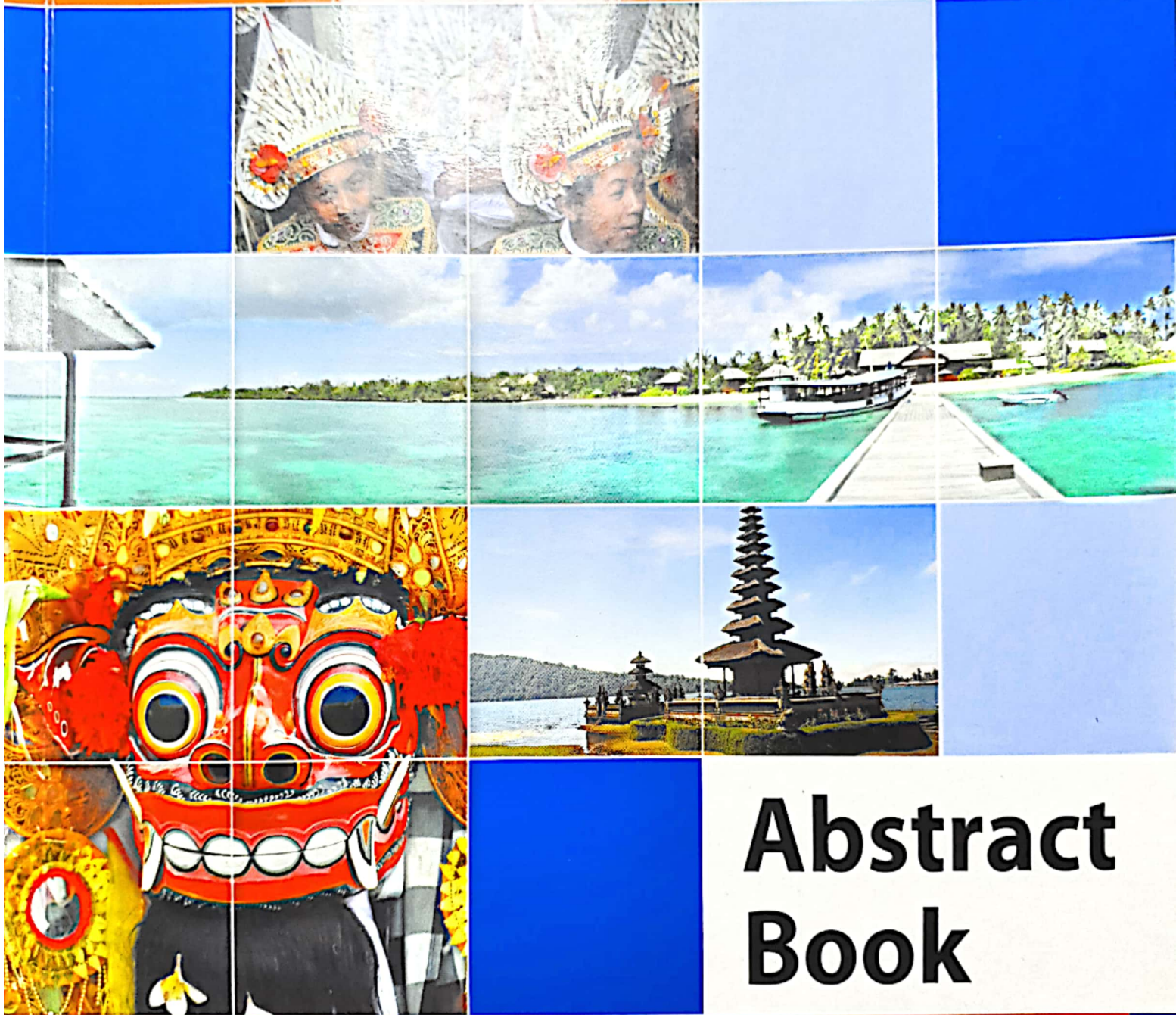


APAO•AAO Joint Congress, Bali 2009

May 16 -19, 2009



Abstract Book

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Orchid

09:00 - 10:30

The configuration of idiopathic macular hole: its correlated preoperative factors and predictability for anatomical outcome

First Author: Wu LIU

Co-Author(s): Bin MO, Qian LI

Purpose: To study the correlations between the configuration of idiopathic macular hole (IMH) and preoperative factors, and anatomical outcome of the surgery. **Method:** Data of 31 eyes of 30 patients with IMH underwent vitrectomy was reviewed. Hole configuration (HC) was described using minimum diameter (MD), macular hole index (MHI) and hole form factor (HFF). Pearson correlation and one-way ANOVA were used to study the correlations among patient-age, symptom-duration, preoperative-VA, hole-stage and HC. **Results:** Significant correlations existed between MD and MHI ($R=-0.66$, $p=0.000<0.01$), MD and HFF ($R=-0.493$, $p=0.005<0.01$), and MHI and HFF ($R=0.722$, $p=0.000<0.01$). No significant differences existed between HC and patient-age with different hole-stage ($p>0.05$). No significant correlations existed between patient-age and HC ($p>0.05$), HC and preoperative-VA ($p>0.05$), hole-stage and symptom-duration ($p>0.05$), symptom-duration and HC ($p>0.05$). Two eyes with $MHI<-0.38$ and $HFF<-0.69$ failed anatomically after surgery. **Conclusion:** HC may not correlate with preoperative factors of patient-age, symptom-duration, preoperative-VA and hole-stage. MHI and HFF may be predictive for anatomical outcome. hole-size alone may not be suitable for predictability.

Orchid

09:00 - 10:30

Transconjunctival self sealing 20g vitrectomy

First Author: Gilbert SIMANJUNTAK

Co-Author(s): Jannes TAN, H.H.B. MAILANGKAY, Helario HASIBUAN, Jusuf WIJAYA

Purpose: To report surgical technique and outcome of sutureless 20G vitrectomy. **Method:** Interventional study of surgical management in vitrectomy. Sclerotomy done after severe conjunctival diathermy, with long beveled tunnel. No additional surgical instruments used. **Results:** There were 21 patients (23 eyes) with age 34-82 years. Self sealing achieved in 19 eyes. Three cases with non-self sealing port due to repeated insertion of surgical instruments in PDR, 1 port in each failed cases. Fluid tamponade used in 3 cases, air tamponade in 5 cases, SF6 20% in 14 case and one cases with silicone oil. No sign of hypotony seen

after surgery on operating table and postoperative. One week after surgery, conjunctiva wound appears without inflammation. Follow up various weeks. **Conclusion:** Improvement in surgical outcome achieved without any additional instrument with sealing 20g vitrectomy.

Orchid

09:00 - 10:30

Ultrasound-mediated microbubble delivery of PEDF gene into retina inhibits choroidal neovascularization

First Author: Xi-yuan ZHOU

Purpose: This study was designed to investigate whether ultrasound-mediated microbubble destruction could effectively deliver therapeutic plasmid into retina of rat, and whether gene transfer of pericyte epithelium-derived factor (PEDF) could inhibit choroidal neovascularization (CNV). **Method:** For in vivo experiments, human retinal pigment epithelial cells were divided into three. For in vivo animal experiments, sixty Long-Evans rats with argon laser-induced CNV were randomly divided into five. **Results:** In vitro and in vivo both demonstrated that microbubble destruction and ultrasound irradiation significantly enhanced PEDF gene delivery as compared with microbubbles or ultrasound alone. We also showed that with the administration of ultrasound-mediated microbubbles destruction, CNV of rats was inhibited effectively. **Conclusion:** Ultrasound-microbubble technique greatly increased PEDF gene transfer to rats' retina and choroid, subsequently leads to a significant inhibition of development of CNV.

patients with endophthalmitis. **Method:** Interventional series of all patients with endophthalmitis undergoing vitrectomy over 1 year period at a major tertiary referral centre in Sydney, Australia. **Results:** 23 Gauge vitrectomy was performed on 7 patients with endophthalmitis. Mean pre-op acuity was 2.35 logMAR. Mean post-op acuity was 1.27 logMAR. The improvement in acuity was significant ($P < 0.001$). Overall BCVA improved in all patients. The mean change in IOP was -4.8 mmHg compared to preoperative IOP. There was one instance of postoperative hypotony, which was complicated by repeat vitreous detachment. **Conclusion:** 23 Gauge vitrectomy is a useful and appropriate technique for treating endophthalmitis. The sturdy 23 Gauge instruments, allow thorough clearance of the vitreous base. Our series demonstrated excellent outcomes in terms of visual acuity and supports the use of early vitrectomy in severe or slowly resolving endophthalmitis.

Poster No.: EN1-081
Panel No.: 81

Early vitrectomy for vitreous hemorrhage in avastin era

First Author: Gilbert SIMANJUNTAK

Co-Author(s): Jannes TAN, H.H.B. MAILANGKAY, Helario HASIBUAN, Jusuf WIJAYA

Purpose: Vitreous hemorrhage has many etiology. We report the surgical management and its outcome in avastin era. **Method:** Retrospective study of vitreous hemorrhage and surgical treatment. B-scan revealed the retina attached without confirm etiology. **Results:** There were 8 patients (8 eyes) with age 18-79 years, 5 were male and 3 were female. The duration of hemorrhage varies between 3 -5 days. All cases were managed with vitrectomy, endolaser and avastin injection when needed. Two cases of Terson syndrome were found, three of blood vessels occlusion and three of active macular degeneration. Short term evaluation gave better result. **Conclusion:** Early case findings and management gave better result.

Poster No.: EN1-082

Panel No.: 82

Combined scleral bucking and intravitreal gas injection for management of rhegmatogenous retinal detachment following pars plana vitrectomy

First Author: Sumeet KHANDUJA

Co-Author(s): Naginder VASHISHT, Prashant NAITHANI, Sunil CHAUDHARY, Pradeep VENKATESH, Satpal GARG

Purpose: To describe alternative technique for management of retinal detachment following pars plana vitrectomy using combined retinal cryocoagulation, scleral bucking and intravitreal gas tamponade. **Method:** 7 eyes with retinal detachment within 2 weeks following vitrectomy (vitreous hemorrhage-4 & nucleus drop-3 eyes) with active port-site dialysis or superior breaks were included. These underwent cryocoagulation around break, scleral bucking, intravitreal injection of pure SF₆ gas and postoperative positioning. Main outcome measures: anatomic success after initial intervention, visual outcome and complications.

Results: There were 5 males & 2 females. Minimum follow-up period: 6 months (range: 9-12). The mean best corrected visual acuity at 6 months was 20/200 as compared to hand motions close to face preoperatively. Retina was reattached successfully in all 7 eyes. The most common postoperative complication was ocular hypertonia in 2 eyes, managed successfully.

Conclusion: Combined scleral bucking & intravitreal gas tamponade provides useful and effective alternative to vitreo-retinal surgery with silicone oil injection for management of rhegmatogenous retinal detachment following pars plana vitrectomy.

Poster No.: EN1-083

Panel No.: 83

Study of the expression of peroxiredoxin 6 in the experimental diabetic rat's retina

First Author: Yazhen WU

Co-Author(s): Hui QI

Purpose: We studied the changes in Prx6 expression in different period diabetic rats and its correlation with the progression of diabetic retinopathy. **Method:** Diabetes was induced in rats by an intraperitoneal injection of streptozotocin (STZ). Rats were killed at 4, 8, and 12 weeks after the injection of STZ, and Prx6 expression in the retina from both control and STZ-induced diabetic rats was measured by reverse transcription polymerase chain reaction, and immunohistochemistry. **Results:** The result of immunohistochemistry showed that Prx6 was observed in normal rat. Intense Prx6 staining was present in 4 weeks of diabetic rats. The retina of 8 and 12 weeks after STZ administration revealed lack of staining ($F = 22967.63$ $P < 0.05$). The result of RT-PCR was similar to that of immunohistochemistry. **Conclusion:** It is conceivable that normal maintenance of Prx6 expression may be important to prevent diabetic retinopathy.

EARLY VITRECTOMY FOR VITREOUS HEMORRHAGE IN AVASTIN ERA

Gilbert WS Simanjuntak, Jannes F Tan, HHB Mailangkay, Helario Hasibuan, Jusuf Wijaya

Cikini Eye Institute/Cikini Hospital, Jakarta
Department of Ophthalmology FK-UKI, Jakarta

Purpose: Vitreous hemorrhage has many etiology. We report the surgical management and its outcome in bevacizumab (Avastin) era.

Method: Retrospective study of vitreous hemorrhage and surgical treatment. B-scan revealed the retina attached without confirm etiology.

Result: There were 8 patients (8 eyes) with age 18-79 years, 5 were male and 3 were female. The duration of hemorrhage varies between 3 -5 days. All cases were managed with vitrectomy, endolaser and avastin injection when needed. Two cases of Terson syndrome were found, three of blood vessels occlusion and three of active macular degeneration. Short term evaluation gave better result.

Conclusion: Early case findings and management gave better result.

Introduction

Intravitreal hemorrhage is a common finding with certain disease such as proliferative diabetic retinopathy, age-related macular degeneration, retinal vein occlusions, Eales disease, rhegmatogenous retinal detachment, and others. Surgeon sometimes has to wait for two weeks, for posterior vitreous detachment (PVD) to be occurred, or liquefied blood. The reason behind was it ease removal of blood without inducing PVD, and less risk of iatrogenic break peripherally. Intravitreal hemorrhage (VH) during vitrectomy and postoperative re-hemorrhage into the vitreous are also common complications in patients with proliferative diabetic retinopathy (PDR). Intravitreal hemorrhage, preretinal fibrovascular membranes, and tractional retinal detachment are the major causes of decreases in vision in patients with PDR.¹ Pars plana vitrectomy is used to remove VH, preretinal membranes, and relieve vitreoretinal tractions.² Bevacizumab is a recombinant monoclonal antibody against vascular endothelial growth factor (VEGF) and was approved by the US food and Drug Administration (FDA) for treating colorectal cancer. Intravitreal bevacizumab (IVB) has been used for choroidal neovascularization secondary to age-related macular degeneration (AMD),³ proliferative diabetic retinopathy (PDR), rubeosis iridis (RI), and macular edema (ME) secondary to diabetic retinopathy (DR) or retinal vein occlusion (RVO).⁴ The aim of this study was to examine the effect of IVB before vitrectomy on VH during vitrectomy in patients with PDR.

Material and methods

The study was done at the Department of Ophthalmology, Christian University of Indonesia/Cikini Church Hospital, Jakarta, Indonesia. Informed consent was obtained from the study participants, and conducted following the tenets of the Declaration of Helsinki. The Christian University of Indonesia Institutional Review Board granted approval for this study. The study design was retrospective descriptive study. The inclusion criteria were vitrectomized vitreous hemorrhage patients which manage by injection intravitreal of bevacizumab (IVB). All surgeries were carried out by one surgeon (GWSS). Medical history was obtained thoroughly. Preoperative evaluation including anterior segment/media clarity examination with the slitlamp. Visual acuity was tested with the Snellen chart, intraocular pressure Schiotz examination, and B-scan ultrasound. Systemic evaluation for surgical fitness was done, along with blood examination.

After examination, IVB was done 3-7 days preoperatively. The 20G PPV was done under local anesthesia. Clinical findings during surgery was noted, including posterior vitreous detachment, consistency of vitreous, fresh bleeding, and etiology of vitreous hemorrhage. Endolaser was done if indicated, and intravitreal tamponade accordingly. Sclerotomy wound was sutured for several cases, and sutureless in newer cases. If ringer lactate tamponade was choose, then injection intravitreal of dexamethasone (IVD) 0.1 ml was done at the end of procedure. Visual acuity, intraocular pressure and recurrent vitreous hemorrhage postoperatively was evaluated for 3 months. Sleeping with raising head about 30 cm was instructed to the patient.

Results

There were 8 patients (8 eyes) with age 18-79 years, 5 were male and 3 were female. The duration of hemorrhage varies between 3 -5 days. Slitlamp examination preoperative revealed clear media of cornea and lens. Vitreous media was very hazy, and B-scan revealed the retina attached without confirm etiology.

All cases were managed with vitrectomy, endolaser and avastin injection as needed. Two cases of Terson syndrome were found, three of retinal blood vessels occlusion and three of active macular degeneration. Visual acuity was 1 meter finger counting – light perception preoperatively, and 20/30 – 20/200 postoperatively. Better postoperative visual acuity was gain in Terson syndrome, retinal vein occlusions and macular degeneration respectively. During surgery, no fibrotic vitreous was seen which might cause more sticky and difficult to remove. Posterior vitreous detachment seen in all cases, when incomplete just in small part attached to optic nerve head, and easy to pull by aspiration. All cases then fill with ringer lactate as vitreous tamponade, and injection of dexamethasone 0.1 ml. Postoperative therapy including steroid and antibiotics topical, oral antiglucoma for two days, and mydriaticum ey drops.

Short term evaluation gave better result. No sign of severe inflammation seen, revealed by clear vitreous media in 5-7 days. Intraocular pressure were normal, and none of recurrent hemorrhage.

Discussion and Conclusion

It has been suggested that IVB is useful for avoiding hemorrhage. VH occurred less frequently in the PPV + IVB group than in the PPV group. The use of IVB reduced intraoperative hemorrhage and made the surgery technically easier.⁵⁻⁶

Early case findings and management gave better result in this study. Observation data of PPV has clear vitreous media after 1-3 months postoperatively. This is may be correlated to IVB preoperatively or contributed to IVD after the procedure. What is more prominent during surgery was liquefied blood and PVD, or easiness of vitrectomy procedure. As conclusion we might say that preoperative IVB has supportive role for early vitrectomy for vitreous hemorrhage.

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