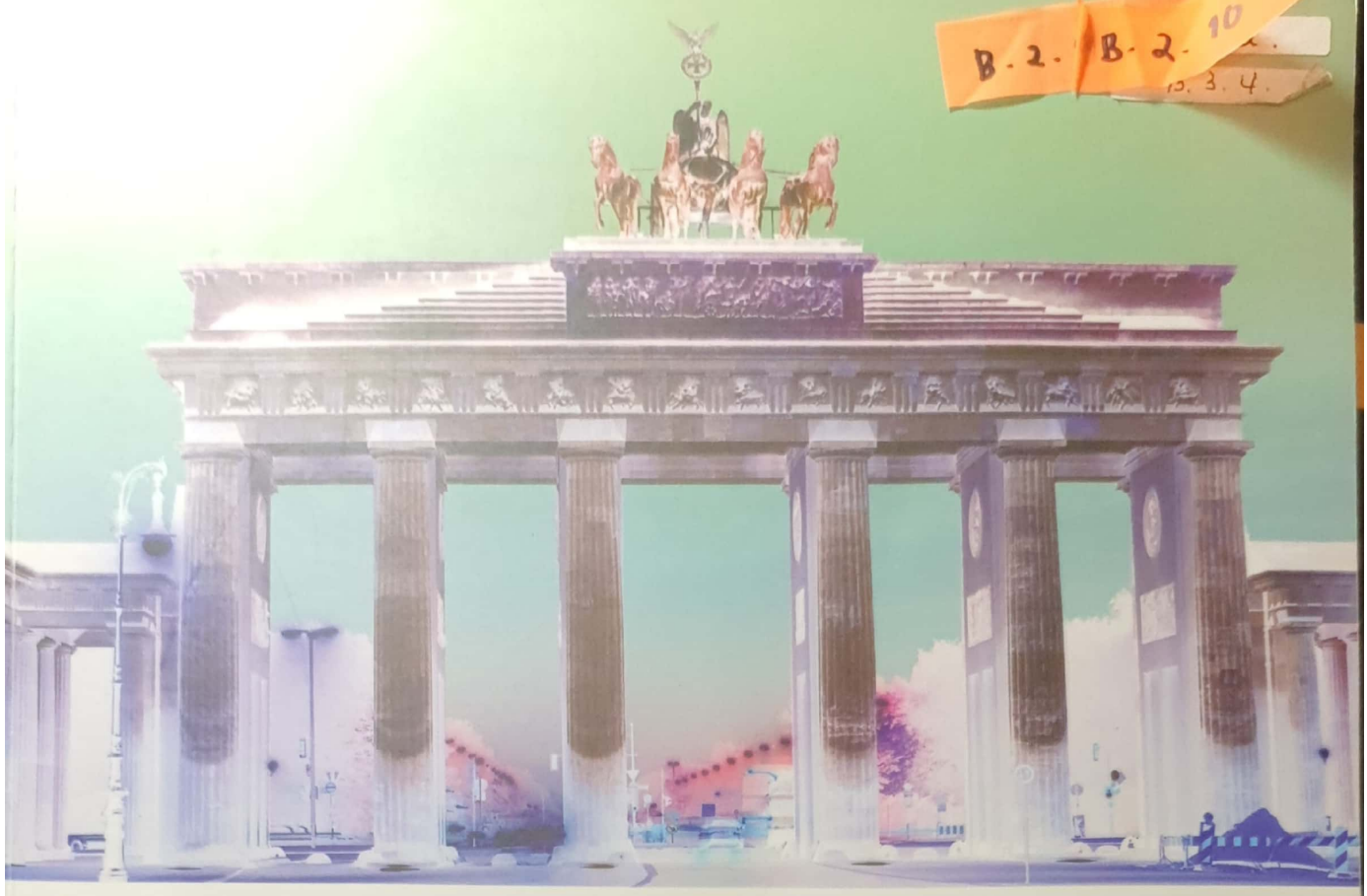

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Book of Abstracts

EUROPEAN SOCIETY OF CATARACT & REFRACTIVE SURGEONS

Contents

FREE PAPERS

SHIMIZU, KIMIYA

VISUAL PERFORMANCE OF PSEUDOPHAKIC MONOVISION VERSUS MULTIFOCAL IOLS

K. Shimizu, M. Ito
Kitasato University Hospital, Sagamihara, Kanagawa, Japan

PURPOSE: Monovision is an optical technique for correcting presbyopia, in which dominant eye is corrected for distance vision and non-dominant eye for near vision. Since 1999, we have been using this method after cataract surgery. We assessed the visual performance of pseudophakic monovision and bilateral implantation of multifocal IOLs.
SETTING: Department of Ophthalmology, Kitasato University Hospital, Sagamihara, Kanagawa, Japan.
METHODS: We examined 82 subjects (age: 49-87 years) with pseudophakic monovision using monofocal intraocular lenses (IOLs) and 22 subjects (age: 54-88 years) with bilateral implantation of refractive multifocal IOLs (Array SA40N, AMO Co.). In pseudophakic monovision, dominant eye was determined by the hole in the card test. The target refraction was emmetropia in the dominant eye, whereas it was -2 diopters in the non-dominant eye. In multifocal IOLs, the refractive target for each eye was emmetropia. Visual acuity at various distances, contrast sensitivity, near stereopsis, and spectacle independence were measured.
RESULTS: In pseudophakic monovision, the mean difference in spherical equivalent (SE) refractive error between both eyes was 2.27 diopters (range: 1.75-2.75 diopters). In multifocal IOLs, SE refractive error was +0.14 diopters (range: -0.5/+0.5 diopters). The binocular visual acuity of pseudophakic monovision subjects (20/25) was better than that of multifocal IOLs (20/33) at near distance. In both groups, binocular summation was observed at 1.5 to 6 cycles / degree for contrast sensitivity, and near stereopsis was in the normal range. Moreover, spectacle independence was lower in subjects with pseudophakic monovision (23%) than in those with multifocal IOLs (34%).
CONCLUSIONS: Pseudophakic monovision is an effective approach for managing loss of accommodation after cataract surgery; however, careful selection needs to be done. A new technique called "customized monovision by multifocal IOLs" also provides better results in such patients. In addition, various IOLs are expected to enhance the diversity of monovision.

SHROFF, NOSHIR

TORSIONAL PHACOEMULSIFICATION VERSUS LONGITUDINAL PHACOEMULSIFICATION FOR EMULSIFYING BRUNESCENT CATARACTS IN INDIAN EYES

N. Shroff, R. Dutta, N. Verma
Cataract & Intraocular Lens Implantation Service, Shroff Eye Centre, New Delhi, India

PURPOSE: To evaluate the safety profile, effectiveness and visual outcome of torsional phacoemulsification versus longitudinal phacoemulsification in brunescent cataracts in Indian eyes.
SETTING: Cataract & Intraocular Lens Implantation Service, Shroff Eye Centre, New Delhi, India.
METHODS: 35 eyes with nuclear sclerosis grade 4+, endothelial cell density > 1800/mm2, with no other anterior or posterior segment pathology underwent phacoemulsification utilizing continuous torsional phacoemulsification mode with 0.9 mm 45° Kelman tip (Alcon Infiniti) for 18 eyes and longitudinal phacoemulsification mode (Sovereign WhiteStar ICE) for 17 eyes. Intra-operative parameters studied were Cumulative Dissipated Energy (CDE), volume of irrigating fluid, incidence of wound burn, followability of nuclear fragments and chamber stability. All eyes were examined postoperatively at day-1, day-7, and day-30 for central corneal thickness (CCT), anterior chamber reaction and Best corrected visual acuity (BCVA). Endothelial cell density (ECD) with specular biomicroscopy was done at day-30.
RESULTS: Both groups were matched for age and preoperative ECD. Mean CDE was 26.53 ± 9.26 and 22.52 ± 10.71 for longitudinal and torsional groups respectively (p>0.05). The mean volume of irrigating fluid used was 162.15 ± 22.35mL and 114.23 ± 32.41 ml for longitudinal and torsional groups respectively (p< 0.05). LogMAR BCVA on day 1 & 7 was 0.37 ± 0.15 and 0.27 ± 0.12 in the longitudinal group and 0.20 ± 0.16 and 0.11 ± 0.12 in the torsional group respectively (p<0.05). CCT on days 1 and 7 were 608.35 ± 61.36µ and 590.53 ± 48.48µ in the longitudinal group and 570.17 ± 26.92µ in the torsional group respectively (p<0.05). ECD was 2101.53 ± 37.78µ and 537.16 ± 30.29µ in the longitudinal and torsional groups respectively (p>0.05).
CONCLUSIONS: Both techniques provide comparable long-term outcomes. However, torsional phacoemulsification offers an advantage over longitudinal phacoemulsification with respect to earlier corneal rehabilitation, and significantly lesser endothelial cell loss. Also, due to its use, superior magnetic followability at lower vacuums and flow rates, and stability decreases the potential for complications in eyes with brunescent cataracts.

SIMANJUNTAK, GILBERT W.S.

DOUBLE EXTRA SHARP CHOPPER INCREASE EFFICACY & SAFETY PHACOEMULSIFICATION FOR HARD MATURE CATARACT

G.W.S Simanjuntak, J.E. Tan, H.H.B. Mailangkay
1. Christian University Of Indonesia, Jakarta, Indonesia
2. Cikini CCI Hospital, Jakarta, Indonesia

PURPOSE: To assess the efficacy and safety of a modified double chopper for removal of hard cataract.
SETTING: Department of Ophthalmology, Christian University of Indonesia/Cikini Church Hospital, Jakarta, Indonesia.
METHODS: The study design was prospective non-comparative interventional clinical study. Forty eyes of 25 patients with hard mature cataract (grade 4) underwent phacoemulsification by single surgeon and analyzed. The (grade 4 as the hardest). The pre-modified Koch chopper was sharpened under slit lamp to become extra sharp at the tip and inside edge. The knife, 2 mm in length.
RESULTS: The mean effective phaco time was 23.73 + 5.75 seconds. power was facilitated by using horizontal chopping using self made extra sharp chopper. No resistance encountered while moving the nucleus instead of cataract persistency. Preoperative BCVA were finger counting (47%), hand movement (35%) and light perception (18%). Postoperative day 1and day 7 were 0.57and 0.95 respectively. There is no difference effective phaco time among nuclear hardness (P=0.467) which represents effectiveness of the extra sharp chopper.
CONCLUSIONS: Double extra sharp chopper can facilitate a safe and rapid rehabilitation, and maximal subject comfort when doing phacoemulsification with old machine for hard mature cataract.

SIMON, GABRIEL

A WIRELESS, IMPLANTABLE INTRA-OCULAR PRESSURE SENSOR FOR THE MANAGEMENT OF GLAUCOMA

G. Simon[1], P. Irazoqui[2], J. Clevenger[3]
1. Instituto Gabriel Simon Oftalmologia, Madrid, Spain
2. Purdue University, West Lafayette, IN, USA
3. SOLX, Inc., Waltham, MA, USA

PURPOSE: To evaluate the in-vivo performance of a novel intra-ocular pressure sensor for the management of glaucoma.
SETTING: Purdue University, West Lafayette, IN, USA; Instituto Gabriel Oftalmologica, Madrid, Spain.
METHODS: A wireless, implantable pressure sensor has been developed monitoring elevated Intra-Ocular Pressure (IOP) associated with glaucoma. The minimally-invasive pressure sensor records continuous IOP data via a daily wireless recharge and upload to an external unit. The device is 3mm by 5mm, with a height of 200 microns, and is designed to be placed into the suprachoroidal space. The sensor and associated electronics are enclosed in a hermetically-sealed package, which is contoured to accept the curvature of the eye surface. In this initial investigation, ten rabbits were implanted for safety analysis, followed by a clinical pilot study.
RESULTS: Following implantation, the IOP sensor demonstrated accurate, consistent IOP measurements to within ±0.5mmHg, without significant drift. Due to the sensor surface residing on the choroid, the device required no calibration upon implantation to properly measure IOP. The device was

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result was obtained in all of the eyes.
CONCLUSIONS: Safety and high efficacy of TPA in the treatment of fibrinous membranes after cataract surgery are confirmed.

SIGNER, THEO

EFFECTIVENESS OF THE ACRYSOF TORIC LENS IN REDUCING POSTOPERATIVE ASTIGMATISM AFTER CATARACT SURGERY

T. Signer
Vista Klinik, Binningen, Switzerland

PURPOSE: To determine the effectiveness of the AcrySof Toric lens as measured by the postoperative astigmatism reduction.
SETTING: Vista Klinik, Binningen, Switzerland.
METHODS: Thirty-nine eyes of 30 patients (corneal astigmatism from 1.14D to 6.32D) were implanted with an AcrySof Toric IOL model T3, T4 or T5 in accordance with the manufacture's calculator. Patients underwent routine cataract surgery via phacoemulsification. Postoperative measures including corneal cylinder, refractive cylinder, lens rotation and UCVA were taken 1- and 3-months postoperatively. Additionally a patient questionnaire assessing spectacle use and satisfaction was conducted 3-months postoperatively.
RESULTS: Mean preoperative corneal cylinder was 2.23+1.12 D. This mean was maintained postoperatively whereas refractive cylinder was 0.61+0.62 D at both the 1- and 3-month visits (1.62 D change from preop). Between the visits <2o of rotation was noted in 85% of patients. UCVA was 0.8 or better in 74% of patients 1-month postoperatively and 0.6 or better in 88% of patients 3-months postoperatively. According to the questionnaire, 77% of patients were completely satisfied (10 on 10-point scale) and 89% of patients were spectacle free for distance vision.
CONCLUSIONS: The AcrySof Toric IOL is stable and significantly lowers astigmatism resulting in a high percentage of distance spectacle freedom and patient satisfaction.

SIMANJUNTAK, GILBERT W.S.

SECONDARY LENS IMPLANTATION AFTER EVENTFUL CATARACT SURGERY

G.W.S Simanjuntak, J.F. Tan, H. Hasibuan, J. Wijaya
1. Christian University Of Indonesia, Jakarta, Indonesia
2. Cikini CCI Hospital, Jakarta, Indonesia

PURPOSE: To report the outcomes of secondary lens implantation in tertiary eye clinic in Jakarta.
METHODS: Retrospective study of cases with secondary implant as a single or combined with other procedure. All cases underwent eventful cataract surgery with or without lens implantation in anterior chamber. Possibilities of IOL placed in the sulcus evaluated thoroughly preoperatively. All secondary implantation done in the sulcus. Preoperative VA, IOP and significant findings recorded, as well as postoperatively.
RESULTS: Subjects were 8 cases with history of eventful cataract surgery. There were 4 cases with anterior chamber lens implantation with secondary glaucoma, uveitis and vitreous opacities. There were 2 cases with posterior chamber decentered lens with impending posterior dropped IOL, and aphakic were 2 cases. All cases with posterior capsule rupture. Posterior synechiae seen in cases of AC IOL and aphakia. Surgical technique demonstrated by video.
CONCLUSIONS: Preoperative thorough evalution along with proper surgical technique can solve problem of patient with improper lens implantation.

SIMON, GABRIEL

A PHOTO-TITRATABLE GOLD SHUNT TO CONTROL ELEVATED INTRAOCULAR PRESSURE ASSOCIATED WITH GLAUCOMA

G. Simon[1], J. Clevenger[2], J. Lowery[2], J. Lin[2]
1. Instituto Gabriel Simon Oftalmologia, Madrid, Spain
2. SOLX, Inc., Waltham, MA, USA

PURPOSE: To evaluate the safety and efficacy of a photo-titratable Gold Shunt glaucoma drainage device in a pilot study.
SETTING: Instituto Gabriel Simon Oftalmologia, Madrid, Spain.
METHODS: The Gold Shunt (SOLX, Waltham, MA), a glaucoma drainage device made entirely from medical grade gold, was modified to allow for post-operative photo-titration with a Ti-Sapph trabeculoplasty laser (SOLX, Waltham, MA). The device reduces intraocular pressure (IOP) by establishing flow from the anterior chamber into the suprachoroidal space. In an early pilot study, 7 eyes in 7 patients diagnosed with primary open angle glaucoma received the photo-titratable Gold Shunt, with one patient requiring post-operaitve photo-titration.
RESULTS: Mean IOP+SD at baseline was 20.6 (3.6)mmHg on 2.28 (0.49) glaucoma medications. Average IOP was 7.9 (6.6)mmHg at 1 day, 8.6 (3.5)mmHg at 1 week, 16.5 (6.8)mmHg at 4 weeks, and 17.5 (4.9)mmHg at 12 weeks of follow-up. Average IOP medications at 12 weeks was 1(0.0). One patient had a pre-op IOP of 18mmHg while on three glaucoma medications, which spiked to 32mmHg at week four. Four channels were titrated with the Ti-Sapph during this visit, using 50mJ of energy for each. IOP was lowered to 18mmHg four hours post-operatively. At 8 weeks, IOP was further reduced to 16mmHg.
CONCLUSIONS: Initial studies with the photo-titratable Gold Shunt device indicate that post-operative outflow modulation can be performed to adjust for changing IOP conditions. Additional studies are necessary to establish full safety and efficacy trends for this novel treatment.
FINANCIAL DISCLOSURE: J. Clevenger, J. Lowery, and J. Lin are all employees of SOLX.

SIMSEK, SABAN

A NEW SUTURING TECHNIQUE FOR IRIS FIXATION IOLS

S. Simsek, H.B. Cakmak, N. Cagil, H. Simavli
Ankara Ataturk Research And Training Hospital, First Ophthalmology Department, Ankara, Turkey

PURPOSE: To present a new suturing technique for iris fixation to implant posterior chamber IOL in patients without capsular support.
SETTING: Ankara Ataturk Research and Training Hospital, First Ophthalmology Department, Ankara, Turkey.
METHODS: Three aphakic patients who had no capsular support were included in this study. A 6.5 mm corneoscleral incision in superior quadrant, and a corneal paracentesis at 6 o'clock were performed. After viscoelastic injection, a 10-0 curved prolene suture needle was inserted through paracentesis and peripheral iris to posterior chamber, and through pupillary space into anterior chamber, and it was exited from superior incision. Then, the same needle was inserted through superior incision, and exited from inferior incision following the same route. The second needle was inserted from superior incision and superior peripheral iris to posterior chamber. Through pupillary space the needle exited from inferior incision, and returned to superior incision following the same route. 1 mm space was left between two needle passes on iris. Each formed suture loop was cut outside, and cut ends were tied to IOL haptic. IOL was implanted into posterior chamber and free ends of sutures were tied onto iris at each side.
RESULTS: No significant peroperative and postoperative complication occured in any case, except mild pupil stretching because of improper IOL size. Implantation of IOL was observed to be easier and less traumatic than similar methods. Postoperative astigmatism was below 2 diopters and spherical equivalent of refractive errors was within 1.50 diopters in all cases. Increase in visual acuity was obtained in all cases.
CONCLUSIONS: This new method appears to be both effective and safe in aphakic cases without any capsular support. Further clinical studies with more cases and with a specially designed IOL will determine clinical significance of this new technique.

Welcome Dr Gilbert WS Simanjuntak to the Speaker Zone

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Paper Number	428
Title	***Double Extra Sharp Chopper Increase Efficacy of Phacoemulsification for Hard Mature Cataract Surgery***
Presentation Type	Free Paper
Presentation Theme	Cataract Surgery Equipment/Instrumentation/Surg Devices/OVDs
Abstract Document	PURPOSE: To assess the efficacy and safety of a modified double extra sharp chopper for removal of hard cataract. SETTING: Department of Ophthalmology, Christian University of Indonesia/Cikini Church Hospital, Jakarta, Indonesia. METHODS: The study design was prospective non-comparative interventional clinical study. Forty eyes of 25 patients with hard mature cataract grade 3-4 underwent phacoemulsification by single surgeon and analyzed prospectively (grade 4 as the hardest). The pre-modified Koch chopper was sharpened under slit lamp to become extra sharp at the tip and inside edge, thin as a knife, 2 mm in length. RESULTS: The mean effective phaco time was 23.73 + 5.75 seconds. Minimal power was facilitated by using horizontal chopping using self made double extra sharp chopper. No resistance encountered while moving the chopper instead of cataract persistency. Preoperative BCVA were finger counting (47%), hand movement (35%) and light perception (18%). Postoperative BCVA day 1and day 7 were 0.57and 0.95 respectively. There is no difference of effective phaco time among nuclear hardness (P=0.467) which represents effectiveness of the extra sharp chopper. CONCLUSIONS: Double extra sharp chopper can facilitate a safe, rapid visual rehabilitation, and maximal subject comfort when doing phacoemulsification with old machine for hard mature cataract.
Authors	Gilbert WS Simanjuntak, Jannes F Tan, HHB Mailangkay <

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Paper Number	429

Title	***SECONDARY LENS IMPLANTATION AFTER EVENTFUL CATARACT SURGERY***
Presentation Type	Free Paper
Presentation Theme	Cataract Surgery Complications/Management
Abstract Document	Purposee : To report the outcomes of secondary lens implantation in tertiary eye clinic in Jakarta. Methods : Retrospective study of cases with secondary implant as a single or combined with other procedure. All cases underwent eventful cataract surgery with or without lens implantation in anterior chamber. Possibilities of IOL placed in the sulcus evaluated thoroughly preoperatively. All secondary implantation done in the sulcus. Preoperative VA, IOP and significant findings recorded, as well as postoperatively. Result : Subjects were 8 cases with history of eventful cataract surgery. There were 4 cases with anterior chamber lens implantation with secondary glaucoma, uveitis and vitreous opacities. There were 2 cases with posterior chamber decentered lens with impending posterior dropped IOL, and aphakic were 2 cases. All cases with posterior capsule rupture. Posterior synechiae seen in cases of AC IOL and aphakia. Surgical technique demonstrated by video. Conclusion : Preoperative thorough evalution along with proper surgical technique can solve problem of patient with improper lens implantation.
Authors	Gilbert WS Simanjuntak, Jannes F Tan, Helario Hasibuan, Jusuf Wijaya <

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Certificate of Attendance

This is to certify that

Gilbert WS Simanjuntak

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