intraocular iris-claw lens

Introduction

Iridodialysis is the separation of iris root from its attachment at the ciliary body. Etiologically, the most common cause is ocular trauma, followed by complicated intraocular surgery and rarely spontaneous or congenital variety may be noted. Its pathogenesis is explained by the fact that the iris root is the thinnest and weakest portion of the iris stroma, hence more prone for detachment from the ciliary body after any traumatic insult having impact at the iris root. A small localised and clinically insignificant (no diplopia or visual disturbances) iridodialysis may not require any surgical intervention. However, a large and clinically symptomatic iridodialysis often require surgical repair. The upper eyelid covers the superior iridodialysis region and prevents the symptoms while the inferior and infero-nasal ones are usually symptomatic. The patient may have symptomatic glare, disabling diplopia, photophobia (secondary to uveal injury), cosmetically disturbing polycoria and ectopic pupil, depending upon the size of and location of the iridodialysis. In literature, a number of surgical techniques have been described for the repair of symptomatic iridodialysis. The coexistent zonular trauma may produce phacodonesis of the crystalline lens which should be taken care of. In this report, we describe a simple technique of repairing a large iatrogenic iridodialysis and implantation of a posterior-iris-fixated intraocular lens (IOL) in single-sitting.

Case report

A 58-year-old female underwent a complicated cataract surgery in her left eye with large inferior iridodialysis. No intraocular lens was implanted secondary to an inadequate capsular support. At 4 weeks followup, the visual acuity of the left eye was finger counting which improved to 6/18 with a centred pin-hole. The left eye had an intraocular pressure (IOP) of 15mmHg. On slit-lamp examination, a large inferior iridodialysis extending from 3 to 9 o’clock was observed. The pupil was oval to ‘D’ shaped, the iris was rolled in a ‘scroll’ fashion and the anterior chamber (AC) was quiet (Figure 1). Posterior segment examination was within normal limits. As the patient was complaining of poor postoperative visual gain and cosmetic blemish, we planned to correct her iridodialysis, with implantation of an IOL.

Surgical technique-

After peribulbar anesthesia, 3 small localised peritomies were made separately at 4, 6 and 8 o’clock position. Self-sealing limbal incisions were fashioned at these three respective sites. After injecting viscoelastic in the AC, the scrolled iris was flat reopened and released from fibrinous adhesions with the help of Sinskey hook and viscoelastic cannula. From 3 limbal ports, the root of iris was held with a Colibri forceps and exteriorised. A 10-0 double-armed polypropylene suture was passed through the peripheral iris, then sclera (inside-out) via the limbal port. The same needle was then reverse passed (outside-in) from the sclera into AC, a millimetre away from the previous needle exit site. (Figure 2a)

Summary

Figure 1: Right eye (operating microscope view) shows a large iridodialysis from 3-9 o’clock position (marked by black arrows). The ‘D’ shaped pupil and scrolled iris margin is appreciable.
Both suture arms were exteriorised from limbal port and tied, keeping the knot inside the AC. A similar procedure was performed at the remaining two sites. After intraoperatively assessing sufficient iris support, a posterior iris-fixating lens was implanted via a valvular corneal incision. All ports were closed with corneal stromal hydration, the valvular port was closed with 2 interrupted 10-0 nylon sutures and cyclodisecopic eyelids were instilled at the end of the surgery.

(Figure 3) Postoperatively, her visual acuity at day 1 was 6/60 with a round pupil and a well placed IOL. The visual acuity gradually improved to 6/12 over 4 weeks of followup. At last followup after 16 weeks, her best corrected visual acuity was 6/12 and the patient was asymptomatic.

Figure 3: Postoperative picture showing three black arrows pointing at the iris repair sites namely at 4,6 & 8 o’clock position. The white arrows shows the haptic of retropupillary fixated iris-claw lens.

Discussion

In literature, various techniques have been described to repair an iridodialysis. In earlier days, Goldfeder (1932) reported a technique of incarcerating the torn iris fibres with a small iris hook into a keratome fashioned corneal incision. In 1933, Dr.Key described the pinning of torn iris fibres into the corneal substance at the angle of iris by means of a Ziegler knife needle. McCannel’s iris suture technique became popular but constant attempts were made by surgeons to make it simpler. In newer techniques, Hoffman described an iridodialysis repair technique via a scleral pocket by McCannel sutures ab-externo. Khokhar et al have recently reported a ‘stroke and dock technique’ for iris wound repair that do not show any healing tendency or formation of scar tissue except in the area immediately surrounding an iris suture. At the site of the iris suture, there is a formation of faint scar with activated fibroblasts, a few plasma cells and macrophages, but very little collagen deposition. Long term apposition of an iris wound thus appears to be wholly dependent on the presence of sutures. Pandav et al described a novel “Cobbler’s technique” for traumatic iridodialysis repair. They described it to be a simple, easy and effective method which provides maximum functional and cosmetic results. Of these, the one adapted by us has a benefit of placing the suture knot inside AC which leads to patient comfort, reduced chances of infection and suture erosion. In addition, the 3-point fixation of iris provided sufficient strength for the placement of posterior-iris-fixated IOL. The techniques requiring crossing of pupil have more chances of damage to the crystalline lens or pupillary margin. Overall, this resulted in good visual outcome and avoided second surgery for placing an IOL. In summary, this a relatively simple technique of iridodialysis repair and can be easily performed by most of the surgeons. In nutshell, this is a safe, less traumatic, simple surgery which requires minimum instrumentation, provides maximum patient comfort and has satisfactory cosmetic results.

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