Transitioning Vitreoretinal Surgery From Microscope to Stereoscopic Display: No Negative Impact on Surgical Times or Outcomes

- Mark R. Barakat, MD

OBJECTIVE To describe the early retinal surgical experience of using a stereoscopic display in lieu of a microscope

PURPOSE The digital, stereoscopic, real-time display, TrueVision®, has been described as a safe and effective "heads-up" alternative to the traditional microscope in cataract surgery. The investigation of its impact on the retinal surgical experience and outcomes has only recently begun. A single retina surgeon's early experience in the transition to this heads-up display is reviewed.

METHODS Sixty-eight consecutive cases performed by a single surgeon at one outpatient facility from August to November, 2015, were reviewed retrospectively. All cases were 25 gauge (Alcon Constellation®). A surgical microscope was used until 9/30/15 and the heads-up display thereafter. Surgical time, complications, visual acuity (VA) and intraocular pressure (IOP) were noted pre- and post-operatively (day 1, week 1, month 1). Cases were subdivided into complexity categories by diagnosis: • vitreous hemorrhage/debris, silicone oil, retained lens fragment • epiretinal membrane/macular hole, • rhegmatogenous retinal detachment, • complex retinal detachment, dislocated intraocular lens/traumatic cataract

RESULTS Of the 68 consecutive cases performed at this center, 40 were performed with the surgical microscope and 28 with the digital display. Average surgical times for the TrueVision® and standard groups were statistically equivalent at 36.6±15.6 and 37.6±22.6 minutes ($p = 0.83$), respectively. Two-way analysis of variance (ANOVA) of

operative times confirmed a significant correlation with complexity category ($p < 0.000000001$) but not viewing system ($p = 0.76$), or combined effect ($p = 0.06$). Mean logarithm of Minimum Angle of Resolution (logMAR) baseline VA was equivalent in both the heads-up and standard groups (1.31±1.20 vs 1.39±1.03; $p = 0.78$). Post-operative change in logMAR VA favored the digital display group at day 1 ($p = 0.01$), but did not meet significance at week 1 and month 1 ($p = 0.23$; 0.73). There was no significant difference in the rate of IOP elevation between groups ($p = 0.36$). One eye in the heads-up group required re-operation for recurrent hyphema.

CONCLUSION The transition to the TrueVision® viewing system for retinal surgery did not increase surgical time or complication rate. Short-term visual outcomes and rates of IOP elevation did not differ between groups. Additional analysis is needed to further explore outcomes and potential benefits of employing this heads-up system, both with longer-term follow-up and increasing surgeon familiarity.

TAKE HOME MESSAGE Shifting from a surgical microscope to a digital, stereoscopic display for retinal surgery does not negatively affect surgical times or outcomes during the initial learning curve.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Exempt from approval

The Impact of Intraoperative OCT on Vitreoretinal Surgery for Proliferative Diabetic Retinopathy: Findings from the DISCOVER Study.

- Mehnaz Khan, MD
- Sunil Srivastava, MD
- Justis P. Ehlers, MD

OBJECTIVE To delineate the feasibility and role of intraoperative optical coherence tomography (iOCT) during vitreoretinal surgeries in patients with proliferative diabetic retinopathy (PDR).

PURPOSE Surgical intervention for PDR is challenging given the complexity of the vitreoretinal interface. This study evaluates the feasibility and utility of iOCT in surgical decision-making during these complex surgeries from the DISCOVER (Determination of Feasibility of Intraoperative Spectral Domain Microscope Combined/Integrated OCT Visualization During En Face Retinal and Ophthalmic Surgery) study.

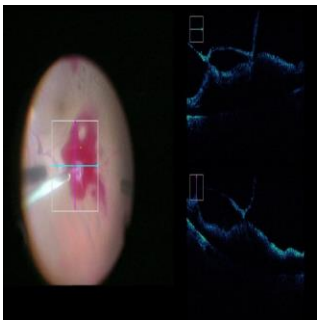
METHODS The DISCOVER study is a prospective single-site, multi-surgeon IRB-approved study evaluating the role of microscope-integrated iOCT during ophthalmic surgery. Subjects were identified from the first 2 years of the DISCOVER study that underwent vitreoretinal surgery for sequelae of PDR (01/01/14-01/01/16). Intraoperative imaging was performed at surgical milestones as determined by the surgeon. Data collected included clinical characteristics, image features, and survey-based surgeon feedback. Main outcomes were 1) the percentage of cases with successful acquisition of iOCT (feasibility) and 2) the percentage of cases in which iOCT altered surgical decision-making (utility).

RESULTS Eighty-one eyes with PDR underwent vitreoretinal surgery in the DISCOVER study. The mean patient age was 48.8 years (range 23 to 77 years). Successful iOCT

imaging was obtained for 80 of 81 eyes (98.8%). Of these, 36 (44.4%) were female and 44 (54.3%) were male. The surgeon preferred real-time feedback in 47 cases (58%), static review in 29 cases (35.8%), and was indeterminate in 5 cases (6.2%). All eyes underwent pars plana vitrectomy (100%) and 25 eyes (30.9%) required membrane peeling. In 41 of the 81 cases (50.6%), surgeons reported that iOCT provided valuable information (e.g., identification of dissection planes, identification of retinal hole). In addition, the iOCT data provided information that specifically altered the surgeon's decision making (e.g., determination of peel completion) in 21 of 81 cases (26%). No adverse events were attributed to the iOCT system. Surgeons reported that in 2 cases (2.5%) the iOCT interfered with the surgery (e.g., microscope malfunction).

CONCLUSION This study highlights the feasibility and utility of microscope-integrated iOCT for vitreoretinal surgeries in patients with PDR. The results suggest that iOCT offers an unique perspective that provide the surgeon with critical information that may impact surgical decision-making and potentially patient outcomes. Further research is needed to assess the impact of iOCT on patient outcomes.

TAKE HOME MESSAGE Intraoperative OCT offers an unique perspective that provide the surgeon with critical information that may impact surgical decision-making and potentially patient outcomes.



HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

Comparison of Ocular Aberrations Measured by Wavefront Aberrometry Before and After Vitrectomy for Floaters

- Daniel A. Adelberg, MD

OBJECTIVE A pilot study was performed to evaluate the role of wavefront aberrometry in the assessment of visual quality in patients undergoing vitrectomy for bothersome floaters.

PURPOSE Wavefront aberrometry is a novel diagnostic tool for measuring ocular aberrations, and was utilized to quantify the optical effects of vitreous disorders in symptomatic floater patients before and after vitrectomy. Wavefront aberrometry could provide an objective method to evaluate ocular aberrations of the vitreous in the management of patients with symptomatic floaters.

METHODS Six patients with persistent, bothersome floaters were managed with 27 gauge vitrectomy. Inclusion criteria included persistent floaters greater than 3 months duration, pseudophakia, and informed consent. No patient was excluded. Data was analyzed in a retrospective, noncomparative manner in this single surgeon consecutive case series. Clinical data included preoperative and postoperative Snellen visual acuity, operative and postoperative complications, and self reported patient satisfaction. All patients had preoperative and postoperative Hartmann-Shack aberrometry with the Wavescan (Abbot Medical Optics,Illinois). Total and higher order aberrations were statistically analyzed.

RESULTS Six patients with pseudophakia and symptomatic floaters were managed with 27 gauge vitrectomy. One patient had prior LASIK and cataract surgery with a toric IOL, and one additional patient had prior LASIK and subsequent LASIK enhancement. There were 4 females and two males, and age ranged from 58- 80 years (mean 69). Mean preoperative Snellen visual acuity was 20/27, and mean postoperative Snellen visual acuity was 20/24. There were no operative or postoperative complications. Subjective patient satisfaction of visual acuity improvement post vitrectomy was 91% (range 75-100%). Wavefront aberrometry demonstrated overall reduction in total aberrations, higher order aberrations, and higher order aberration percentage. The higher order aberration percentage decreased from preoperative mean 53.75 to postoperative mean 35.6 and was statistically significant ($p < 0.02$).

CONCLUSION Vitrectomy significantly reduced the percentage of higher order aberrations determined by wavefront aberrometry in patients with symptomatic floaters after vitrectomy. Wavefront aberrometry could improve understanding of the cause of symptoms, quantifying vitreous pathology, patient selection and substantiate medical necessity in the management of symptomatic floater patients.

TAKE HOME MESSAGE Wavefront aberrometry is a quantitative diagnostic tool to evaluate the eye's optical aberrations. An additional application could be the evaluation of optical effects of vitreous disorders.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Not approved

Primary Rhegmatogenous Retinal Detachment With Inferior Retinal Breaks Postoperative Prone Positioning Results: 1 Day vs 7 Days

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- Jordan Isenberg, MD, MBA, MSc
- Ghassan Joseph Cordahi, MD, FACS
- Renaud Duval, MD, FRCS(C)
- Sébastien Olivier, OD, MD, FRCSC
- Flavio A. Rezende, MD, PhD

OBJECTIVE To compare the primary anatomical success rate of pars plana vitrectomy, 360° peripheral endolaser and 15% C3F8 gas tamponade in uncomplicated rhegmatogenous detachment with inferior retinal breaks

PURPOSE The purpose of our study is to compare the primary anatomical success rate of pars plana vitrectomy, 360° peripheral endolaser and 15% C3F8 gas tamponade with 24-hours prone positioning in patients with uncomplicated rhegmatogenous detachment and inferior retinal breaks, to identical patients with 1 week postoperative prone positioning

METHODS Records of 5500 patients who underwent pars plana vitrectomy between 2008 and 2015 were retrieved. Collected data included age, gender, number of retinal quadrants with retinal breaks, number of retinal breaks, visual acuity (on presentation and at 3 months post-operative), macula status on presentation (attached or detached), phakic status (phakic, pseudophakic, or aphakic), and primary anatomical success (at 1 and 3 months post-operative).

RESULTS 270 patients met the study inclusion criteria (78 females, and 192 males). In the 24-hours positioning arm (183 patients), the overall anatomical success rate was 96.2% at 1 month and 83.6% at 3 months. Primary anatomical success in phakic eyes

(58 eyes) was 96.6% at 1 month and 81% at 3 months post-operative. In the pseudophakic/aphakic group (125 eyes), primary anatomical success was achieved in 96% and 84.8% at 1 month and at 3 months post-operative, respectively. In the 1-week positioning group (87 patients), the overall anatomical success rate was 93% at 1 month and 79% at 3 months. Primary anatomical success in phakic eyes (21 eyes) was 95% at 1 month and 76% at 3 months post-operative. In the pseudophakic/aphakic group (66 eyes), primary anatomical success was achieved in 92.4% and 80% at 1 month and at 3 months post-operative, respectively. Both positioning groups did not show statistical difference in outcome at 1 month (p-value= 0.7) or at 3 months (p-value= 0.39)

CONCLUSION This retrospective study demonstrated that patients with uncomplicated rhegmatogenous retinal detachment, inferior retinal breaks, pars plana vitrectomy, combined with 360° endolaser, 15% C3F8 gas, and limited (24-hours) prone positioning may have similar results when compared with 1 week postoperative positioning. Larger prospective studies are warrented to further elucidate positioning role.

TAKE HOME MESSAGE In this study population, 24-hours prone positioning may have similar results when compared with 1 week postoperative positioning. Larger prospective studies are warranted to further our understanding.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

Nonvitrectomizing Vitreous Surgery in Retinal Diseases Requiring Anti-VEGF Treatment

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- Diana A. S. Fontes, MD
- Rafael Bittencourt Fernandes, MD
- Taiala Bacelar Burke, MD
- Araujo Poliana

OBJECTIVE Present a series of non vitrectomizing vitreous surgery due to vitreomacular traction and epiretinal membrane in patients with retino-vascular disorders on anti-VEGF therapy.

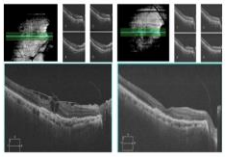
PURPOSE We will present a series of patients treated with nonvitrectomizing vitreous surgery due to incomplete anatomical and functional improvement associated with vitreoretinal interface disorder while on anti-VEGF treatment. 25-gauge valved cannulas and 25-gauge disposable forceps and/or pic and focal illumination and a BIOM viewing system were used and scleral depression.

METHODS Retrospective case-series of patients that had 25-gauge non-vitrectomizing vitreous surgery by the first author. Six patients undergoing anti-VEGF treatment for wet-AMD, vein occlusion and diabetic retinopathy underwent surgery under local anesthesia. Two 25 gauge valved-cannulas were inserted supero-temporal and supero-nasal. No infusion was used. A 25 gauge light pipe connected to Constellation Vision System and a 25 gauge pic or forceps was used for hialoid and/or epiretinal tissue separation from the macula. A BIOM viewing system was used and patients had underwent scleral depression to look for peripheral breaks at the end of surgery.

RESULTS All patients had release of vitreomacular traction and improvement in macular anatomy and vision. They maintained antiVEGF treatment on a 4+ weeks interval with no change on antiVEGF pharmacokinetcs suspected.

CONCLUSION Nonvitrectomizing vitreous surgery in retinal diseases dependent on anti-VEGF treatment is a safe procedure and can improve anatomical and functional outcomes when retino-vascular diseases coexist with vitreomacular interface disorders.

TAKE HOME MESSAGE Non-vitrectomizing vitreous surgery is a safe option foi vitreomacular interface disorder. Added benefit can be seen when patient is on antiVEGF therapy due to maintanance of vitreous body.



HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

Surgical and Visual Outcomes of Pars Planalensectomy With or Without Scleral Fixated Lens Implantation in Microspherophakia

- Vishal R. Raval, MBBS, DNB, FMRF
- Avinash Pathengay, FRCS

OBJECTIVE To evaluate the clinical features, visual and surgical outcomes of pars planalensectomy, with or without scleral fixated intraocular lens implantation in the management of microspherophakia.

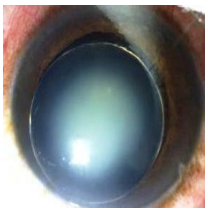
PURPOSE Microspherophakia is a rare congenital abnormality of the lens and results in subluxation of lens and narrow angle glaucoma. Complications seen are pupillary block glaucoma and high lenticular myopia which can compromise the visual outcomes. The current paper highlights the role of pars planalensectomy, with or without scleral fixated lens implantation in management of microspherophakia.

METHODS A retrospective case series of all the patients diagnosed to have micropsherophakia at two tertiary care campuses were included. Microspherophakia was diagnosed clinically on the basis of small globular shape and visibility of entire lens equator on dilatation of pupil. Case records of 19 patients (36 eyes) who underwent three port pars planalensectomy (PPL), with or without suture fixated scleral intraocular lens (SFIOL) were reviewed. Visual acuity, intraocular pressure (IOP) and complications observed during the treatment of microspherophakia were evaluated

RESULTS Thirty-six eyes who underwent treatment for micropsherophakia were included. Nineteen eyes (52%) underwent PPL, with 4 point SFIOL implantation. Fifteen eyes (41%) underwent only PPL. The mean age of the patients was 24.1 months (3-54). On systemic evaluation 12 patients (63%) were diagnosed to have either features of Marfan or Weil Marchesani syndrome. In 3 eyes lens was dislocated in anterior chamber (AC). The mean duration of follow-up was 17.1 months (2-72). The mean preoperative LogMAR visual acuity was 0.85 (6/48) which improved to 0.48 (6/18) post surgery ($p = 0.0009$). The mean preoperative refraction was -12.88 dioptres (32 eyes) and after SFIOL implantation was -1.2 D(14 eyes). The mean pre-operative IOP was 22.1 mm Hg which reduced to 15.5 mm post surgery ($p = 0.005$). Out of 36 eyes, 14 eyes (38 %) needed one antiglaucoma medication for control of IOP. Post-operatively, 2 patients had shallow AC and needed AC reformation. Good IOL centration was noted in 17 out of 19 eyes.

CONCLUSION Microspherophakia is commonly associated with high lenticular myopia and narrow angle glaucoma. Pars planalensectomy with or without sutured scleral lens implantation aims in achieving near emmetropic refractive status and better IOP control. Surgical challenges encountered during surgery were shallowing of AC, inducing vitreous detachment, hypotony and long learning curve.

TAKE HOME MESSAGE Pars plana lensectomy, vitrectomy with or without scleral lens implantation is a safe and alternative treatment option for better IOP control and good visual outcome in patients with microspherophakia



HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

Refractive Vitreoretinal Surgery: Femtosecond Laser-Assisted Cataract and Vitrectomy Surgery

- Stanislao Rizzo, MD
- Daniela Bacherini, MD
- Cesare M.C. Mariotti, MD
- Francesco Faraldi, MD
- Tomaso Caporossi, MD

OBJECTIVE The utility of Femtolaser cataract in vitreoretinal surgery.

PURPOSE The aim of the present study is to assess the safety and surgical results of femtosecond laser-assisted phacovitrectomy

METHODS 15 patients over 50 years of age with co-existing vitreoretinal pathologies and cataract underwent combined femtosecond laser-assisted cataract extraction and sutureless 25 and 27-gauge vitreoretinal surgery. The LenSx laser (Alcon) and Victus laser (Bausch + Lomb) were used in combination with the Constellation Vision System (Alcon) and Stellaris PC Vitrectomy System (Bausch + Lomb). An assessment was carried out of preoperative characteristics, surgical indications, postoperative results and complications. Informed written consent was obtained for all subjects.

RESULTS 15 eyes of 15 patients were treated. Mean age (± SD) was 60.7± 8.8 years. The indication for surgery was macular hole in 6 patients, epiretinal membrane in 6, vitreous haemorrhage in 2 and retinal detachment in 1. The mean preoperative BCVA was 0.64 ± 0.23 logMAR and the mean postoperative BCVA was 0.19 ± 0.11 logMAR. In 4 patients with corneal astigmatism of 3.35 D ± 0.32 D as mean value a toric intraocular lens (IOL) was implanted: mean residual refractive cylinder was 0.47 ± 0.23 D. 3 months postoperatively, mean IOL rotation was 1.64 ± 0.28°. All patients improved

their visual acuity. The intraoperative complications of femtosecond laser were 1 subconjunctival hemorrhage, 1 case of miosis and 1 suction loss. There were no anterior chamber inflammation and no cases of subluxation of the IOLs. The surgeon was able to maintain a clear view of the retina at all times. After surgery a better fundus examination was possible with no capsular opacification. Mean follow-up was 6 months.

CONCLUSION Femtolaser cataract in vitreoretinal surgery appears as a safe and effective technique with potential benefits: the precision and centration of the capsulorhexis may reduce the risk of IOL prolapse into the anterior chamber in gasfilled eyes. Implantation of the toricIOL was effective in reducing preexisting corneal astigmatism and provided good rotational stability and refractive outcome

TAKE HOME MESSAGE Femtosecond laser in phacovitrectomy is a safe and effective technique in cases of cataract associated with vitreoretinal disease, with attention toward better visual quality and refractive changes.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

27-Gauge vs 25-Gauge Vitrectomy for Different Retinal Pathologies

- Francesco Boscia, MD
- Ermete Giancipoli
- Giuseppe D'Amico Ricci

OBJECTIVE To determine if there are significant differences between 27 and 25 Gauge pars plana vitrectomy.

PURPOSE This study compares 27-gauge (27G) with 25-gauge (25G) pars plana vitrectomy (PPV) for different retinal pathologies, in terms of operation time, best corrected visual acuity (BCVA), intraocular pressure (IOP), intra- and post-operative complications.

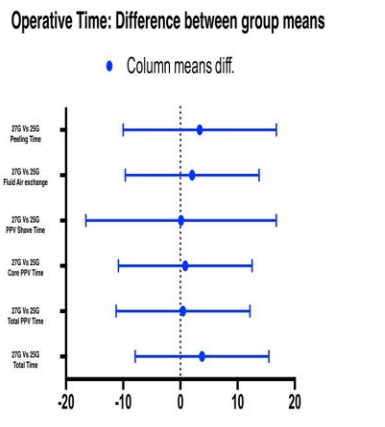
METHODS Twenty eyes of 20 patients who underwent 27G (10 eyes) or 25G (10 eyes) PPV for different retinal pathologies were retrospectively evaluated. The distribution of retinal pathologies between 27 and 25 Gauge groups was respectively: retinal detachment (2 eyes and 3 eyes), vitreous hemorrhage (3 eyes and 2 eyes), epiretinal membranes/macular holes (5 eyes and 5 eyes). Mean operation time for each technique was evaluated. BCVA and IOP were evaluated at 1, 7 and 30 days after surgery. Post surgical inflammation was evaluated the day after surgery using an anterior segment inflammation score (range from 0 = no inflammation to 2,5 = severe inflammation).

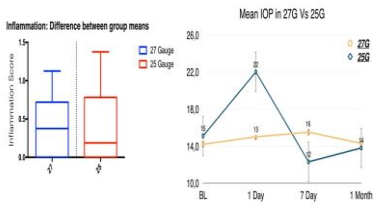
RESULTS No statistically significant differences were found between 27G and 25G group in terms of mean operation time for total (P=0.86), core (P=0.53) and shave vitrectomy (P > 0.99); membrane peeling (P=0.05) and fluid-air exchange (P=0.21). No intraoperative complication was reported in either group. One day after surgery post surgical inflammation score did not show any significant difference between 27G and 25G group (0.4 ± 0.4 vs 0.37 ± 0.48 respectively; P=0.77). More patients in the 27 G

group showed anterior chamber flare 1 day after surgery (0.75 ± 1.20 vs 0.3 ± 0.4; P=0.2). No statistically significant difference was found between 27G and 25G group in terms of IOP during all follow-up visits. No patient in either group showed significant hypotonia. BCVA improved in both groups at 1 month, but only in 25G group the improvement was significant (P = 0.03).

CONCLUSION Efficacy and safety of 27G system is comparable to 25G system for different retinal pathologies. We did not find any significant difference in terms of operative time, intra- and post-operative complications. The difference in final BCVA could be explained by the variability among patients selected.

TAKE HOME MESSAGE The 27G system is safe and comparable to 25G for many retinal disorders.





HUMAN RESEARCH This study involves human research.
IRB Approval Status: Exempt from approval

Macular Hole Surgery Assisted by Perfluorocarbon Liquids

- Virgilio Morales-Canton, MD
- Raul Velez-Montoya, MD
- Alan Alba-Orozco, MD

OBJECTIVE Present evidence that shows perfluorocarbon liquids are a useful toll to determine which cases of idiopathic macular hole surgery are prone to close at the first surgery.

PURPOSE To evaluate the use of perfluorocarbon liquids during macular hole surgery in order to know a better success rate in this type of surgical procedures

METHODS We prospectively studied patients with the diagnosis of idiopathic macular hole from August 20014 to November 2015. Complete ophthalmological examination was done including Spectral Domain OCT (SD OCT). Pars plana vitrectomy was done with staining and peeling of the ILM. A PFO bubble was placed over the macular hole and active aspiration was done over the macular hole. When the hole "closed" it was considered to be a "positive " sign. When the hole remained open, it was considered a "negative" sign. Postoperative evaluations were done at the first day, one week, one month and 3 months. SD OCT was done in all visits.

RESULTS Twenty eight eyes (28 patients) with a diagnosis of macular hole were included. Characteristics of the macular hole were evaluated prior to surgery (mean macular hole index, mean diameter and mean macular hole aperture). After a 12 month follow-up, 79% percent of the studied patients had a macular hole closure rate. 10 % showed an improvement in visual aquity, 10% had no changes and 80% showed no changes in

symptoms. Closure rate was 82% compared to 90% in the literature. The usage of perfluorocarbons during surgery showed a positive test in 100% of cases (95% CI: 3:2-14225). There was no significant difference between surgeons (fellow vs faculty).

CONCLUSION The usage of pefluorocarbon liquids during macular hole surgery (after internal limiting membrane peeling) may help in knowing which cases may show an anatomical success and which cases may need further surgical intervention in order to have the best anatomical success.

TAKE HOME MESSAGE Intraoperative perfluorocarbons may help the rate of macular hole closure in primary cases.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board

A Novel Technique for IOL Fixation Utilizing Gore-Tex Suture

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- Scott Halperin
- Stuart N. Green, MD
- Harold M. Wheatley, MD

OBJECTIVE To demonstrate a new surgical procedure for IOL fixation.

PURPOSE To report our initial experience with a novel surgical technique for scleral fixation of a CZ70BD single piece IOL utilizing vitrectomy and scleral fixation with Gore-Tex suture. A cow hitch knot is employed to generate four point IOL fixation.

METHODS Retrospective review of a consecutive series of patients who underwent a novel sutured IOL procedure. All patients were required to be followed for at least three months after surgery to be included. Outcomes data were obtained and analyzed.

RESULTS Three patients were included in the series. Short-term (<1 week) complications were limited, and included ocular hypertension (n=1) and corneal edema (n=2). These resolved with short-term topical anti-hypertensive and steroid medication use. No medium-term (>1 week, <3 months) complications occurred. All patients improved visually as would be expected after treatment of their lens malposition.

CONCLUSION Scleral IOL fixation utilizing vitrectomy, Gore-Tex suture and cow hitch knots is well-tolerated three months after surgery.

TAKE HOME MESSAGE Scleral IOL fixation utilizing vitrectomy, Gore-Tex suture and cow hitch knots is well-tolerated three months after surgery.

The Removable Scleral Buckle-Back to the Future?

- Paul E. Tornambe, MD
- Nikolas JS London, MD
- Gabriela Lopezcarasa Hernandez, MD
- David da Fonseca Martins, MD

OBJECTIVE To describe a new scleral buckling device which allows rapid insertion and removal to avoid the side effects of conventional scleral buckles.

PURPOSE To describe experience with a removable scleral buckle.

METHODS A removable scleral buckle has been designed which allows two absorbable suture fixation of a scleral buckle which can treat up to four clock hours of contiguous retinal pathology. The buckle can be readily removed in an office setting. Our experience treating retinal detachments with this device will be discussed.

RESULTS We hope to report on 6 eyes treated with this device by the time of the meeting.

CONCLUSION This device improves the outcome and quality of vision of scleral buckling surgery by avoiding common side effects of scleral buckles including induced myopia, astigmatism and muscle imbalance. The design of the device allows removal in an office setting making the concept very cost effective.

TAKE HOME MESSAGE Scleral buckling can now be performed with a new device which avoids the usual side effects/complications of conventional scleral buckling surgery.

HUMAN RESEARCH This study involves human research.
IRB Approval Status: Approved by institutional review board