

Dear Doctor,

Greetings from Micro Labs Limited. We are happy to bring you '**Ophthalmal Focus**' which contains latest and interesting news in the field of Ophthalmology.

This issue contains

- The SWISS IOL Technique (Small-Width Incision Scleral Suture): A Mini-Invasive Technique
- Evaluation of subjects who Underwent Sutureless Flanged Transconjunctival Intrasceral Intraocular Lens Implantation with or without Pars Plana Vitrectomy
- An unusual unilateral pterygium—a secondary pterygium caused by parasitosis in the scleral fistula- A case report.

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

Medical Team, Micro Labs Limited

The SWISS IOL Technique (Small-Width Incision Scleral Suture): A Mini-Invasive Technique

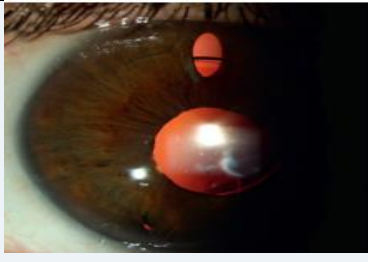
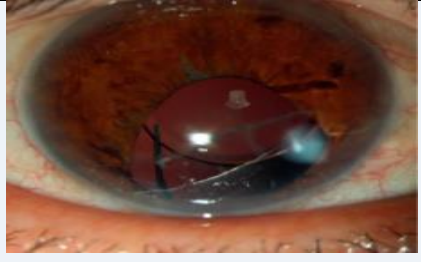
Background: Intraocular lens (IOL) is in the capsular bag, where it can be tolerated by ocular tissues for decades. Problems arise when the in-the-bag implantation is not feasible. There are multiple options at this point sulcus placement, iris-sutured IOL, anterior chamber IOL but none of the abovementioned techniques are without potential complications. This study describe their minimally invasive technique of scleral-fixated IOL with suture fixation.

Aim: The objective of this study was to evaluate the outcomes and safety of a minimally invasive technique for sutured IOL scleral fixation in case of compromised capsular and iris support.

Methods: In this retrospective case series lens power was selected preoperatively using the IOL master 700 and the SRK/T formula with the target of small myopia (-0.25 – -0.75 D). Procedure was performed under general anesthesia. After confirming its intravitreous placement, a 23G vitrectomy trocar was placed through the pars plana in the inferior temporal sclera and the infusion was opened at 20 cmH₂O. With Westcott scissors exposing the bare sclera approximately 4 mm conjunctivotomy was performed superiorly and inferiorly. To avoid excessive pressure on the eye during IOL insertion a clear corneal incision was performed at 120° with a standard angled 2.4 mm phaco knife, which was then slightly enlarged by around 0.5 mm. A double-armed 10-0 polypropylene suture with a STC6 needle used to fixate IOL. Transcleral passage at one millimeter on each side of the marked limbus on the sclera is necessary. In the anterior chamber the distant 10-0 polypropylene thread is grasped with the McPherson forceps passing over the nearest 10-0 polypropylene thread through the main incision. Once out of the eye, it should be fixed on the left part of the upper eyebrow with a strip. On the right part of the eyebrow the same procedure should be performed with the another 10-0 polypropylene thread. This study explained mini-invasive technique and assess the outcomes in terms of visual

acuity, pre- or postoperative complications, and IOL position (Sensor AR40e, AMO).

Results: Three subjects were recruited in this retrospective study. Aphakia resulted from ocular injury and from a complicated cataract surgery. No peroperative complications such as hypotony, hemorrhage, or eye instability. One patient presented a conjunctival disinsertion of the limbus at week one. There was no postoperative hypotony, hypertony, corneal edema, IOL dislocation, vitreous hemorrhage, retinal detachment, or new pupil irregularities were observed. The expected best corrected visual acuity could be achieved after one

		
Patient 1:postoperative slit lamp image	Patient 2Postoperative image with a well-centered IOL as seen through the upper iridotomy.	Patient 3: Well-centered IOL postoperatively

Conclusion: Each scleral technique has its own advantages and its inherent postoperative complications. No evidence of superiority of any single technique. This study showed improvements in scleral sutured lens technique in order to allow for the implantation of an IOL through a 2.45 mm corneal incision and suturing with 4 scleral needle passes. This improves peroperative ocular stability, decreases postoperative complication rate, and offers a rapid recovery with a stable visual acuity within a month.

References: Kecik M, Pajic B, Le Quoy O, Thumann G, Massa H. The SWISS IOL Technique (Small-Width Incision Scleral Suture): A Mini-Invasive Technique. Journal of Ophthalmology. 2021 Sep 13;2021.

Evaluation of subjects who Underwent Sutureless Flanged Transconjunctival Intrasceral Intraocular Lens Implantation with or without Pars Plana Vitrectomy

Background: The location of the intraocular lens (IOL) is inside the capsular bag where the crystalline lens is located. During cataract surgery IOL is inserted into the capsular bag after cataract extraction. There is a need to identify an alternative intraocular area to place the IOL when the capsule support is insufficient secondary to pseudoexfoliation, trauma, Marfan syndrome, and complicated cataract surgery.

Aim: The objective of this study was to compare the visual outcomes and complications of subjects who underwent flanged transconjunctival sutureless intrasceral intraocular lens (SIS IOL) implantation after anterior and pars plana vitrectomy.

Methods: The subjects who underwent flanged transconjunctival SIS IOL fixation using a 27-gauge needle were followed up for at least six months. In group 1 anterior vitrectomy was performed and those that underwent pars plana vitrectomy were classified as Group 2. Before and after the operation, best-corrected visual acuity (BCVA), spherical equivalent values, corneal endothelial cell density, and intraocular pressures were compared between the two groups. Complications, such as postoperative hyphema, transient corneal edema, endophthalmitis, increased IOP, postoperative hypotonia, vitreous hemorrhage, retinal detachment, haptic erosion, optic capture, macular edema, and reverse pupillary block (RPB), were recorded.

Results: 108 eyes of 108 subjects were included in this study. Group 1 included 48 subjects and group 2 included 60 subjects. There was no statistically significant difference in terms of the mean intraocular pressure increase, endothelial cell density, BCVA, and spherical equivalent value when the 2 groups were compared in the postoperative period. Mean spherical value

at the sixth postoperative month was 0.3 ± 2.2 D , mean cylindrical value was -1.7 ± 2.4 D and the mean spherical equivalent value was -0.5 ± 2.3 D when all the subjects were considered as a single group.

Parameter	Group 1	Group 2
Mean postoperative IOP (mmHg)	16.3 ± 5.9	16.8 ± 13.1
Mean postoperative endothelial cell count (cells/mm ²)	2390 ± 389	2430 ± 368
Mean postoperative BCVA (logMAR)	0.63 ± 0.40	0.56 ± 0.43
Mean postoperative spherical equivalent (diopters)	-0.3 ± 2.3	-0.5 ± 2.3
Comparison of parameters between Groups 1 and 2.		

	Group 1	Group 2
<i>Intraoperative</i>		
Retinal break (iatrogenic)	3	1
Hemorrhage from sclerotomy	0	2
Small choroidal hemorrhage	2	0
<i>Early</i>		
Increased IOP (>25 mmHg)	5	1
Hypotony (IOP ≤ 5 mmHg)	2	3
Vitreous hemorrhage	2	2
Transient corneal edema	0	2
Retinal detachment	2	0
IOL dislocation	1	1
<i>Late</i>		
Increased IOP	2	0
Cystoid macular edema	1	1
Iris capture of IOL	1	1
Intraoperative, early, and late complications of the two groups		

Conclusion: According to our clinical observation and the results of this study, the flanged transconjunctival SIS IOL fixation technique using a 27-gauge needle is safe and effective in subject groups with aphakia and lens/IOL dislocation or subluxation. Performing pars plana vitrectomy seems to be a more suitable option than anterior vitrectomy to reduce complications in patients planned to undergo flanged transconjunctival SIS IOL implantation

References: Suren E, Kalayci M, Cetinkaya E, Kucuk MF, Dogan ME, Durmaz D, Duman F, Erol MK. Evaluation of the Findings of Patients Who Underwent Sutureless Flanged Transconjunctival Intrasceral Intraocular Lens Implantation with or without Pars Plana Vitrectomy. Journal of Ophthalmology. 2021 Sep 2;2021.

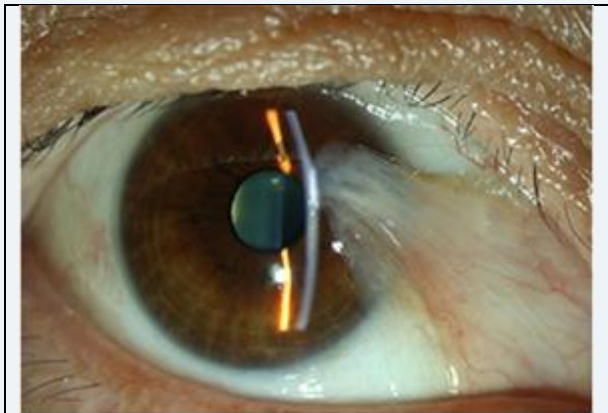
An unusual unilateral pterygium — a secondary pterygium caused by parasitosis in the scleral fistula – A Case report

Patient description: A 52- year- old woman came with the complaints of discomfort in right eye. Best-corrected visual acuity was 20/20 OD and 20/20 OS with intraocular pressure of 17 and 18 mmHg.

Slit-lamp examination revealed fleshy nasal triangular membrane in the subjects right eye, extending at 3 o'clock and 2 mm away from the limbus, covering part of corneal pupillary area. In both eyes, anterior chamber depth was normal.

Eosinophils and basophils were increased. The ratio of each were 8.50 and 1.50%.

Subject was diagnosed with pterygium in the right eye and underwent excision surgery. Tiny fistula right in the sclera which lied right under the pterygium was observed after surgical excision of the pterygium.

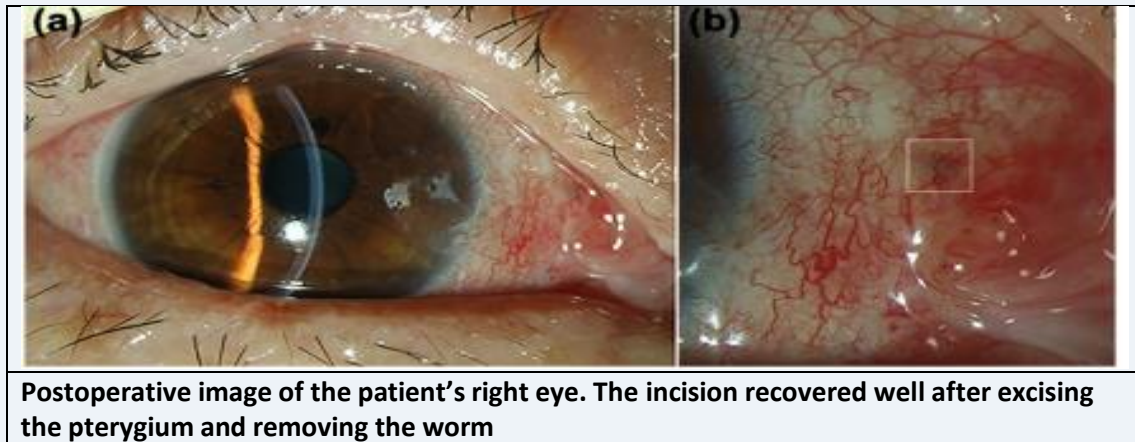


Preoperative image of the patient's right eye. Slit-lamp examination showing a fleshy nasal pterygium in right eye.

Creepily an alive and motile worm was pulled out from the fistula with a little bleeding. Bare sclera was carefully examined and was found that fistula was in one of the layer of the sclera with the worm living in. The worm appeared to be creamy white, thread-like, 1 cm long, and round with bilateral symmetry. To prevent the pterygium from recurring, corneal limbal stem cell autograft was undergone. After surgery, the excised pterygium and the worm was sent for pathological examination to a hospital.

The report revealed only few dissociative keratins under the microscope, which may be excluded from the worm.

Postoperatively, the subject received sodium hyaluronate eye drops 4 times per day deproteinized calfblood extract eye gel 1 times per day, levofloxacin eye drops 3 times per day for right eye about 1 week. The subject was re-examined at ophthalmology clinic, 10 days after the operation which showed the surgical incision recovering well.



Conclusion: Most ocular worms can infect the conjunctiva, eyelid, anterior chamber, orbit and retina but rarely sclera, which may due to its dense and crisscrossed fibrosis, preventing most worms from penetrating through the ocular surface. pterygium recurrence rate was higher in patients with mite infection. This is the first case of an intrascleral worm hidden beneath a secondary pterygium till excision surgery. It also gives the hint that Monocular pterygium maybe secondary caused by parasite infection.

Reference: Zeng W, Pan Z, Wang J, Deng X, Jiang W. Case report: an unusual unilateral pterygium—a secondary pterygium caused by parasitosis in the scleral fistula. BMC ophthalmology. 2021 Sep;21(1):1-3.



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