<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Test-10</th>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>10 ways to improve your GG application</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>10 ways to improve your GG application</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>10 ways to improve your GG application</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>10 ways to improve your GG application</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>Ocular manifestations in gestational hypertension</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>The aim of the study is prevalence of ocular manifestations in pregnancy induced hypertension and any association between the disease severity and impact of blood pressure, proteinuria in the development of ocular manifestation.</td>
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<tr>
<td><strong>Method</strong></td>
<td>Cross sectional, hospital based study, 150 eyes of pregnant ladies with gestational hypertension pre eclampsia, eclampsia between September 2016-2017 were included</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>9.3% of patients had ocular symptoms and 22% of patients had retinal changes, retinal changes correlated with disease severity and proteinuria, however they had no correlation with the systolic and diastolic BP</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Severity of disease and proteinuria had significant correlation with retinal changes. However, the changes in retina doesn't always depend on the level of blood pressure.</td>
</tr>
</tbody>
</table>
**Title of Paper**
Clinical and optical coherence tomography profile of diabetic maculopathy in patients with and without diabetic nephropathy

**Purpose**
1) To compare the clinical profile and morphological pattern of Diabeticmaculopathy using Optical Coherence Tomography in Diabetes mellitus patients with and without nephropathy.
2) To identify association of diabetic maculopathy with factor like hypertension, anaemia, fasting lipid profile, serum urea and creatinine, HbA1C.

**Method**
Comparative cross sectional study, sample size around 150 to 200 patients, study period one and half years, study population include patient coming to outpatient department of TDMC alapuzha, inclusion criteria- 1)Diabeticmaculopathy patients (type I and type II) with and without nephropathy
2) Patients above 18 years of age
exclusion criteria - Treated cases of diabetic retinopathy and Nephropathy due to other causes

**Results**
160 patients are enrolled in this study till date, out of that 70 patients are male and 90 patients are female, 100 patients had microalbuminuria and 60 patients are without microalbuminuria

**Conclusion**
diabetic macular edema is more in patient with diabetic nephropathy and also in patient with associated comorbidities
**Title of Paper**: UNILATERAL PROPTOSIS AS THE INITIAL PRESENTATION OF PROSTATIC MALIGNANCY

**Purpose**: To highlight the importance of thorough clinical evaluation and relevant investigations in detecting the primary tumour in patients presenting with proptosis.

**Method**: 62 year old male with 4 years history of T2DM and hypertension, presented with slow onset of protrusion of right eye for one and half months associated with pain in right upper lid with history of significant loss of weight in 6 months, loss of appetite & occasional constipation. General examination—presence of herpes labialis. Systemic examination WNL. Ocular examination—axial proptosis of 3 mm in right eye, mild ptosis and miosis suggestive of post ganglionic Horner’s syndrome and restriction of abduction, elevation and adduction. Pupils—brisk BE, no afferent pupillary defect. Forced duction test positive in right eye. Vision-6/18 in BE. Fundus WNL BE. Provisional diagnosis was axial proptosis due to lesion in the orbit.

**Results**: Routine blood examination—Hb- 10gm/dl, ESR- 100 mm/hr, ALP- 682, PSA>154mg/ml, RFT- 71/2.4, CT orbit—Bony expansion with lysis involving right lesser wing of sphenoid bone with adjacent soft tissue density lesion in the extraconal compartment of right orbit abutting the superior rectus muscle and extending laterally. MRI spine—multiple metastatic lesion involving cervical, thoracic, lumbar vertebrae and sacrum.

**Conclusion**: Orbital metastasis can be an early sign of prostate cancer detected even before the detection of primary neoplasm.
**Title of Paper**
Integrating Diabetic Retinopathy Detection with Non Communicable Disease Clinics at Government Hospitals in Kerala through Teleophthalmology

**Purpose**
To analyze the effect of integration of the existing non-communicable disease clinics (NCDC) in Government hospitals for early detection and treatment of diabetic retinopathy using teleophthalmology

**Method**
Population based screening was done in selected clusters of one district in Kerala covering the population attending the NCDCs. Trained optometrists screened all the patients with diabetes mellitus (DM), using handheld non-mydriatic fundus camera (Bosch Eye Care Solutions, Finland). Those who required treatment were referred to higher centres. A new patient education tool using 5 fundus photographs was used to improve the health seeking behaviour of the affected patients. The data was statistically analyzed.

**Results**
Out of the 11,298 patients screened, diabetic retinopathy (DR) was diagnosed among 1116 (9.88%) patients. NPDR was detected in 727 (80%) and PDR in 187 (20%). There was significant association between >10 years duration of DM and occurrence of PDR (p<0.00001, Chi Square test, Odds ratio=2.76); and between >5 year duration of DM and the occurrence of PDR (p<0.001, Chi Square test, Odds ratio=2.56). There was significant association between irregular follow up status for DM at the NCDCs and the occurrence of PDR (p<0.0001, Chi Square test, Odds ratio=3.4). There was no significant association between age (p=0.57) or gender (p=0.08)

**Conclusion**
Prevalence of retinopathy among DM patients attending NCD clinics of Kerala is 9.88%. There is a significant association between duration of DM, irregular follow up with occurrence of PDR. Though DM is routinely treated at the NCDCs, DR detection has not received sufficient attention. This missing link need be strengthened.
<table>
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<tr>
<th>Title of Paper</th>
<th>Disc-foveal angle: a new parameter for assessment of disease severity in isolated horizontal strabismus</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>• To compare the disc &quot;foveal angle (DFA) in patients with isolated horizontal strabismus and controls • To investigate the relationship of DFA with the type and severity of isolated horizontal strabismus</td>
</tr>
<tr>
<td>Method</td>
<td>In this randomised control trial, 53 patients with comitant exotropia and 23 patients with comitant esotropia (4 and 30 years of age) and their age/sex matched normal controls were enrolled using random number tables. Those with clinical oblique muscle dysfunction, astigmatism greater than or equal to 0.5 D were excluded. Fundus photographs were taken with Zeiss Visucam Pro NM mydriatic retinal camera (Carl Zeiss Meditech, Dublin) and DFA measured using ImageJ software (Laboratory for Optical and Computational Instrumentation, University of Wisconsin-Madison). DFA was compared between cases and controls and correlated in terms of age, amount of deviation, near stereoacuity and duration of strabismus.</td>
</tr>
<tr>
<td>Results</td>
<td>DFA of exotropia (p &lt; 0.05) and esotropia (p &lt; 0.05) cases was significantly larger than those of control groups. Ocular torsion (either extorsion or intorsion) was found in 82 (77%) patients among the exotropia group and in 26 (57%) among the esotropia group, whereas it was found in only 16 (13%) and 9 (20%) among their respective control groups (p &lt; 0.05). DFA showed significant positive correlations with the amount of deviation (p &lt; 0.05). No significant correlation was found between the DFA and the duration of strabismus (p &lt; 0.05) or the degree of stereoacuity (p &lt; 0.05).</td>
</tr>
<tr>
<td>Conclusion</td>
<td>There is a significant difference in DFA between patients with isolated horizontal strabismus and controls. Both comitant exotropes and esotropes exhibit significant change in DFA in comparison to normal individuals, even in the absence of clinical oblique muscle dysfunction. The degree of torsion positively correlates with the magnitude of deviation.</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>TEAR FILM ABNORMALITIES AMONG EARLY ONSET DIABETICS WITH AND WITHOUT MACULOPATHY</td>
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<td><strong>Purpose</strong></td>
<td>Dry eye is said to be an important complication of diabetes mellitus. Most of the studies on dry were conducted in late onset diabetes</td>
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<tr>
<td><strong>Method</strong></td>
<td>We conducted a cross sectional descriptive study in 93 eyes with diabetic retinopathy. Inclusion criteria - young diabetic patients who attended the Ophthalmology OP between January 2017- April 2018. Relevant data regarding age, sex, age of onset and duration were collected. HbA1c, FLP, Hb, urine microalbumin and RFT values were obtained. Schirmer 1 &amp; 2, TBUT and fluorescein staining of the ocular surface were performed. Fundus examination was done by direct and indirect ophthalmoscope.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>93 eyes had diabetic retinopathy. There were 30 males and 18 females. Mean age of onset of diabetes was 31.79 years. Mean duration was 11.65 years. 36 patients had maculopathy and 22 had CSME. Schirmer 1 was decreased in maculopathy group (p=0.018), schirmer 1 &amp; 2 were decreased in the CSME group (p=0.007 &amp; p=0.045) which was statistically significant. Higher fluorescein scores were obtained in maculopathy and CSME groups which was statistically significant (p=0.047 &amp; 0.044)</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Our study has revealed that there are significant tear film abnormalities in maculopathy patients especially in those with CSME, even in the young diabetics.</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>CONJUNCTIVAL MICRO VASCULAR ABNORMALITIES AMONG EARLY ONSET DIABETICS</td>
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<td><strong>Purpose</strong></td>
<td>To study the conjunctival microvascular changes in young diabetic patients and to know whether these changes have any predictive role in the presence or severity of diabetic retinopathy.</td>
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<tr>
<td><strong>Method</strong></td>
<td>Study design- cross sectional descriptive study in 142 eyes of 71 young diabetic patients who attended the Ophthalmology OPD, Calicut medical college, study duration one and a half years. Relevant data regarding age, sex, age of onset and duration were collected. Conjunctival changes were studied using slit lamp biomicroscopy and fundus examination done using direct and indirect opthalmoscope.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>142 eyes, 93 had retinopathy, 73 had NPDR and 20 had PDR. Male female ratio 38:33. Mean age of onset of diabetes was 31.79 years in the retinopathy group and 33 years in no retinopathy group. Mean duration of diabetes was 11.65 years in the retinopathy group and 6.65 years in no retinopathy group. Conjunctival vessels changes were observed in all the eyes. Straightening of vessels (72.5%) and thinning of vessels (53.5%) were most commonly noticed findings. Presence of irregular enlarged loop (p=0.037), avascular area (p=0.00), straightening of vessels (p=0.038) &amp; thinning of vessels (p=0.023) in retinopathy group were found to be statistically significant. Avascular areas in the PDR group were statistically significant compared to NPDR group.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Our study results shown that presence of conjunctival microvascular changes were significant in retinopathy group even in the younger age groups. So the evaluation of conjunctival microvascular abnormalities may help in detecting retinopathy more easily and earlier. It may also help in predicting the severity of diabetic retinopathy even in young diabetics.</td>
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# Abstract Details: DS19-12

<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>A case of Retinal &amp; neurocysticercosis</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>To report a case of retinal cysticercosis causing rhegmatogenous retinal detachment</td>
</tr>
<tr>
<td>Method</td>
<td>A 32 year old male presented to our opd with unilateral defective vision is evaluated. On examination BCVA RE 6/6 &amp; LE HM+. Anterior segment normal except for 1+ flare in LE. Fundus showed a cyst in vitreous cavity with total rhegmatogenous retinal detachment with macula off. IOP normal in BE. TPPV with cyst removal and followed by a second surgery relaxing retinectomy with RD surgery done.</td>
</tr>
<tr>
<td>Results</td>
<td>Patient's BCVA LE improved from HM to 6/24. Patient is still on follow up.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>This is case of retinal and neurocysticercosis presented late. If detected early and properly treated patients vision can be salvaged.</td>
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### Title of Paper

"WHEN TO INTERVENE IN INTERMITTENT EXOTROPIA?" • A COMPARISON BETWEEN OUTCOMES OF EARLY AND LATE SURGICAL CORRECTION

### Purpose

- To compare the surgical alignment, best corrected visual acuity (BCVA) and binocular single vision (BSV) status in early versus late surgery for intermittent exotropia
- To correlate near stereoacuity (NSA) chart with age at surgery and duration of onset of strabismus.

### Method

A prospective observational study was performed on 80 patients with intermittent exotropia (IXT), who underwent surgical correction. Group I: surgical correction done less than or equal to 4 years. Group II: surgical correction done 5-12 years. Pre- and post-operative BCVA, refraction, NSA, prism bar cover test (PBCT) were compared between the groups at 1, 3, 6 & 12 months (t-test). Deviation of less than or equal to 12 PD exotropia or less than or equal to 5 PD esotropia at 12 months: considered as surgical success. Multiple regression analysis was done in both groups to analyze the pre-operative predictive factors for surgical outcome at 12 months.

### Results

Though the ocular alignment and visual acuity was comparable between the 2 groups (p=0.1), there was a significant improvement in NSA in Group I (p=0.036), in comparison with Group II (p=0.106) at 12 months. In groups I and II, pre-operative BCVA (p=0.04, p=0.03 respectively) and pre-operative NSA (p=0.00 both groups) were significant predictive factors for better stereoacuity at 12 months. In Group II, pre-operative BCVA (p=0.03) was the only significant predictive factor for good ocular alignment at 12 months. However no such significant factor could be observed in Group I.

### Conclusion

Although the time of surgical correction for IXT does not influence the amount of ocular alignment or visual outcome, children operated before 4 years showed better NSA at 12 months, thereby suggesting that earlier surgical intervention for IXT promises better results compared to late surgery.
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<th><strong>Title of Paper</strong></th>
<th>lupus nephritis behind a shallow anterior chamber</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To emphasize the importance of systemic workup in a case of bilateral shallow anterior chamber</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>40 yr old female presented with acute onset Headache, vomiting and defective vision BE of 2 days duration. BCVA of CF4M(RE) and CF3M(LED) with features of acute congestive angle closure glaucoma BE with normal lens, IOP 54 and 56 mmHg. General examination showed facial puffiness and decreased breath sound in infraaxillary area b/l with all other systems WNL. As patient was not responding to i/v mannitol and acetazolamide, B-scan was done which showed choroidal effusion and choroidal detachment. Hence systemic work up was done which showed hypoproteinemia and urine microalbuminuria and renal biopsy showed Lupus nephritis. Patient responded to topical steroid, atropine and fluid restriction.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Hypo proteinemia causes effusion in all parts of body including ciliary body, producing a forward shift of lens &quot;iris diaphragm leading to secondary angle closure glaucoma bilaterally. In such cases, atropine will be effective since it causes paresis as well posterior displacement of ciliary body, deepening the anterior chamber. CA &quot;Inhibitors&quot; induces transient myopic shift, oedema of the ciliary body causing forward movement of lens &quot;iris diaphragm, makes angle shallow which worsened the effects of choroidal effusion.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Any case of bilateral angle closure glaucoma, evaluate the patient for systemic factors and chronic drug intake.</td>
</tr>
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**Title of Paper**
EVALUATION OF THE RELATION BETWEEN PRE-OPERATIVE B-SCAN FINDINGS AND POST OPERATIVE FUNDUS FINDINGS IN PATIENTS WITH OPAQUE MEDIA UNDERGOING CATARACT SURGERY

**Purpose**
To compare the pre-operative B-scan findings with the post-operative fundus findings taken as Gold standard in patients with opaque media undergoing cataract surgery.

**Method**
This was a longitudinal, cross-sectional study conducted at Department of Ophthalmology, Dr.SMCSI medical college, Karakonam. Pre-operatively Visual acuity, anterior segment examination, intraocular pressure and B scan were done. All patients underwent uneventful Small incision cataract surgery. Post operative fundus evaluation was performed and compared with the pre operative B scan findings to analyse the sensitivity and specificity of B scan.

**Results**
Pre-operatively 365 (71.6%) eyes had normal B scan findings. In 283(55.5%) eyes normal B scan findings corresponded with a normal fundus picture. In 125(24.5%) eyes positive findings on B scan corresponded with positive fundus findings. Positive retinal pathologies detected were Posterior vitreous detachment, retinal detachment, vitreous hemorrhage, asteroid hyalosis and posterior staphyloma. In 102(20%) eyes B scan findings did not correspond to fundus findings. Sensitivity and specificity were calculated. Sensitivity was 100% and specificity was 55%.

**Conclusion**
B-scan is a valuable prognostic tool for ruling out posterior segment ocular pathology in opaque media but it is not a sensitive test for diagnosis of those pathologies.
INFLUENCE OF MYOPIA ON PERIPAPILLARY RETINAL NERVE FIBRE LAYER THICKNESS USING OPTICAL COHERENCE TOMOGRAPHY

TO COMPARE THE PERIPAPILLARY RETINAL NERVE FIBRE LAYER (RNFL) THICKNESS IN MYOPES AND EMMETROPS USING SPECTRAL DOMAIN OPTICAL COHERENCE TOMOGRAPHY (OCT)

A cross sectional study was done in the Department of Ophthalmology, Dr. SMCSI Medical College, Karakonam, where 74 eyes with myopia and 74 emmetropic eyes of patients with comparable age groups were selected and a comprehensive ocular evaluation was done including best corrected visual acuity recording using Snellen chart, retinoscopy, anterior segment evaluation, intraocular pressure measurement and dilated fundus examination to exclude any ocular pathology. Peripapillary RNFL thickness was measured using spectral domain OCT in both groups and analysis was done using independent T-test.

Out of 74 myopic eyes, 30 eyes had low myopia (<3D), 35 eyes had moderate myopia (-3 to -6D) and 9 eyes had high myopia (>6D). Age of patients in this study varied from 13 years to 62 years in the myopic group and between 12 to 48 years in emmetropic group. In myopic group, there were 32 females and 8 males and emmetropic group there were 30 females and 8 males. Mean RNFL thickness in the myopic group was 86.78µ and it was significantly less compared to the emmetropic group which was 95.88µ and the result was statistically significant (p <0.05) on analysis.

Myopes have significant RNFL thinning and the risk of developing glaucoma is higher than in emmetropes. OCT is an effective screening tool to analyze RNFL thickness which helps in early detection and peripapillary RNFL thinning in myopes must be taken into account while evaluating them for damage caused by glaucoma.
### Title of Paper
Relationship between clinical, radiological and electrophysiological parameters in children with cerebral visual impairment and their prognostic value

### Purpose
- To compare visual evoked potential (VEP) parameters between cerebral visual impairment (CVI) patients and controls.
- To correlate visual acuity estimate in CVI patients with MRI and VEP parameters.

### Method
In this comparative observational study, 23 patients with CVI less than or equal to 4 years and 23 healthy age and sex matched controls were recruited through simple random sampling. Visual acuity (age appropriate vision charts), orthoptic assessment, cycloplegic refraction, slit lamp, indirect ophthalmoscopy and flash VEP (Tommy, EP 1000) was done in all subjects. 1.5 Tesla MRI brain was done in all the cases with CVI and graded according to the severity of periventricular leukomalacia (PVL). VEP parameters between cases and controls were compared using unpaired t-test. Spearman rank correlation was used to correlate visual acuity with VEP parameters and severity of PVL.

### Results
Cases showed significant reduction in the amplitude of N2 wave (p=0.02) and prolongation in the peak time of P2 wave (p<0.05), when compared to controls. There was no significant difference in peak time of N2 wave (p=0.40) or amplitude of P2 wave (p=0.41). Significant positive correlation was found between visual acuity and amplitude of P2 wave (p<0.05) and significant negative correlation was found between severity of PVL and amplitude of P2 wave (p<0.05). No significant correlation was found between severity of PVL and amplitude of N2 wave (p<0.37), latency of N2 (p=0.73) or latency of P2 wave (p=0.13).

### Conclusion
VEP parameters showed a significant reduction in N2 amplitude and prolongation of the P2 peak time among CVI patients than controls. Positive correlation of P2 amplitude with visual acuity and negative correlation of P2 amplitude with severity of PVL in MRI can serve as electrophysiological markers for prognosis in CVI.
## Title of Paper
A stitch in time saves nine- Performing vitreoretinal procedures in a rural eye Hospital

## Purpose
At present, all vitreoretinal procedures are performed in major Cities. The majority of Indian population lives in villages. Thus, timely intervention is not possible in many cases. This study aims to prove that all vitreoretinal surgeries, if performed in rural eye hospitals with infrastructure, needless blindness can be prevented.

## Method
The heart of India lies in villages, Villages provide all the needs of the people of the country. This is a retrospective study conducted in a rural eye Hospital in North Kerala.

200 vitreoretinal surgeries (RD 100, Diabetic vitrectomies 37, GRT- 5, Macular hole- 10, Nanophthalmos- 5, Nucleus and IOL drop- 20, endophthalmitis- 7, Ocular trauma 10, ERM peeling 6
100 LASER procedures which include Diabetic, Venous occlusions, barrage, ROP.
We had very good success rate in all these.

## Results
All surgeries were performed by a single surgeon

200 patients, 120 males, 80 females.
20 paediatric cases
85% success rate in primary scleral buckling.
Diabetic vitrectomies including advanced PDR had good post operative results.

All cases of GRT had anatomical reattachment

Macular hole closure rate- anatomical - in 87%

## Conclusion
This study proves that with necessary infrastructure and above all will power, it is possible to perform all complicated vitreoretinal procedures in rural set up.
This will help in achieving the goal of providing eye care to all population, irrespective of rural/urban difference in time
<table>
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<tr>
<th><strong>Title of Paper</strong></th>
<th>SECONDARIES IN ORBIT FROM FOLLICULAR THYROID CARCINOMA</th>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Metastatic orbital tumours are rare</td>
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<td>Generally metastasis is from Breast carcinoma in females</td>
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<tr>
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<td>Orbital metastasis from thyroid carcinoma is extremely rare</td>
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<td>Common mode of presentation is proptosis</td>
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<td>This case presented as mechanical ptosis which is a very rare presentation.</td>
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<tr>
<td><strong>Method</strong></td>
<td>We report a case of 50 year old female presenting with complaint of drooping of left upper eyelid since 1 month associated with diminished vision.</td>
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<td>On finger insenuation test of left eye, immobile, firm palpable, non tender, non pulsatile mass of size 12Å—10 mm attached to supra orbital margin is noted.</td>
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<tr>
<td><strong>Results</strong></td>
<td>CT scan, USG, FNAC and general examination of the body was done and arrived at a diagnosis</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Orbital metastasis from thyroid carcinoma is extremely rare. Common mode of presentation is proptosis. This case presented as mechanical ptosis which is a very rare presentation.</td>
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<tr>
<td>Title of Paper</td>
<td>Subscleral flap lensectomy with glued intraocular lens - Single stage approach in posterior lens dislocation.</td>
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<tr>
<td>Abstract</td>
<td>The first part of the procedure involves the creation of 2 partial-thickness limbal-based triangular scleral flaps (approximately 3.0 mm × 3.0 mm) positioned exactly 180 degrees apart. 25-gauge 3-port vitrectomy setup is used. 2 cannulas are placed through the pars plana under the scleral flaps at 2 mm from the limbus; the inferotemporal cannula is reserved for the infusion port which is secured 3 mm from the limbus. Thus vitreous and posterior hyaloid membranes are removed using the 3-port vitrectomy. Dislocated lens is then removed with the cutter. Through clear corneal 2.3 mm incision 3 piece foldable IOL (Alcon) is introduced into the anterior chamber. During IOL injection, a serrated 25-gauge forceps is passed through the subscleral flap sclerotomy. The tip of the IOL haptic is grasped with the forceps, pulled through the sclerotomy following the curve of the haptic, and brought out under the scleral flap. The handshake technique is used to prevent the IOL from dropping into the vitreous while it is being injected. Both haptics are thus exteriorised and then buried inside a scleral tunnel made with 26 G needle. The scleral flaps and conjunctiva are then fixed using biological fibrin glue (Tisseel, Baxter Healthcare Corp.).</td>
</tr>
</tbody>
</table>
**Title of Paper**   
RARE OCULAR MANIFESTATIONS IN XERODERMA PIGMENTOSUM

**Purpose**   
Here we report a case of 40 year old female, case of Xeroderma Pigmentosum

**Method**   
Xeroderma Pigmentosum is a rare autosomal recessive disorder of DNA repair mechanism with increased predisposition to ultraviolet radiation induced inflammation and neoplasia. Patient with history of squamous cell carcinoma. right medial canthus - post operative presented with complaints of swelling in right eye of one week duration.

**Results**   
On examination vision 6/12, anterior segment (Right)- limbal nodule of 4x4mm on nasal aspect with bluish discoloration, pigmentation and vascularity and localised conjunctival congestion. USG B scan showed 3x3mm hypoechoic mass near limbus with vascularity. No extension noticed posteriorly. OCT impression - no angle infiltration noticed. Fundus normal.  
Other eye normal.  
Differential diagnosis of malignant melanoma of uvea or papilloma to be considered.

**Conclusion**   
Ocular manifestations of this uncommon disease may be confused with other systemic and ocular disorders.
<table>
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<tr>
<th>Title of Paper</th>
<th>ATYPICAL CENTRAL RETINAL ARTERY OCCLUSION IN HENOCH SCHONLEIN PURPURA</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>Here we report a case of central retinal artery occlusion in a female patient with HSP.</td>
</tr>
<tr>
<td>Method</td>
<td>45 year old female, known case of vasculitis (HSP), hypertension, dyslipidemia presented to emergency department with sudden onset painless loss of vision of right eye of 1 day duration preceded by intermittent episodes since 2 days. Gives history of three similar episodes in the past two years in same eye for which no treatment was sought</td>
</tr>
<tr>
<td>Results</td>
<td>On examination, vision in right eye PL+, RAPD+ Fundus examination showed sclerosed vessels with cattle truck sign and disc pallor. She was started on IV methylprednisolone pulse therapy, antiplatelets, vision improved to 3/60 with normal fundus appearance in 2 weeks of treatment, which suddenly deteriorated to hand movements after stopping antiplatelets as she was suspected to have exacerbation of HSP (drug induced). Fundus showed occlusion of vessels with worsening of disc pallor with no improvement of vision on follow up.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>CRAO in HSP is extremely rare and such a disease may have an even rarer ocular finding which should not be missed during clinical examination.</td>
</tr>
</tbody>
</table>
### Title of Paper
Choroidal Vascularity Indices and coexisting morphological changes in Polypoidal Choroidal Vasculopathy (PCV): A comparative analysis

### Purpose
Compare the effect of Combination therapy (PDT+antiVEGF) and antiVEGF monotherapy on choroidal vascularity parameters and morphological parameters in PCV

### Method
Retrospective case analysis of 33 eyes diagnosed as PCV(Everest criteria) treated either with combination(PDT+antiVEGF n=17) or antiVEGF monotherapy(n=16). Demographic details, visual acuity assessment and Double Layer Sign (DLS) width, PED height were considered from baseline to the 3rd and 6th month follow up visits. Choroidal vascularity analysis including choroidal thickness, total surface area(TSA), total luminal area(TLA) and choroidal vascularity index (CVI) assessment was done for each visit using Enhanced Depth Imaging(EDI) using ImageJ software

### Results
Disease reactivation was significantly higher in the monotherapy arm compared to the PDT arm at 3,6months. PDT arm showed statistically significant decrease in choroidal thickness in EDI, DLS, TSA & TLA (P<0.05) at both visits compared to antiVEGF arm. There was no statistically significant difference in CVI (P>0.05) at both visits in both the arms. Complete collapse of PED, reduction in DLS width which was achieved only in PDT arm showed negative correlation with the disease reactivation. Reduction in EDI, TSA, TLA did not correlate with disease activity

### Conclusion
This new choroidal imaging provides an insight to the vascular and morphological changes occurring after therapy, Our study proved PDT induce better choroidal vascular remodeling and thereby less disease recurrence.
### Title of Paper
The first reported case of Acute Exudative Polymorphous Vitelliform Maculopathy (AEPVM) from India

### Purpose
To report the rare entity of Acute Exudative Polymorphous Vitelliform Maculopathy (AEPVM) through multimodal imaging

### Method
Case report of a 59 year old female who presented with subacute loss of vision in both the eyes for past one year. Fundoscopy revealed the presence of bilateral and symmetric large serous macular detachment (SMD) with crescentic vitelliform material and the presence of bleb-like honeycomb lesions along vascular arcades.

### Results
Infrared (IR) imaging and Fundus AutoFluorescence (FAF) displayed the prominence of honeycomb pattern. SD OCT displayed dome shaped SMD involving the whole posterior pole with thick hyperreflectivity at the ellipsoid zone. FFA,ICG showed masked choroidal fluorescent patches in posterior pole. Electrophysiologic test being normal

### Conclusion
Any middle aged patient complaining of subacute vision loss with bilateral vitelliform lesion (mimicking Best disease/ genetic) AEPVM should be considered as a differential which is unique in having a good visual prognosis.
**Title of Paper**
An unusual case of retinal arterial occlusion in a circumscribed choroidal hemangioma treated with full fluence photodynamic therapy

**Purpose**
Occlusion of retinal vasculature is quite rare and is seldom reported in post verteporfin treated circumscribed choroidal hemangioma (CCH). To illustrate the same finding in a circumscribed choroidal hemangioma treated with full fluence photodynamic therapy (PDT).

**Method**
Hemangioma manifested as a circumscribed subtle orange subretinal mass in the superior peripapillary area extending 5-6 disc dioptre above the optic disc and 4DD diameter. Exudative retinal detachment involving fovea clearly explained the defective vision (logmar 1). Well documented evidence of slow growth in the tumour size from 18.29mm² to 27.34mm² over a period of 5 years. SD OCT showed elevated outer retinal layers with an underlying homogenous choroidal mass with intrinsic borders and serous macular detachment (782u). Angiography revealed early hyperfluorescence which increased in intensity. ICG provided a view of the intrinsic choroidal vascular pattern with hypercyanescence.

**Results**
As there were clear indications, subject underwent full fluence PDT. Overlapping 2 spots, the greatest linear dimension (GLD) being 5245u were applied to cover the entire surface of the tumour. Follow up examination revealed significant reduction in the size of the tumour as well as resolution of SRF from fovea. Striking feature was the presence of branch artery occlusion over the tumour which was confirmed by the eye tracking OCT showing inner retinal layer hyperreflectivity. On 3 months followup, there was regression of the tumour with complete resolution of SRF. Her visual acuity meaningfully improved to logmar 0.2.

**Conclusion**
Occlusion of retinal vasculature is one of the rare complication of photodynamic therapy. This may occur if the photosensitised area is closer to optic disc. PostPDT angiography usually reveals occlusion of the larger choroidal vasculature and areas of choroidal ischemia. Photodynamic therapy is minimally invasive but effective method of treatment.
"LOST DURING RE-WIRING" •
THE UNUSUAL PHENOMENA OF OCULAR SYNKINESIS

Abnormal innervation of ocular muscles or ocular synkinesis, is an intriguing phenomena, the underpinnings of which are still elusive. Classically described post traumatic nerve injury, congenital forms have also been reported. This video showcases unusual forms of ocular movement disorders brought about by misdirected or miswired axons like, oculomotor-abducens synkinesis, trigemino-oculomotor synkinesis, oculomotor-oculomotor synkinesis, trochlear-oculomotor synkinesis etc. Various scenarios are discussed in relation to oculomotor palsy, abducens palsy, congenital cranial disinnervation anomalies like Duane's retraction syndrome, Brown's syndrome, Marcus-Gunn jaw winking ptosis, congenital fibrosis of extra ocular muscles, Moebius syndrome etc. Beyond showcasing these rare phenomena, the video also tries to explain the pathophysiology of this rare disorder in light of the existing evidence and the effect of surgical management in suitable cases.
**Title of Paper**
Atypical lid swellings

**Purpose**
Reporting 2 cases of lid swelling who presented to ophthalmology OPD - 1) 83 year old female and 2) 63 year old male

**Method**
83 year old female who presented with chronic lid swelling involving right upper lid near lateral canthus. Swelling was firm, non tender with high vascularity. Excision biopsy was done. 2) 63 year old male who presented with chronic lid swelling involving right upper lid. Swelling was cystic, tender with high vascularity. Excision biopsy was done.

**Results**
1) Histopathology examination of biopsy specimen of first case(83 year old female) revealed sebaceous gland carcinoma.

2) Histopathological examination of biopsy specimen of second case (63 year old male) showed sebaceous/ meibomian gland carcinoma.

**Conclusion**
It infers that all atypical lid swellings need thorough evaluation to rule out malignancy.
# A macular stimulation protocol for management of Amblyopia in children and young Adults

## Purpose
Amblyopia treatment is a poorly standardised field in ophthalmology. Our study is aimed to evolve a reliable system to overcome this using certain novel techniques using mobile apps/computer programs along with currently available equipments like Synaptophore, CAM stimulator, Occlusion, Brock string, line tracing, Hart chart etc.

## Method
Data of patients for a follow up period of almost 3 years are presented. We report the study based on the following components:
- Type of refractive errors
- Difference in the refractive errors between eyes
- Age of onset of treatment
- Compliance for treatment
- Presence of binocularity
- Initial and final fully corrected vision
- Difference between visual acuity in both eyes
- Duration of stimulation therapy in clinic and at home
- Improvement in visual acuity
- Role of patching and its intensity
- Visual deterioration (recurrence) after stoppage of treatment
- Rate of deterioration and its relationship to age, visual acuity etc

## Results
44 children were followed up for a period of 3 years
- Included myopia, hyperopia, astigmatism.
- 97.7% had a visual improvement of 1 line or better
- Visual acuity between eyes varied from 0" 6 lines
- Difference in refractive errors between eyes from 0-8 D
- Age from 4-20 years
- Treatment duration in clinic was 1½ hours for 10-25 days
- Home treatment followed for upto 1 year
- Compliance for therapy was poor in 3 patients
- 13% had Visual deterioration after stoppage of treatment
- Amount of deterioration was 1 line or less
- Relationship of variation to age, visual acuity, compliance were studied in detail

## Conclusion
Amblyopia is one of the most intractable form of visual defect due to manage due to difficulty in assessing and calibrating its response to therapy. A protocol for assessment, management and response by a standardized / reproducible format is detailed so that effectiveness /compliance can be improved.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Intraocular lens opacification- A problem often underdiagnosed!!!</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Herein we report a late case of IOL opacification noted in a patient 2 years after uncomplicated phacoemulsification with foldable lens implantation. This case also enlightens the histopathological result of the IOL- capsule complex.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>An otherwise healthy 72 year old female with history of uncomplicated phacoemulsification with foldable IOL done in both eyes 2 years before presented to our center with diminished vision in her left eye. Her initial postoperative vision was 6/6, N6 in both eyes. On examination BCVA left eye- counting fingers close to face, with opacification of IOL precluding fundus visualization. She underwent vitrectomy+ IOL explantation+ SFIOL. The IOL was fibrosed to the capsular bag and hence had to be removed en masse. The aqueous and vitreous sample along with the IOL- capsule complex was sent for histopathological examination.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Postoperatively her vision improved to 6/9, N6 with SFIOL insitu. Histopathological analysis of aqueous and vitreous samples were normal, however multiple epithelial cells were seen on the surface of the IOL optic as well as haptic region. Capsular bag showed fibro-collagenous material through out. No intralenticular opacification or calcification was found. On her last followup 8 months after the surgery, her vision is maintained with clear SFIOL insitu.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>To our knowledge no other case has been reported in the literature where the whole IOL has been covered by epithelial cells. Prompt diagnosis plays a key role in early visual rehabilitation warranting IOL exchange.</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>Rare presentation of ophthalmoplegia</td>
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<td><strong>Purpose</strong></td>
<td>Here we report the case of a 40 year old female who presented with loss of vision, drooping of eyelids, squinting and proptosis of left eye</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>On examination : she had Left eye “ no perception of light, total ophthalmoplegia with inferior dystopia, proptosis, fundus examination showed optic atrophy with sclerosed blood vessels. Associated left LMN facial palsy was also present. Other eye was within normal limits.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>MRI brain showed moderately enhancing left orbital extraconal mass lesion with intracranial extension to temporal fossa and cavernous sinus involvement. Neurosurgery reference was given. Left fronto temporo parietal craniotomy with excision of tumor was done. No significant improvement in vision was obtained.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Optic nerve sheath meningiomas are rare ( incidence: - 2% of all orbital tumors), benign neoplasms originating from meningotheelial cells of the meninges surrounding the optic nerve.</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>Retinal manifestations of Dengue: A case series</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>To describe the clinical spectrum of fundus manifestations, fluorescein angiographic and optical coherence tomographic findings of retinal manifestations associated with dengue in a series of cases</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Retrospective study. We reviewed clinical records of patients diagnosed with dengue-associated retinal manifestations at our center from June 2017 to June 2018.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Total 11 patients, 6 females 5 males. Age ranged from 30 years to 70 years. 6 patients were diabetic. 8 patients had unilateral and three had bilateral retinal manifestations. Six eyes of 4 patients had dengue retinitis. One patient had dengue foveolitis. 5 eyes had hemorrhages, CWS and macular edema. One eye had dengue hemorrhagic retinopathy with macular edema. One patient presented with acute retinal necrosis. Fluorescein angiography demonstrated occlusive features and ischemia at macula in 4 patients. OCT demonstrated disorganized hyper-reflectivity in IRL corresponding to the retinitis lesion. OCT in foveolitis showed outer retinal defect. Five patients had CME.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Ophthalmic manifestations of Dengue are increasingly being identified as a cause of visual morbidity. It is important for ophthalmologists, retinal specialists and physicians to be aware and recognize the various ways in which dengue can present in the retina.</td>
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<td><strong>ABSTRACT DETAILS : DS19-41</strong></td>
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**Title of Paper**
Intraocular lens opacification years after uncomplicated cataract surgery- An upcoming challenge

**Purpose**
1. To investigate clinical features, initial diagnosis and surgical outcome in IOL opacification cases.
2. To propose a grading system for IOL opacification
3. To report the histopathology results of the explanted IOL- capsule complex

**Method**
All patients with IOL opacification following uncomplicated phacoemulsification surgery with foldable IOL from February 2017 to February 2018 were included in the study. Clinical evaluation included careful slit lamp examination, IOP and indirect ophthalmoscopy. In those cases where fundus view was precluded, B scan was done. Patients were graded in to 3 groups with regard to severity of opacification, visual acuity and fundus view. All patients of group 1 and 2 were observed and with grade 3 opacification were taken up for surgery. The aqueous and vitreous sample along with the IOL- capsule complex was sent for histopathological examination.

**Results**
Of 8 eyes of 8 patients with IOL opacification, 62.5% were women (mean age 66.8 years). Mean interval from cataract surgery to onset of symptom was 22.5 months (range 11-50 months). IOL opacification grade 1 and 2 included 3 patients each and 2 eyes were in grade 3. These 2 patients underwent IOL explantation and in one SFIOL was done in the same sitting. The IOL was fibrosed to the capsular bag in both cases and hence had to be removed en masse. Multiple epithelial cells were seen on the surface of the IOL optic and haptic region o HPE. No intralenticular opacification or calcification was found.

**Conclusion**
Although rare, IOL opacification is highly relevant because it is a major indication for explantation. The study emphasizes need for high index of suspicion in post cataract surgery patients presenting with visual problems. A simple and practical grading system has been proposed which will aid in the optimum management of these cases.
**Title of Paper**
A rare ophthalmic presentation in a leukemic patient.

**Purpose**
To study a rare ocular presentation in a leukemic patient.

**Method**
papilledema is defined as non inflammatory swelling of the optic disc secondary to raised intracranial pressure.
here we report a case of 36 yr old female who presented to our neuro-ophthalmology department with primary complaints severe bilateral headache and progressive blurring of vision in both eyes since past two weeks.A thorough clinical examination and ophthalmic examination including visual acuity,visual field,assessment of extra ocular movements,fundus evaluation using both direct and indirect opthalmoscopy was done.
Routine blood investigations were send.MRI/MRV brain was done.

**Results**
Ocular examination revealed restricted upward and lateral gaze of left eye and fundus examination suggested bilateral papilledema both eye.
Routine blood investigations suggested bicytopenia with leucocytosis.MRI/MRV brain was normal except bilateral perioptic nerve edema.Hence peripheral blood smear was send which confirmed an acute myeloid leukemia.

**Conclusion**
Studies suggested that ocular lesions were detected in asymptomatic leukemic patient therefore we suggest ocular examination to be included as a routine intial leukemic check up.
**Title of Paper**
When Oil meets Lens: Cataract surgery in Silicone oil filled eyes.

**Abstract**
Cataract development in a vitrectomized eye with Silicone oil is ridden with complications and challenges. From having denser cataracts to altered anterior chamber dimensions to capsule changes and pre-existent posterior capsule rents, the 'silicone oil cataract' is a challenge to many surgeons. Here we present a series of cases where phacoemulsification is done in Silicone oil filled eyes and describe the challenges faced and tips to achieve an optimal surgical outcome in such cases.
**Title of Paper**
Dry Vitrectomy with Trabeculectomy - a novel approach in cases of very high intraocular pressures

**Purpose**
In cases of very high intraocular pressures, it is many a time impossible to bring the IOP down before Trabeculectomy. This study aims to share a technique which can be used in such cases, as also in Malignant glaucoma.

**Method**
Malignant Glaucoma or misdirected aqueous syndrome many times needs relieving the posterior positive pressure using methods to remove part of the misdirected fluid.
We employed the technique of pars plana core dry vitrectomy, combined with Trabeculectomy successfully in Malignant as we as other cases of Glaucoma in which IOP could not be controlled with Acetazolamide or IV Mannitol.
The procedure was performed by the same surgeon in 5 cases. 3 males and 2 females, with very good results.

**Results**
The technique was performed with good post operative results in all cases. The IOP was controlled with maximum one medication postoperatively.
One patient underwent combined cataract surgery with trabeculectomy
Two patients subsequently underwent cataract surgery with IOL implantation

**Conclusion**
This is quite an easy technique that can be performed in the same sitting.
This also obviates the need for IV Mannitol, which can be risky in cardiac and other patients with CVS problems.
### Title of Paper
Preoperative Optical Coherence Tomography of macula in cataract patients; revealing the unseen for better prediction of postoperative visual prognosis

### Purpose
To use Optical coherence tomography (OCT) of macula taken in the preoperative period of cataract surgery as a tool in predicting the post-operative visual prognosis by identifying the subclinical morphological changes in the macula and assessing the severity of clinically identifiable lesion

### Method
Prospective analytical study of 250 consecutive cataract surgery patients divided into 3 groups. Group 1 with patients having normal macula clinically and by OCT. Group 2 with clinical macular pathology and corresponding findings in OCT macula and group 3 with clinically normal looking macula but macular pathology detected in OCT. Patients with dense cataract were excluded. The postoperative visual outcome was analysed and correlated with the clinical findings in macula and the OCT of macula

### Results
Of the 250 patients included in the study, group 1 had 214 (85.6%), Group 2 had 15 (6%) and group 3 had 21 (8.4%) patients. Out of the 36 patients with macular pathology, clinically detectable pathology were in 15 patients. In 21 patients only OCT could identify the macular pathology (drusens, cystoid spaces, foveal thinning, ISOS loss, COST line disruption etc.) Out of 36 patients with macular pathology, 30 (83.33%) patients improved to 6/6 postoperatively while the remaining 6 patients (16.66%) not improved to 6/6 (6/60 to 6/9). Out of these 6 patients, 4 (26.66%) belonged to group 2 and 2 (9.52%) belonged to group 3.

### Conclusion
Preoperative OCT of the macula helped in predicting the guarded visual outcome in 9.52% of patients with no clinically detectable pathology in macula. It identified lesions potentially capable of affecting vision postoperatively and in long term so that visual prognosis and necessity of postoperative retina evaluation can be explained preoperatively
Title of Paper: DO RETINAL CHANGES REFLECT POTENTIAL FOR MORBIDITY AMONG SUBJECTS WITH ECLAMPSIA?

Purpose: To study the ocular manifestations of eclampsia and to assess the association between these manifestations including fundus changes and blood pressure.

Method: A case series study was done among patients of eclampsia who were admitted in Dept. of Obstetrics and Gynecology. Written consent was obtained from study subjects. Data was collected by history taking and examination of the subjects were done. Ocular examination was carried out and included anterior segment examination, visual acuity and dilated fundus examination.

Results: Ocular symptoms were seen in all patients. Blurred vision was the most common ocular complaint. Fundus changes were seen in all study subjects. 88.9% had arteriolar narrowing, which was the most common fundus finding. Macular edema was observed in 6 cases (66.7%), serous retinal detachment in 1 patient. Systolic and diastolic blood pressure values were higher in those with fundus changes than in those without fundus involvement.

Conclusion: Increase in blood pressure value is an indication for frequent and prompt screening of retina to detect early changes, which may reflect similar changes in other organs including placental circulation, thus preventing ocular and systemic complications.
**Title of Paper**  
Visual field defects in Pituitary adenoma and its correlation with size of adenoma and Histopathological diagnosis

**Purpose**  
To Compare the size and histopathology of Pituitary adenoma with visual field defects

**Method**  
Retrospective cross sectional study of 100 pituitary adenoma patients. Size of adenoma in craniocaudal , transverse and axial length was measured in MRI scan. Histopathology and immunohistochemistry analysis of pituitary adenoma which was excised were included in the study. Visual field was analysed by 30-2 threshold test using Humphrey visual field analyser. Size and histopathology of Pituitary adenoma was correlated with visual field defects.

**Results**  
100 pituitary adenoma patients were included(51 males, 49 females). Age ranges from 20-80 years. 16 eyes of 14 patients had visual acuity less than 3/60. 70 patients had visual field defects. Patients with visual field defects had larger craniocaudal (11-7 mm) and transverse length (8-63 mm) and had statistically significant correlation. Increase in anteroposterior length did not show significant correlation with visual field defects. Histopathological and immunohistochemistry analysis of 66 patients showed that 52% were Gonadotrophin releasing tumour, 21% were ACTH releasing tumour and 20% were prolactinoma. 85% of gonadotrophin releasing tumour and 76% of prolactinoma had field defects. 30% had normal visual fields.

**Conclusion**  
Pituitary adenoma with visual field defects had larger craniocaudal and transverse length. Gonadotrophin releasing tumour was most common adenoma and 85% had field defects. Bitemporal hemianopia was most common visual field defect.
A case report of Marfan syndrome with unusual biometric findings overlapping with Pseudoexfoliation: “A surgeon’s challenge”

Marfan syndrome is an inherited condition with multisystem involvement. Pseudoexfoliation is an age related disorder and elevated plasma homocysteine, is indicative of serious cardiovascular involvement. Both produce ectopia lentis and similar intraoperative complications. This report highlights the varied ocular findings in Marfan syndrome and overlap of the two conditions.

54 year old tall statured male. Arm span (190 cm) height (182 cm), upper segment (47 cm), lower segment (135 cm), high arched palate, hyperextensibility of joints and kyphoscoliosis, Alternating convergent strabismus. Visual acuity: CF ½ metre right eye, hand movement left eye. Both eyes: deep anterior chambers, iridodonesis, pseudoexfoliative material in pupillary margin, immature cataract, phacodonesis, superonasal subluxation with zonulodialysis inferiorly 150 degree, normal IOP and temporal pallor of disc.

Keratometry: right eye 43.5 (K1), 45.5 (K2) left eye 44.25 (K1), 44 (K2). Both eyes Corneal diameter: 10 mm (vertical) and 10.5 mm (horizontal) Axial length: 25.9 mm. Plasma homocysteine (13.3 micromol/l) normal. Minor criteria in Marfan syndrome include increased axial length (> 23.5 mm), an abnormally flat cornea (< 41.5 D), and hypoplastic iris or ciliary muscle. Superotemporal subluxation and exotropia are characteristic in Marfan syndrome. Our patient had increased axial length, steeper smaller cornea, with superonasal subluxation and alternating converging strabismus which are unusual manifestations. No reported association between pseudoexfoliation and Marfan syndrome.

Corneal flattening, megalocornea and increased axial length do not always coexist in Marfan syndrome. This case report demands a special attention because both Marfan syndrome and pseudoexfoliation have causal association with early onset cataract formation, zonular weakness and cardiovascular complications.
# UNUSUAL METASTATIC LESION IN THE ORBIT

## Purpose
Reporting 2 cases of orbital metastasis from colorectal carcinoma

## Method

**Case 1**
A 55 year old female diagnosed case of rectal carcinoma 3 years back with hepatic metastasis presented with acute onset headache, proptosis and painful defective vision of right eye.

**Case 2**
A 40 year old male presented with symptoms of headache, painful defective vision, right eyelid swelling of 6 months duration.

## Results

**Case 1:**
On examination - vision -6/36, periorbital ecchymosis, proptosis, chemosis, RAPD with restricted ocular movements and elevated IOP.
Fundus - choroidal folds and blot haemorrhage.
USG B scan showed heterogenous extraconal mass in superotemporal aspect suggestive of secondaries

**Case 2:**
On examination vision no PL with fixed pupil and dull glow, vitreous haze, retinal detachment and restricted ocular movements with proptosis.
USG B scan showed extraconal mass, biopsy revealed metastasis from rectum. On further investigations, patient was diagnosed to have rectal carcinoma (biopsy proven) with lung and orbital metastases.

## Conclusion
Orbital metastasis from colorectal cancer is extremely rare with only a handful of cases in literature and usually presents in advanced stages.
**Title of Paper**
INFLUENCE OF C REACTIVE PROTEIN AND GLYCOSYLATED HAEMOGLOBIN ON DIABETIC MACULAR EDEMA - AN OCT BASED STUDY

**Purpose**
to study the influence of CRP and glycosylated hemoglobin on severity of diabetic macular edema.

**Method**
Case control study conducted in tertiary hospital which included ninety cases (type 2 diabetic patients with macular edema) and 90 controls (diabetics without DME) of diabetic age > 5 years.

Detailed history, ophthalmological evaluation (BCVA, Slit lamp examination, fundus examination, OCT) and blood investigations (FBS, PPBS, CRP, HbA1C, blood routine) was done for all patients. Cases were subdivided based on central retinal thickness into mild macular edema -200 - 300 microns, moderate - 300 -400 microns, severe > 400 microns.

**Results**
CRP levels were found positive in 14 patients with severe macular edema. All patients with acute infections were excluded. Elevated glycosylated haemoglobin was associated with increased severity of macular edema.

**Conclusion**
CRP level might be used as a biomarker to determine the severity of diabetic macular edema along with glycosylated haemoglobin levels.
# Analysis of Choroidal neovascular membrane activity using choroidal vascularity index and OCT angiography

## Purpose
To evaluate choroidal neovascularization activity in treatment naïve exudative age related macular degeneration, using choroidal vascularity index and OCT angiography

## Method
Retrospective review of the medical records of 23 treatment naïve eyes of 22 patients diagnosed with exudative age related macular degeneration by spectral domain optical coherence tomography (SD-OCT), fluorescein angiography, indocyanine green angiography and optical coherence tomography angiography (OCTA). Choroidal vascularity index (CVI) & OCTA vascular area were analyzed with image binarization using imageJ software. CVI, OCTA vascular area and disease activity on SD-OCT and OCTA were analyzed.

## Results
23 treatment naïve eyes. 2.65 ± 0.48 mean injections in 3 months duration. Mean subfoveal choroidal thickness was 214.39±101.378 at baseline and 197.43±100.049 at 4 months (p=0.08). The mean CVI was 65.73±5.28 at baseline & 65.59±4.87 at 4 months (p=0.854). Pattern of network on OCTA was sea-fan in 10(43.5%), medusa head in 4(17.4%), indistinct in 9(39.1%) at baseline and sea-fan in 3 (13%), medusa head in 3(13%), indistinct in 14(60.9%) and mixed in 3(13%) at 4 months. The signs of activity on OCT changed after 4 months (p<0.001). OCTA 18 eyes had active network at baseline & 17 eyes at the end had inactive network (p<0.001)

## Conclusion
CVI being a stable indicator of vascularity of the choroid showed no correlation with various patterns of cnvm and showed no significant change with antivegf treatment. Network patterns post treatment showed no significant association with the OCT activity even though the OCTA showed an active network.
Title of Paper: CLINICAL PROFILE OF PATIENTS WITH NEOVASCULAR GLAUCOMA

Purpose:
1. To study the clinical profile of patients with Neovascular glaucoma.
2. To evaluate the Best corrected visual acuity and Intraocular pressure at presentation.

Method:
Cross sectional study was conducted. The following data was collected as per the proforma.
Detailed history was taken and systemic examination was done.
To evaluate risk factors, blood routine, fasting and post prandial blood sugar, renal function test, fasting lipid profile, and relevant investigations like carotid doppler if indicated were done.
Ocular examination included BCVA on presentation, colour vision, slit lamp examination, applanation tonometry, gonioscopy, fundus examination with direct and indirect ophthalmoscopy, slit lamp with volk 90 D lens and 24-2 field.

Results:
The study population consisted of 32 eyes of 30 patients. Among them 19 were males and 11 were females.
In the study there was male preponderance accounting for (63.33%) of patients.
Mean age was 64 years. Youngest patient was 47 yrs old and oldest patient was 81 yrs old.
Most common ocular association of NVG was PDR (16/32) 50% followed by vascular occlusion (15/32) 46.875% and ocular ischaemic syndrome (1/32) 3.125%.
Among vascular occlusion, cases due to CRVO (12/32) 37.5%, BRVO (1/32) 3.12%, BRAO (1/32) 3.125% and Combined occlusion (1/32) 3.125%.
Bilateral NVG was seen in 2 patients.
Most had visual acuity between <6/60-HM (43.75%) . Most had IOP at presentation 22-30mmHg (50%).

Conclusion:
Results of the study suggest that most common ocular association of NVG was PDR followed by Vascular occlusion.
Although medical treatment can lower IOP, the main goal of management of NVG is early diagnosis and treatment of the underlying cause prior to the development of raised IOP.
**Title of Paper**
Intermediate outcomes of Aurolab Aqueous Drainage Implant (AADI)

**Purpose**
To evaluate intermediate outcomes of AADI (Aurolab aqueous drainage implant) in glaucoma management.

**Method**
79 patients who underwent AADI surgery from June 2013 to May 2017 and with minimum of 6 months follow up were analysed retrospectively. Complete success was defined as intraocular pressure (IOP) >5 mmHg and <21 mmHg without anti glaucoma medications (AGM) medications or surgery. Qualified success was defined as IOP <21 mmHg with or without AGM.

**Results**
Mean ± SD age of the study group was 45.04±22.46 years with a mean follow up period of 16.43±9.76 months. Mean IOP reduced from 30.52±11.1 mmHg preoperatively to 13.15±5.43 mmHg, 13.73±4.79 mmHg and 13.34±3.95 mmHg at 6, 12 and 18 months postoperatively. The number of medications reduced from 3.3±0.99 preoperatively to 0.61±1.03, 0.68±0.97 and 0.69±0.97 at 6, 12 and 18 months postoperatively. Complete success was 64.6%, 60.7% and 59.4% at 6, 12 and 18 months respectively. Qualified success was 95%, 98.2% and 96.8% at 6, 12 and 18 months respectively.

**Conclusion**
AADI is a safe and effective treatment option for glaucoma.
ANTERIOR SEGMENT OPTICAL COHERENCE TOMOGRAPHY IN PREDICTING EXTRAOCULAR MUSCLE INSERTION SITE

Purpose
To evaluate the level of agreement between AS OCT measurement and intraoperative caliper measurement of limbus to horizontal rectus muscle insertion distance and thus to assess role of ASOCT in squint surgery.

Method
43 patients were recruited in the study including 9 resurgeries. The limbus-insertion distances of the horizontal rectus muscles were measured using AS-OCT preoperatively and then with calipers intraoperatively. The AS-OCT measurement was considered accurate when within 1.00 mm of the intraoperative caliper measurement. The interclass correlation coefficient, Pearson’s correlation coefficients, and Bland-Altman plots were used to evaluate the degree of agreement between the two methods of measurements in primary squint surgery and resurgery cases.

Results
84 muscles were imaged including 10 reoperated muscles. The mean limbus-insertion distance of MR and LR measured with ASOCT were 5.32 ± 0.4 and 7.4 ± 1.1 respectively, intraoperatively with calipers it was 5.6 ± 1.2 and 7.5 ± 1.5. With the Pearson’s Correlation Coefficient and ICC analysis LR group showed excellent agreement (ICC 0.85), and MR group shows good agreement (ICC 0.72). The mean limbus-insertion distance of MR and LR muscles which underwent resurgery was 6.4 ± 0.7 and 9.4 ± 2.6 respectively with ASOCT, while it was 7.8 ± 1.6 and 10.8 ± 3.6 with calipers.

Conclusion
AS-OCT could visualize the insertion site of horizontal rectus muscle in vivo with a relatively good accuracy. Therefore it can be considered a reliable tool for locating insertion of EOM in strabismus surgery.
Title of Paper
Alcohol delamination of the corneal epithelium VS Anterior stromal micropuncture for recurrent corneal erosion syndrome: a prospective study of efficacy and safety

Purpose
A prospective interventional case series to analyze the safety and efficacy of Alcohol delamination of the corneal epithelium vs Anterior stromal micropuncture for recurrent corneal erosion syndrome (RCE)

Method
Study period: 2016 to 2018. 30 RCE cases, who remained symptomatic despite topical lubrication and 3-6 month use of an extended wear bandage contact lens were included. RCE away from visual optical zone (5 mm) had undergone Anterior stromal micropuncture (group 1). RCE within 5 mm optical zone was treated with alcohol delamination (group 2). Intensity of pain on a scale of 1 to 10, and duration and frequency of attacks were recorded. Patients were followed up at 1 week, 1 month and then at 6 months.

Results
RCE caused by trauma (n=26), 1 case of epithelial basement membrane dystrophy (EBMD) and combination of trauma and EMBD contributed to 3 cases. 18 cases had undergone Alcohol delamination of the corneal epithelium. 12 cases was treated with Anterior stromal micropuncture. No intraoperative complication was observed for all patients. Significant improvement and resolution was noted in both the groups. Pain scale ranged from 1-5 during 1st week, followed by no pain till 6 months follow up. 2 patients developed transient subepithelial haze that resolved with topical steroid. 3 patients after Anterior stromal micropuncture had photophobia and glare.

Conclusion
Though several options exist for treating a painful condition like RCE, our study shows RCE patients' quality of life can be significantly improved with both the promising treatment option of Alcohol delamination of the corneal epithelium and Anterior stromal micropuncture techniques.
Title of Paper: COMPARISON OF RETINAL NERVE FIBRE LAYER DEFECTS BETWEEN EYES IN SUBJECTS WITH ASYMMETRIC PRIMARY OPEN ANGLE GLAUCOMA USING OPTICAL COHERENCE TOMOGRAPHY

Purpose: To assess the correlation of RNFL thickness measurement between fellow eyes of patients with primary open angle glaucoma (POAG) with optical coherence tomography (OCT)

Method: This was a crossectional study conducted in the department of ophthalmology Dr SMCS medical college, Karakonam. Patients with asymmetric POAG were included in the study. RNFL thickness in µm in each quadrant in both eyes were measured by OCT and the results were compared. The eye with more severe optic nerve head changes was taken as study eye and the RNFL thickness of other eye was compared to study eye.

Results: A total of 40 subjects were studied. In study eye mean RNFL thickness values in superior, inferior, temporal and nasal quadrants were 99.08, 103.03, 56.90, 65.75 (SD +/- 22.52, 21.03, 9.19, 11.58) while in fellow eye mean RNFL thickness were 103.88, 107.98, 57.65, 68.25 (SD +/- 21.8, 19.32, 9.79, 10.63). On comparing both eye there was no significant difference in RNFL thickness (p value > 0.05).

Conclusion: There is no significant difference in RNFL thickness between fellow eyes in asymmetric POAG. Therefore treating both eyes simultaneously is recommended.
Title of Paper: Anterior segment Optical coherence tomography changes in recurrent corneal erosion syndrome with clinical correlation

Purpose: Observational study to analyze the specific findings of Anterior segment optical coherence tomography (AS-OCT) in patients with recurrent corneal erosion syndrome (RCES) following treatment and its clinical correlation.

Method: 10 patients with typical chronic symptoms of RCES were recruited for the study. Affected eye was considered as group 1 (n=10), other eye was taken as control “group 2 (n=10). Both eyes of all patients were scanned with AS-OCT. The etiology of RCES was investigated and treatment was provided following a standard clinical protocol. AS-OCT Scans were obtained at different stages of the pathology and each patient was followed-up after treatment.

Results: Epithelium, basement membrane, Bowman layer, stroma and Descemet-endothelium complex were identified by AS-OCT. The findings on AS-OCT were as follows: anterior stromal hyper-reflectivity, epithelial edema, and irregular breaks in the epithelium. Undetected epithelial basement membrane, intraepithelial microcyst. These findings correlated with the clinical symptoms and with previously described histological reports of RCES. Following treatment (medical/surgical intervention) clinically RCES symptoms had improved in all patients. 8 out of 10 cases with complete resolution. OCT findings post treatment: anterior stromal hyper-reflectivity increased in 4 cases due to scaring and remaining 6 cases with reduction in hyper-reflectivity. Epithelial edema resolved in all cases and irregular breaks in the epithelium remained in 2 cases.

Conclusion: Corneal AS-OCT can be useful to study and manage RCES. In our study OCT findings had excellent correlation with clinical signs. Specific AS-OCT findings will guide us to analyze the pathology and resolution of recurrent corneal erosion syndrome, and vary our treatment modalities efficiently.
<table>
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<tr>
<th><strong>Title of Paper</strong></th>
<th>Study of Visual Field Patterns in Advanced Primary Open Angle Glaucoma</th>
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| **Purpose**       | 1) To identify the patterns of visual field defects in patients with primary open angle glaucoma in advanced stage.  
2) To identify macular split fixation in patients with primary open angle glaucoma in advanced stage |
| **Method**        | A cross sectional study of 104 eyes of 60 patients within a period of 1 year was conducted. All patients with advanced primary open angle glaucoma according to the modified Hodapp "Parish" Anderson criteria were included in the study. A detailed examination including BCVA, gonioscopy, fundus examination, intraocular pressure measurement, visual field analysis using Humphrey field analyser and macular programme was done. |
| **Results**       | Of the total 104 eyes, 11% had 0.8 cup, 62% had 0.9 cup and 27% had glaucomatous optic atrophy. In the 30-2 program, 7% had superior arcuate scotoma, 13% had inferior arcuate scotoma, 31% had double arcuate scotoma and 49% had severely depressed field. In the 10-2 program, 16% had normal field, 21% had scotomas not involving fixation, 42% had scotomas involving fixation, 19% had temporal island of vision and 2% had nasal island of vision. In the macular program, 58% had normal field, 17% had macular threat and 25% had macular split fixation. |
| **Conclusion**    | The most common field defect in the 30-2 program was severely depressed field. The most common defect in the 10-2 program was scotomas involving fixation. The macular program was normal in a majority of patients. |
# ABSTRACT DETAILS: DS19-65

**Title of Paper**
OCULAR MANIFESTATIONS OF INTRACRANIAL SPACE OCCUPYING LESIONS

**Purpose**
1. To study the ocular manifestations of intracranial space occupying lesions.
2. To study the different patterns of visual field changes in intracranial space occupying lesions.

**Method**
Cross sectional, hospital based study conducted at Department of Ophthalmology, Government medical college Thrissur between May 2017-April 2018. 60 patients with MRI/CT proven cases of intracranial space occupying lesions attending the ophthalmology department and referred to ophthalmology department were evaluated. Detailed ophthalmological examination was done in all patients which include best corrected visual acuity using Snellen chart, colour vision using Ishihara chart, extraocular movements, pupil reaction, anterior segment examination under slit lamp biomicroscopy, fundus examination using direct and indirect ophthalmoscope. Humphrey field analyser for analysing visual field.

**Results**
Out of 60 patients 33(55%) were females and 27(45%) were males. The most common ocular symptom include defective vision 26(43.33%) followed by field defect 4(6.66%). Most common ocular signs include abnormal pupillary reaction 19(31.66%), papilledema 17(28.33%) and optic disc pallor 15(25%). Visual field defects was detected in 43(71.67%) patients. Most common visual field defect include bitemporal hemianopia 10 (16.67%) followed by homonymous hemianopia 8(13.33%).

**Conclusion**
Most common ophthalmic manifestations of ICSOL among patients attending ophthalmology OPD include defective vision, field defect, abnormal pupillary reaction, papilledema, optic disc pallor. Field defects of these patients corresponds to site of lesion. Hence a proper ophthalmic evaluation and visual field assessment could early diagnose and locate ICSOL.
**Title of Paper:** masquerade

**Purpose:** Pituitary apoplexy is a rare endocrine emergency most often involves pituitary adenoma. Usually it presents with headache, vomiting, loss of vision on outer side of visual field on both sides. Rarely it may cause unilateral visual loss which we incorrectly diagnose as retrobulbar neuritis.

**Method:** 40yr old lady presented with visual loss in left eye since 1 week. Right eye was normal. Vision in left was counting finger close to face marcus gunn pupil was present in left eye. First diagnosis was retrobulbar neuritis which was corroborated with VEP. Later MRI was taken which showed a mass in pituitary gland suggestive of pituitary macroadenoma with haemorrhage. Patient was treated with steroids. Later as the swelling size decreased vision improved to 6/6 partial.

**Results:** Routine blood examination was normal.
VEP - increased latency and reduced amplitude
MRI - pituitary enlarged suggestive of haemorrhage with underlying macroadenoma

**Conclusion:** Pituitary apoplexy is a rare endocrine emergency mostly occurring in pituitary adenoma. Rarely it may manifest as unilateral visual loss which is incorrectly diagnosed as retrobulbar neuritis. So always consider this as a possibility when a patient presents with these features.
### Title of Paper
Analysis of choroidal layer thickness using Enhanced Depth Imaging Ocular Coherence Tomography and response following treatment in cases of Central Serous Chorioretinopathy

### Purpose
1. Quantitative and qualitative evaluation of choroidal layer in CSCR patients.
2. To analyse the response to treatment
3. To study the visual outcome following various treatment modalities

### Method
30 eyes with CSCR were studied prospectively for 1 year. Retinal imaging was done and choroid was studied using EDI-OCT. Choroidal thickness was estimated at the site of PED. The morphology of choroid was studied including nature of the choroidal vessels, thickening or thinning of the three layers of the choroid. Those patients with non-resolving SRF were subjected to FFA and ICGA for localising the area of choroidal hyperpermeability. Patients who showed leakage points on FFA were subjected to either focal laser or PDT based on distance of lesion from fovea. Visual acuity following treatment analysed.

### Results
Prospective analysis of 30 eyes showed significant reduction in choroidal thickness with resolution of SRF and improvement in visual acuity. Reduction in choroidal thickness was also analysed on the basis of presence of fibrin. There was no significant percentage change in choroidal thickness between both groups. On comparing the time taken for improvement in visual acuity in treated and observed groups, the former showed faster resolution of symptoms, however choroidal thickness significantly reduced in both. Qualitative analysis of choroids showed enlargement of Haller’s layer and compression of choriocapillaries in 70% and 30% showed involvement of Sattler’s layer also

### Conclusion
The choroid is diffusely thickened in CSCR likely because of the choroidal vascular dilatation and compression of choriocapillaries. Mean choroidal thickness at the site of PED estimated by EDI-OCT showed significant reduction as it healed. Choroidal thickness was not affected by presence of fibrin, chronicity of disease or recurrence
Title of Paper: Oral Eplerenone in bullous CSCR with RPE macrorip

Purpose: The bullous variant is a rare manifestation of CSR. Multiple therapeutic approaches have been described to treat these bullous detachments which involve laser or surgical drainage. We demonstrate the efficacy of oral mineralocorticoid antagonist eplerenone in the treatment of bullous CSCR with RPE macrorip.

Method: A 46 year old male presented to us with diminution of vision in left eye for 5 months. Best corrected visual acuity in right eye was 6/6 and left eye 3/60. On clinical examination, he was diagnosed to have bullous CSR with RPE macrorip in left eye which was confirmed on multimodal imaging. Conventional laser therapy was not considered here due to the absence of evident leaks on FA and drainage option was avoided in view of possible RPE rip extension. The patient was started on oral eplerenone 50 mg OD with monthly monitoring of renal function test and electrolyte levels.

Results: At 4 months follow up, the OCT scan left eye confirmed resolution of the bullous detachment with improvement of visual acuity to 6/9, N8. Eplerenone was then tapered to 25 mg OD for the next 5 months and stopped. There was no recurrence of CSR even 3 months after stopping the drug.

Conclusion: Oral eplerenone is an effective, cheap, and safer alternative in treating patients with nonresolving bullous CSR.
<table>
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<tr>
<th>Title of Paper</th>
<th>QUANTIFICATION OF TEAR MENISCUS IN PATIENTS WITH MEIBOMIAN GLAND DYSFUNCTION BY ANTERIOR SEGMENT OPTICAL COHERENCE TOMOGRAPHY AND ITS CORRELATION WITH OTHER DRY EYE PARAMETERS</th>
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<tr>
<td>Purpose</td>
<td>The aim of the proposed research is to quantify tear meniscus height in Meibomian Gland Dysfunction (MGD) using anterior segment optical coherence tomography (ASOCT) and to assess its correlation with other dry parameters</td>
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<tr>
<td>Method</td>
<td>In this study 83 patients with MGD dysfunction were included. Patients with previous ocular surgery or other ocular disease excluded. Lower tear meniscus height will be assessed using anterior segment. Lid margin abnormalities are scored 0 [absent] or 1 [present]. Meibomian gland expressibility is assessed by application of digital pressure, graded 0-3. Tear break up time and ocular surface health will be assessed with slit lamp biomicroscopy after fluorescein staining. Subjective symptoms are graded according to the 12 item ocular surface disease index [OSDI]. MGD is defined as OSDI &gt;12, any one of lid margin abnormalities, poor meibomian gland expressibility (grade 1 or more)</td>
</tr>
<tr>
<td>Results</td>
<td>The results of tear meniscus measurements using ASOCT correlated with other ocular surface parameters. The Spearman rank correlation coefficient was used to assess correlations between several variables. Patients with MGD had worse ocular surface parameters such as OSDI, TBUT, and staining score. Tear meniscus measurements with ASOCT negatively correlated with the OSDI score (P = 0.002) and staining score (P = 0.001) and Schirmer test score (P = 0.001)</td>
</tr>
<tr>
<td>Conclusion</td>
<td>The tear meniscus measurements using ASOCT that was used in this study provide valuable information in diagnosing MGD. This would compensate the invasive Schirmer test and other dry eye parameters such as OSDI, TBUT, and staining score.</td>
</tr>
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</table>
### Title of Paper
An Experience with Aflibercept: A retrospective study

### Purpose
To evaluate the efficacy of aflibercept in management of various retinal diseases like wet Age Related Macular Degeneration (ARMD), retinal vein occlusions (RVO) and diabetic macular edema (DME)

### Method
A retrospective study was conducted by observing the case records of 23 patients (1 lasered PDR with DME, 2 RVO and 20 Choroidal Neo Vascular Membrane(CNVM)) who had received aflibercept between February 2016-2018. Of the 23 patients, 5 cases of CNVM were primarily treated with aflibercept (treatment naïve group). 17 of the total, including 2 vein occlusion were non responders to other anti-VEGF agents. BCVA and OCT findings pre and post injection was analysed after each dose of aflibercept. OCT features studied include Central Retinal Thickness (CRT), size of Pigment Epithelial detachment(PED) and sub retinal fluid level.

### Results
The mean age of the patients was 64.3 years with a male predominance. Mean number of injections in each patient was 1.90. The mean total follow-up period for each patient after first dose was 6.31 months. All patients showed a significant reduction (mean reduction 31.73%, p<0.05) in CRT following the first dose of aflibercept. Mean CRT before aflibercept injection was 436.36 microns and post injection 326.68 microns. Mean BCVA before treatment is 0.6 log MAR and after treatment is 0.5 log Mar. BCVA improved in 12 out of total 23 patients.

### Conclusion
The response in reduction of CRT was quicker and more sustained with aflibercept in all retinal pathologies irrespective of visual improvement
Title of Paper
Co-existent Myasthenia Gravis in a case of Autoimmune Thyroiditis, presenting with Thyroid Orbitopathy associated with Myogenic Ptosis.

Purpose
Ptosis in a case of thyroid orbitopathy is an unusual occurrence and should incite suspicion of coexistent myasthenia. This case report aims to highlight the importance of suspecting and investigating a patient of autoimmune thyroiditis for myasthenia.

Method
A 56-year-old lady presented with a 2-month history of binocular diplopia, protrusion of both eyes and drooping of both upper lids. The drooping of lids worsened by evening. She had symptoms suggestive of thyrotoxicosis. She underwent thyroidectomy 10 years ago. No other relevant past, family, or treatment history. Clinical examination, relevant blood investigations, imaging, ice pack test & repetitive nerve stimulation testing were performed.

Results
Examination showed signs of thyrotoxicosis like fine tremors, hyperdynamic circulation with systolic murmur, and tachycardia. Other systems were normal. On ocular examination, bilateral proptosis, bilateral moderate ptosis, restrictive myopathy and uncrossed diplopia in all cardinal gaze positions were found. Anti-TPO antibody, free T3 & T4 levels were markedly elevated. Residual thyroid tissue with multiple nodules was seen on USG neck. Ice pack test was positive which prompted a repeated nerve stimulation test which showed decremental response.

Conclusion
Examination findings & investigations supported a diagnosis of autoimmune thyroiditis with thyroid orbitopathy and associated myasthenia gravis. Thus, in cases of thyroid orbitopathy with associated ptosis, myasthenia gravis should be ruled out.
**Title of Paper**
Awareness about eye complications of diabetes mellitus among diabetic patients.

**Purpose**
Awareness about diabetic retinopathy among diabetic patients is an important factor for early diagnosis and management of diabetic retinopathy. The purpose of this study was to evaluate awareness about eye complication of diabetes mellitus.

**Method**
The study period is from June 2017 to May 2018. The sample was selected randomly from patients with diabetes mellitus attending general OPDs and medical camps. Questionnaire was given to participants to assess their awareness about eye diseases caused by diabetes. Questionnaire included questions to assess knowledge about diabetes, awareness about complications of diabetes and treatment options for diabetic retinopathy.

**Results**
Total of 117 participants were interviewed (68 females and 49 males). While 62.3%(73) of participants know normal FBS value is <120mg%, 23.93%(28) think 200mg% is the cutoff. 73.5%(86) of participants know renal disease as complication of diabetes, whereas 36.75%(43) know there are eye complications for diabetes mellitus. 58.11%(68) of the participants think eye complication is cataract, only 30.7%(36) knows diabetic retinopathy is complication. 45.3%(53) of participants advocates for annual checkup, 20.5%(24) think no need of checkup unless there are symptoms. 48.8%(57) of participants got information from doctors, 49.4%(52) from friends and relatives and 38.3%(46) from TV channels.

**Conclusion**
Though there is good knowledge about diabetes among the participants, awareness about diabetic retinopathy is marginal. Awareness about annual checkup is also less, which will lead to delay in diagnosis. There is an imperative need to implement strategies to increase awareness of diabetic retinopathy and importance of retinal screening.
Title of Paper: Deterioration of visual acuity in optic disc melanocytoma-an indicator of progression.

Purpose: To report a case of optic disc melanocytoma with deterioration of vision which could be indicative of tumour progression.

Method: A 62 year old male presented with complaints of gradually progressive defective vision in left eye for the past 3 years. He has no significant co morbidities. Clinical examination showed anterior segment of both eyes within normal limits and brisk pupil. His vision in left eye is 6/12 not improving with glasses and right eye is 6/12 improving to 6/9 with -1.00DSph. Field examination showed inferior arcuate scotoma in left eye. On fundoscopy left eye showed hyperpigmented lesion 1 disc diameter size with irregular borders overlying the nasal disc margin. Superotemporal vessel is dialated.

Results: B-scan ultrasonography showed an elevated lesion at optic nerve head with no extra ocular extension. A-scan showed high internal reflectivity and elevation of 1.5mm of the lesion.

Conclusion: Optic disc melanocytoma may be confined to optic disc or it may have contiguous involvement of choroid or sensory retina. Malignant transformation occurs in 1-2% cases. Patients should be examined annually for such changes.
<table>
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<th><strong>Title of Paper</strong></th>
<th>OUTCOME OF INTERFERON ALPHA THERAPY IN OCULAR SURFACE SQUAMOUS NEOPLASIA</th>
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<tr>
<td><strong>Purpose</strong></td>
<td>To report the results of Interferon alpha-2b (IFNα2b) therapy for the treatment of ocular surface squamous neoplasia (OSSN).</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>In a prospective observational study, five patients with clinically diagnosed recurrent OSSN received topical IFNα2b (1 million IU/ml, 4 times daily) ± perilesional INFα2b (3 MIU/cc) and were followed up monthly for 8 to 12 months. The extent of OSSN was determined by slit lamp biomicroscopy with and without Rose Bengal staining. OSSN was classified based on the seventh edition of the American Joint Committee on Cancer (AJCC) classification. Outcome measures included resolution of the lesion, relief of symptoms, systemic and ocular side effects, and recurrence rate.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>The mean age was 58.2 (range: 42 - 68) years and mean follow up duration was 10.2 months. Clinical resolution of the tumor occurred in 3/5 cases in a mean duration of 5.5 months after initiation of treatment and no patient developed ocular or systemic complications. No recurrence of OSSN developed during the follow up period in 3/5 patients. In one patient immunoreduction was achieved. One patient who is known case of Xeroderma pigmentosa (XP) did not show much response to treatment in the 10 month followup period.</td>
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<td><strong>Conclusion</strong></td>
<td>Recombinant IFNα2b appears to be an effective alternative treatment for OSSN. This approach precludes the high risk of limbal stem cell deficiency which results from surgical excision. However, the decreased efficacy in XP patients needs further evaluation.</td>
</tr>
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**EPITHELIAL LACRIMAL GLAND TUMORS: A COMPREHENSIVE CLINICOPATHOLOGIC REVIEW AND TREATMENT OUTCOME WITH RADIOLOGIC CORRELATION**

**Title of Paper**
EPITHELIAL LACRIMAL GLAND TUMORS: A COMPREHENSIVE CLINICOPATHOLOGIC REVIEW AND TREATMENT OUTCOME WITH RADIOLOGIC CORRELATION

**Purpose**
To study the clinicopathological and radiological correlations of epithelial lacrimal gland tumours and compare these with similar published literature.
To discuss the treatment outcomes in these patients.

**Method**
This was a retrospective study of all clinically and radiologically suspected epithelial tumors of the lacrimal gland in whom lacrimal gland biopsy was performed over a 10 year period (2008-2018) at a major eye hospital. Exclusion criteria included structural lesions (dacryops) and inflammatory lesions. We included 22 cases of epithelial lacrimal gland tumors. The histopathologic slides and the radiologic findings were reviewed. The corresponding demographic and clinical data were obtained by chart review using a data sheet. Tumours are classified into benign and malignant and treatment outcome is analysed.

**Results**
The review of 22 cases showed 77.2% of benign (pleomorphic adenoma (72.7%), and oncocytoma (4.5%) and 22.7% of malignant lesions. (adenoid cystic carcinoma (ACC)(9%), mucoepidermoid carcinoma (4.5%), malignant mixed tumour (9%). The mean age was 47.55 years (range 27-70). Commonest clinical presentation was proptosis and palpable mass. Mean duration of symptoms was 30 months (PA) and 1.3 months (malignant group). The ACC case showed cribriform pattern and low histopathologic grade. Radiologically, a well-defined appearance with bone remodeling was observed in PA in contrast to invasive appearance with destruction in malignant lesions.
All PA patients were treated by surgical resection. Malignant lesions were treated by chemotherapy, surgery, radiotherapy.

**Conclusion**
Our results contradict the much quoted dictum that 50% lacrimal gland lesions are primary epithelial tumors and 50% are nonepithelial. Our series showed benign tumours to be more common than malignant tumours. Although ACC presented typically with advanced clinical stage, the patient survived without tumor recurrence or metastasis.
Title of Paper | Conventional versus accelerated corneal collagen cross-linking in the treatment of keratoconus
---|---
Purpose | The aim was to compare the visual, refractive, topographic and pachymetric outcomes in patients with progressive keratoconus treated with either conventional or accelerated crosslinking
Method | A prospective, comparative study, done on a total 57 eyes of 31 patients with keratoconus, having topographic evidence of progression and having undergone collagen cross-linking (CXL) at our institute. Patients were divided into two groups: group A included 29 eyes treated with accelerated CXL protocol; and group B included 28 eyes treated with conventional (Dresden) CXL protocol. All the patients were followed up for a period of 1 year post procedure. The postoperative changes in visual acuity, keratometry readings and pachymetry in the two groups were analysed and compared.
Results | In our study population, the mean patient age was 23.5 years (range: 12-41 years) and 23 patients (68%) out of the total were males. After a followup of 1 year post operatively, we found no significant differences in the change in Kmax, Kmin and AveK values from the baseline and it was comparable between the two groups. The uncorrected visual acuity showed a statistically significant improvement in both groups by 1 year. There was also a comparable improvement in mean cylindrical error and a decrease in minimal pachymetry in both the groups postoperatively.
Conclusion | Our study has strengthened the evidence on the efficacy of accelerated high-fluence crosslinking compared to conventional crosslinking and showed that accelerated CXL treatment is as efficient as conventional CXL in the treatment of progressive keratoconus.
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<th><strong>Title of Paper</strong></th>
<th>A CASE OF BENIGN PIGMENTED LID LESION</th>
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<tr>
<td><strong>Purpose</strong></td>
<td>To present a case of benign squamous papilloma diagnosed by histopathological evaluation</td>
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<tr>
<td><strong>Method</strong></td>
<td>76 year old female presented with sessile pigmented lesion on lower lid of both eyes since last 10 years. O/E: Visual acuity was 6/18 both eyes. Bilateral sessile oval warty pigmented growth with irregular surface extending from the anterior lower lid margin and reaching just above the cheek of size 2.5x2x1 cm in right eye and 3x 2.5x1cm in the left eye. It was firm, nontender. Regional lymph nodes were not enlarged. A clinical diagnoses of seborrhoeic keratosis was made. Excision biopsy done under local anaesthesia. Loose skin around the lesion mobilised and send for histopathological examination. Direct closure was done.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Histopathology report was suggestive of benign squamous papilloma. Sections studied showed a pedunculated neoplasm with papillary architecture. The multiple papillae were lined by acanthotic and hyperkeratotic squamous epithelium with underlying fibrovascular core.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Histopathological examination was conclusive of Benign squamous papilloma.</td>
</tr>
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</table>
Clinical spectrum, natural history and treatment outcomes of microsporidial keratoconjunctivitis - a retrospective analysis.

1) To elucidate the clinical features and natural history of microsporidial keratoconjunctivitis.
2) To evaluate the role of fluconazole 0.2% eye drops in its treatment.

All cases of clinically diagnosed microsporidial keratoconjunctivitis as obtained from the electronic medical records of a tertiary care institute in Kerala between July 2014 and June 2018 were included in the study. The clinical features at presentation and at each follow-up visit were analysed. The medications prescribed were noted. Those subjects that completed follow-up up to resolution of the disease were included in analysis of effect of drug treatment. Appropriate statistical tests were performed to assess the effect of each type of topical medication on the days taken for the disease to resolve, and on the development of adverse effects.

48 cases that fit the clinical diagnosis of microsporidial keratoconjunctivitis were included in the study. The mean time to presentation was 5.1 days from onset of disease. Redness was the most common presenting symptom (81.25%). Microsporidial keratoconjunctivitis was most commonly misdiagnosed as adenoviral keratoconjunctivitis (33.33%). 30 cases completed follow up to resolution of epithelial keratitis. There was a statistically significant difference in the mean time to resolution of epithelial keratitis for the eyes on topical fluconazole 0.2% (8.69 days), when compared to those not on fluconazole (13.69 days). Fluconazole also showed a statistically significant association with ocular surface drug toxicity.

Microsporidial keratoconjunctivitis is a self-limiting disease with an average resolution time of 2 weeks. Fluconazole 0.2% eye drops produces significantly faster resolution of epithelial keratitis but is more likely to produce ocular surface toxicity.
Title of Paper | An unusual cause for Pseudo-Foster Kennedy Syndrome  
---|---
Purpose | To report a rare case of Pseudo-Foster Kennedy Syndrome due to Diabetic papillopathy.  
Method | A 35 years old male presented with complaints of mild blurring of vision in right eye for 2 months and in left eye for 2 weeks, associated with occasional headaches. Visual acuity was 6/6 in both eyes. RBS was 369mg% and HbA1c 12.5%. Blood pressure was 140/100 mm of Hg. Ocular movements were normal. Pupillary reactions were sluggish in both eyes. Dilated fundus examination revealed Optic atrophy in right eye and swollen, hyperaemic disc with blurred margins, dilated disc capillaries, splinter haemorrhages, and peripapillary retinal edema in left eye. Intra ocular pressure was normal in both eyes.  
Results | Thus a provisional diagnosis of Foster Kennedy Syndrome was made. Neurology consultation was done. CT scan, Carotid Doppler, Contrast MRI Brain and other relevant investigations were done which were all normal. Perimetry showed generalized depression of retinal sensitivity in right eye and generalized depression of retinal sensitivity with enlargement of blind spot in left eye. Since all other causes for disc edema were ruled out and patient was a young male with uncontrolled diabetes, a diagnosis of Diabetic papillopathy was made.  
Conclusion | This case highlights the importance of considering Diabetic papillopathy in the differential diagnosis of young patients with disc edema and also as a cause for Pseudo-Foster Kennedy Syndrome.
**Title of Paper**

Effect of Brimonidine on central corneal thickness in normal tension glaucoma patients

**Purpose**

To study the action of brimonidine on central corneal thickness in normal tension glaucoma patients

**Method**

30 eyes of patients who attended the Ophthalmology outpatient department between the time period October 2017 and June 2018 who were newly diagnosed with normal tension glaucoma with no history of any systemic illness or not on any medication, were included in the study. Each patient underwent a complete ophthalmic evaluation including fundus examination, visual field assessment by Humphrey Field Analyzer, intraocular pressure by Goldmann applanation tonometry, central corneal thickness measurement by pachymetry using PACSCAN plus before as well as 1 month and 6 months after starting treatment with 0.2% topical brimonidine twice daily.

**Results**

Administration of brimonidine 0.2% resulted in an increase in central corneal thickness from $525 \pm 21 \, \mu m$ before starting brimonidine to $528 \pm 21 \, \mu m \, (p<0.05)$ after 1 month and $535 \pm 20 \, \mu m \, (p<0.001)$ after 6 months. It also resulted in a reduction in intraocular pressure from an initial value of $16 \pm 2 \, \text{mmHg}$ before starting brimonidine to $14 \pm 2 \, \text{mmHg} \, (p<0.05)$ and $13 \pm 2 \, \text{mmHg} \, (p<0.05)$, 1 month and 6 months after starting treatment, respectively.

**Conclusion**

The data presented in this study show that topical administration of 0.2% brimonidine twice daily results in a significant increase in central corneal thickness in patients with normal tension glaucoma.
### Title of Paper
CAN PHOTOSCREENING EFFECTIVELY DETECT AMBLYOGENIC RISK FACTORS IN CHILDREN WITH NEURODEVELOPMENTAL DISABILITY?

### Purpose
To analyse whether photoscreening can effectively detect amblyogenic risk factors in children with neurodevelopmental disability.

### Method
A prospective study of 52 children attending a special school for children with neurodevelopmental disability, from December 2017 to May 2018. All children were initially tested with a photoscreening device (Welch Allyn Spot Vision Screener: model VS100) and further evaluated at a later date by a paediatric ophthalmologist, with a complete ocular evaluation including squint assessment, cycloplegic retinoscopy and dilated fundus examination. The key parameters studied were demographic features, type of neurodevelopmental disability, refraction, ocular alignment, media clarity, any other ocular morbidity and time taken for examination. The presence of amblyogenic risk factors was analysed as per the 2013 guidelines of the American Association for Pediatric Ophthalmology and Strabismus (AAPOS).

### Results
The mean age was 10.5 years (range: 1 - 17.5 years). Males (73.1%) outnumbered females (26.9%). The most common neurodevelopmental disability was Cerebral palsy. Simple myopic astigmatism was the most common type of refractive error. The presence of amblyogenic risk factors in our study was 73.1%. The sensitivity and specificity of photoscreening in detecting amblyogenic risk factors was 96.5% and 63.61%, respectively, with a positive predictive value of 80% and negative predictive value of 92.31%. The predictive ability of photoscreening was 79.9% as per the area under curve (AUC). The average time taken for examination was also considerably less (< 60 sec) with photoscreening as compared to clinical evaluation (>1 hr).

### Conclusion
Photoscreening can detect amblyogenic risk factors with high sensitivity and reasonable specificity and is a handy, useful, time saving tool in screening children with neurodevelopmental disability.
# Title of Paper
A SECONDARY TUMOUR IN AN EMPTY SOCKET- SURGEON'S DILEMMA..!!

## Purpose
To report a rare case of recurrent meningioma presented as an intra-orbital swelling in a patient who received multiple cycles of external beam radiation for two different malignancies.

## Method
54 year old female, case of retinoblastoma right eye at 2 years of age and meningioma fronto parietal lobe at 35yrs with h/o enucleation and multiple cycles of radiation, presented with upper lid swelling in the right eye of 2 months duration with difficulty in fitting her ocular prosthesis. Examination showed a 7x7x2mm swelling in the lateral half of lid margin, firm, non-tender, non-reducible, non-pulsatile, skin is pinchable, decreased mobility on closure of the eyelids. Fingers cannot be insinuated between the swelling and the orbital margins. Left eye: WNL. A provisional diagnosis of recurrence of meningioma /Orbital lymphoma was made.

## Results
Blood investigations: WNL. CT showed heterogenous soft tissue along the lateral wall and roof with irregular destruction of adjacent bony wall. DD of Sarcoma in the post RT field or metastases from unknown primary was made. While doing excision the tumour was noted to be extending beyond the middle of the orbital cavity superiority and the posterior margin was not visible. The gross specimen showed a lobulated tumour with cystic areas, gelatinous consistency and histopathology showed neoplasm composed of cells arranged in whorled and perivascular pattern with moderate cytoplasm, round /oval nucleus with some showing nucleoli. Areas of pseudo rosette seen.

## Conclusion
Secondary malignancies have been reported in post irradiated field owing to DNA damage and genetic abnormalities associated with primary malignancy. This was an intra orbital malignancy in an empty socket which was an extension of recurrent radiation-induced meningioma. Hence routine screening should be done for secondary neoplasms after radiation therapy.
## ABSTRACT DETAILS: DS19-87

<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Corneal endothelial cell changes in different grades of myopia.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To study the changes in corneal endothelial cell density and morphology and axial length of eye in different grades of myopia.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>A cross sectional study was conducted for a period of 12 months in 380 myopic eyes with age less than 30 who were sub classified as low, moderate and high grade myopes. After taking informed consent ocular examination including visual acuity, anterior segment examination and refraction was done. Corneal endothelial cell assessed with specular microscope and axial length measured with A scan ultrasonography.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Out of 380 eyes 192 were low myopes, 114 moderate and 74 were high myopes. Our study revealed that as grades of myopia increases there is statistically significant increase in axial length, decrease in mean cell density and decrease in central corneal thickness. (p=0.00) There is no significant changes in hexagonality and co efficient of variation among the groups.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>There occurs significant changes in corneal endothelial cells as grades of myopia increases. This can be due to degenerative changes of eyeball occurring in high myopes. So these factors are to be considered before performing intraocular surgeries in myopes.</td>
</tr>
</tbody>
</table>
# A Case of Scleral Abscess Mimicking Choroidal Tumor

**Dr. Shela Mary Issac, Dr. Neena Chris William, Dr. Jasmine Mary Jacob**

## Purpose
To highlight the importance of correlation of clinical, radiological and pathological data in reaching a diagnosis of scleral abscess.

## Method
54 year old diabetic female presented with pain and redness left eye. On examination, visual acuity was 6 /12. Pupil was reacting normally. 0.5cm swelling, in the inferotemporal bulbar conjunctiva with localised congestion was noted. Anterior chamber quiet. Intraocular pressure was 24. Fundus was normal. BScan showed minimal choroidal effusion. Clinically was suspected to have nodular scleritis and was started on topical medications. Two weeks later she came with persistence of symptoms. MRI orbit done and radiological diagnosis was? Melanoma? Metastasis and histopathological correlation was suggested. Subconjunctival exploration done. Surface of lesion incised, pus drained and sent for C&S and HPE.

## Results
Histopathological diagnosis was suggestive of scleral abscess. During follow up patient was symptom free and topical steroids and antibiotics were continued for a week longer. Repeat MRI and B scan showed complete resolution of the choroidal elevation.

## Conclusion
Scleral abscess
<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>RECALCITRANT MULTIFOCAL NODULAR INFECTIVE SCLERITIS IN AN IMMUNOSUPPRESSED INDIVIDUAL WITH CHRONIC LIVER DISEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>To report a case of multifocal nodular infective scleritis in an immunosuppressed individual with chronic liver disease</td>
</tr>
<tr>
<td>Method</td>
<td>47 year old male presented with redness, pain, defective vision of left eye of 3 weeks duration. He was consulted in ophthalmology department and started on moxifloxacin and ketorolac. But patient did not improve with the management. After 2 weeks he again presented with same complaints. He is having cirrhosis with portal hypertension for last two years. On ocular examination visual acuity of left eye was 6/60. Left eye shows conjunctival congestion with multiple scleral nodule, inferonasally. Fundus examination shows choroidal detachment</td>
</tr>
<tr>
<td>Results</td>
<td>Culture from conjunctival swab showed growth of E. coli. Ciprofloxacin and gentamycin were found to be sensitive and parenteral antibiotics started accordingly.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Atypical organism like E. coli should be considered in the context of recalcitrant multifocal nodular infective scleritis and not responding to usual line of management</td>
</tr>
</tbody>
</table>
ABSTRACT DETAILS : DS19-91

| Title of Paper | coexistence of cryptophthalmos in one eye and optic nerve cloboma in other eye in a baby with aicardi syndrome. |
| Purpose        | to report a case with unusual association of cryptophthalmos and aicardi syndrome. |
| Method         | aicardi syndrome is characterised by triad of callosal agenesis, chorioretinal lacunae, and infantile spasm. It occurs in girls. Usual ocular anomalies are microphthalmia, cataract, colobomas. Here we report a case of 1 month old female child born out of nonconsanguineous marriage with birth weight 2.4 kg with corpus callosal agenesis, seizures, cryptophthalmos (RE), optic nerve head coloboma (LE). |
| Results        | MRI showed corpus callosum agenesis and cryptophthalmos. No significant variants detected in TEAD1 and OCEL1 genes. |
| Conclusion     | Cryptophthalmos can occur as a rare association of aicardi syndrome. |
# Title of Paper
Retinal ganglion cell-inner plexiform layer thickness and choroidal thickness in SD-OCT as a tool for early prediction of hydroxychloroquine induced retinal toxicity

## Purpose
1) To compare the choroidal thickness and RGC-IPL thickness in HCQ taking patients and age matched control group
2) To detect the correlation between the choroidal thickness and RGC-IPL thickness with the duration of HCQ intake and cumulative dose

## Method
A retrospective case-control study conducted in Little Flower hospital, angamaly. 100 eyes of 50 patients who were treated with HCQ were assigned to group 1 and age matched controls were assigned to group 2. Presence of disorders which might affect ocular structures such as diabetes mellitus, neurodegenerative diseases, thyroid dysfunction, glaucoma, macular diseases, uveitis or vascular diseases were excluded.

## Results
Average RGC-IPL thickness of group 1 (mean: 77.88 +/- 8.7 um) was significantly thinner than that of group 2 (p<0.05). Average choroidal thickness of group 1 (mean:303.54 +/- 63.78 um) was also significantly thinner than group 2 (p<0.05). A negative correlation was also found between the cumulative dose and the RGC-IPL thickness.

## Conclusion
Patients taking HCQ were found to have significant thinning of the choroidal thickness and RGC-IPL thickness and hence may be used as a objective parameter to assess early HCQ induced retinal toxicity.
**Title of Paper**
A RARE CASE REPORT: GRAFT SURVIVAL FOLLOWING STREPTOCOCCUS PNEUMONIAE KERATITIS AFTER DEEP ANTERIOR LAMELLAR KERATOPLASTY (DALK)

**Purpose**
Case report to highlight the importance to tackle loose suture and appropriate management of post DALK streptococcus graft infiltrate with satisfactory outcome.

**Method**
A 16 yr old male patient referred from outside, presented with painless dimension of vision LE>RE with visual acuity RE 6/6, LE CF@1/2m. Clinical finding and ASOCT topography revealed left eye advanced keratoconus. Underwent DALK with a post operative BCVA at 6 months -1.50DC@60 (6/24) with an advice for regular follow up. Though he had Foreign body sensation for 2 weeks, he reviewed only with increased pain and redness. On examination, vision LE = hand movements with full thickness graft infiltrate, corneal edema, anterior chamber reaction. One loose suture was noted. Loose suture was removed and plated with corneal scarring for culture sensitivity. Patient was hospitalized.

**Results**
Corneal scraping report - streptococcus pneumoniae (moderate growth). Aggressive topical and oral antimicrobials (based on culture sensitivity report) initiated immediately with a plan for therapeutic keratoplasty. Graft infiltrate was localizing with medical management alone, hence continued the same treatment and surgery was deferred. 2 weeks hospital stay + treatment with daily monitoring, progression of streptococcus keratitis, patient surprisingly improved clinically. Patient discharged with regular OP follow ups and graft infiltrate was responding with medical management. Graft infiltrate resolution was remarkable and healed completely with a scar behind (sparing pupillary zone) without surgical intervention and significant visual improvement. At 1 yr follow up, no graft rejection, no reactivation of infiltrate was noted. Present BCVA -2.5DC@100 (6/18).

**Conclusion**
This case reports loose suture that triggered graft infiltrate leading to previous stage. Thus highlights the need for doctors, to timely intervene loose suture, to prevent surgical intervention. Also to create awareness among patients regarding symptoms of loose suture, graft failure and rejection, would help early detection and treatment, for a slight negligence could cost blindness.
# Title of Paper
Etiology, associations and visual outcomes in congenital cataract - A retrospective analysis

## Purpose
Congenital cataract is an important cause that inhibits early visual development. Data on its etiology, timing of surgery and when and whether to implant an intraocular lens are still debatable. This study aims to assess the clinical profile, infectious etiology, associations and visual outcomes in children operated for congenital cataract.

## Method
The records of all children up to 5 years of age who were operated for congenital cataract between January 2012 and June 2017 were retrospectively reviewed. The age at surgery, antibody titres for TORCH infections and associations (ocular and systemic) were recorded. The postoperative visual acuity at 1 week, 6 months and 1 year and complications like glaucoma and visual axis opacifications till the last visit were assessed to determine any statistically significant difference between unilateral and bilateral cases, age at which surgery was done and IOL implantation under 2 years of age.

## Results
Of 78 children who underwent surgery, 68% had bilateral cataract. The most common presentation was leucocoria. Common ocular associations were nystagmus and microphthalmos, with the commonest systemic association being cardiac anomalies. Antibody titres were highest for Rubella followed by Cytomegalovirus. 53.5% of the 125 eyes operated before 6 months, had vision less than 6/60. 58.7% of eyes left aphakic under the age of 2 years, had poor vision. Unilateral cases had significantly lower vision than bilateral cases. 10.2% cases developed glaucoma, those requiring a trabeculectomy were mostly aphakes, operated before 6 months of age. 7.6% of cases needed membranectomy

## Conclusion
Congenital cataract often has an infectious aetiology which is preventable by early screening of the mother. The age at surgery and the laterality affect the final visual outcome. Primary IOL implantation below 2 years is associated with better outcome and less complications on follow up.
Title of Paper: ORBITAL DIROFILARIASIS AS A CASE FOR ACUTE ONSET HYPERTROPIA WITH RESTRICTIVE MYOPATHY

Purpose: To report a case of orbital dirofilariasis presented as acute onset hypertropia with restrictive myopathy

Method: A 60 year old female presented with swelling of left lower lid area for 1 month. There was associated history of itching, watering and mild dull aching pain. On ocular examination, left hypertropia with mild restriction in depression and there was a swelling in the left inferomedial orbital area with mild erythema which on palpation gives a well defined, firm to hard non-tender mass measuring about 10*8mm. and there was conjunctival congestion of inferior bulbar and palpebral conjunctiva. No evidence of proptosis on measurement. Treated with anti helminthic and systemic steroid.

Results: Blood investigation showed raised ESR and AEC. MRI brain with orbit showed a soft tissue lesion involving the left infero-medial extraconal compartment and anterior aspect of left inferior rectus muscle. CT orbit confirmed the findings which showed a well defined soft tissue lesion measuring 2.5*1.2 cm noted in the inferior to globe which abutting the inferior rectus muscle. and ultrasonography eye revealed a hyperechoic area with hypoechoic linear lesion in the inferomedial aspect which suggestive of parasitic granuloma.

Conclusion: To consider the orbital dirofilariasis as a differential diagnosis of restrictive myopathy in an inflammatory swelling of orbit.
# Abstract Details: DS19-97

**Title of Paper**

RECOVERY PATTERN AND FUNCTIONAL OUTCOME IN SUBJECTS WITH HYPHEMA

**Purpose**

To determine causes, visual acuity outcome in subjects with hyphema and role of systemic steroids and cycloplegics in resolution of hyphema.

**Method**

18 patients with hyphema were studied for cause, visual acuity on initial presentation and on resolution, duration of hospital stay, grade of hyphema. Recovery pattern in subjects with and without systemic steroids, cycloplegics were compared.

**Results**

Total of 18 subjects with hyphema were studied. Among them 14 were males and 4 were females. Mean age of subjects was 34.44. 16 patients (88.9%) had history of trauma and 1 patient had spontaneous hyphema and 1 had iatrogenic hyphema. 7 patients (38.9%) had unrecordable visual acuity on initial presentation. Among them 3 patients got good visual acuity on resolution of hyphema. No relation found between administration of systemic steroids and cycloplegics and resolution of hyphema.

**Conclusion**

There is no role for systemic steroids and cycloplegics in resolution of hyphema. The recovery pattern and functional outcome in subjects with hyphema are related to other coexistent ocular injuries.
Title of Paper: CHOROIDAL THICKNESS EVALUATION USING ENHANCED DEPTH IMAGING SD OCT IN CLINICALLY DIAGNOSED VOGT KOYANAGI HARADA SYNDROME

Purpose:
- To statistically evaluate the disease progression in all clinically diagnosed Vogt Koyanagi Harada syndrome using enhanced depth imaging SD-OCT.
- To determine the efficacy of treatment in Vogt Koyanagi Harada syndrome patients using enhanced depth imaging SD-OCT.

Method:
This is a prospective observational study in which 21 clinically diagnosed Vogt Koyanagi Harada were included.
A detailed ophthalmic history and systemic history of each patient is done with emphasis on history related to VKH. All patients undergo a complete ophthalmologic examinations.
In active acute stage patient will be admitted and baseline EDI SD-OCT will be taken and treated with intravenous methyl prednisolone 500mg BD followed by systemic steroid and immuno suppressant and EDI SD-OCT taken during follow up period ie 1st week, 1 month then 3rd month.

Results:
Out of 21 patients 13 were females and 8 were male. The mean age was found to be 38.66±12.43 years. VKH was divided into different phases in which 42.86% were in active phase, 33.33% in recurrent phase was and 23.81% in convalescent phase. Choroidal thickness in active and recurrent stage of VKH at baseline was respectively 659.2±150.5 μm and 579.8±159.60 μm with different intervals was seen and periodically declined and found to be positively associated p<0.001. In convalescent stage of VKH the choroidal thickness remained same throughout the following period.

Conclusion:
The choroidal thickness in active onset VKH was much thicker than that of convalescent stage and the thickness dramatically decreased after corticosteroid treatment. EDI-SDOCT enables quantitative measurement of choroidal thickness and can be a useful tool in the future as an ancillary test for the evaluation and monitoring of VKH.
## ABSTRACT DETAILS: DS19-102

<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>A CASE OF BILATERAL ANTERIOR ISCHEMIC OPTIC NEUROPATHY FOLLOWING CORONARY ARTERY BYPASS GRAFTING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Post operative vision loss after major non ocular surgery is rare but devastating since it has the potential to cause bilateral, severe and permanent loss of vision. We present this case with features of bilateral anterior ischemic optic neuropathy after coronary artery bypass grafting</td>
</tr>
<tr>
<td>Method</td>
<td>A 48 year old diabetic male underwent coronary artery bypass grafting for three vessel disease. 3 days, postoperatively he noticed bilateral grossly decreased vision. On ocular examination, best corrected visual acuity (BCVA) right eye was counting finger 2 meters and left eye was counting finger 1 meter. IOP was normal in both eyes. Pupils were 3mm very sluggish in both eyes with relative afferent pupillary defect in the left eye. Fundus examination of both eyes revealed bilateral disc edema with blurred margins. Pan retinal photocoagulation laser marks in all quadrants.</td>
</tr>
<tr>
<td>Results</td>
<td>Patient was started on oral steroids, later on tapering dose, with no improvement of vision.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>This case highlights the need for clinicians to be aware of the potential role of hypotension and its effect on optic nerve following major cardiac procedures. Evaluation of post operative vision loss after Coronary artery bypass grafting can help to identify the risk factors and understanding further about this rare manifestation.</td>
</tr>
</tbody>
</table>
STABILITY OF CORNEA FOLLOWING COLLAGEN CROSS-LINKING (CXL) INTERVENTION IN KERATOCONUS PATIENTS GRADED BY KERATOMETERIC PARAMETERS OF ASOCT-TOPGRAPHY

Title of Paper

Purpose

Method

Results

Conclusion

A retrospective study to analyze possible Corneal curvature changes at one year following CXL, as an indicator for corneal stability and remodeling which illustrates the efficacy of CXL for keratoconus on visual improvement.

study design: retrospective study. Study period: 2015 to 2018.

387 patients diagnosed with keratoconus were enrolled. Visual acuity, BCVA, ASOCT-topography was done, patients had undergone collagen cross-linking (CXL) intervention. ASOCT topography and progression was noted for all patients at Follow up of upto 1 yr. Steep-k, flat-k parameters were compared pre C3R and at 1 yr. paired sample t-test was used for statistical analyses.

Total patients undergone CXL (n=387). mean age 22.4 ± 5.4 years (range: 18-35 years). 20 patients were lost for follow up. mean steep-k (52), mean flat-k (48). Postoperatively there was mean of more than 2 Diopter variation in both steep " k and flat " k. our study showed significant changes in keratometric values pre C3R and at 1 yr. Probable Corneal remodeling following CXL has lead to flattening of corneal curvature resulted in lesser keratometric values. 15 patients not tolerating RGP.

Though primary intention behind CXL is to reinforce corneal structural properties and halt keratoconus progression; however, this treatment also promising flattening in corneal curvature. This may be considered as an early indicator of the treatment's efficacy.
### Title of Paper
Eye donation awareness and conversion rate in a tertiary care center in Northern Kerala

### Purpose
To assess the awareness about eye donation amongst attendants of deceased patients, their willingness to donate eyes and the reasons for poor donation rate. To assess the efficacy of grief counselling by Eye Donation Counsellor (EDC), its impact on the conversion rate.

### Method
This prospective hospital based study was done in 135 participants (guardians of deceased subjects). Nursing staffs would inform regarding deaths to counselor. Counselor accompanied with a junior resident would first screen the cases. Relatives of suitable cases were approached and counselled in a systematic manner following a standard interview pattern. Responses were noted in a predesigned proforma. The religion, level of literacy, socioeconomic status, prior knowledge of eye donation, willingness for eye donation and reasons for donating and not donating eyes of the deceased were recorded.

### Results
Among 618 deceased cases 135 potential donors were identified. 57.8% next of kin were already aware of the concept of eye donation, but 42.2% were not. 2 donors had previously pledged their eyes. After counselling, willingness for eye donation was seen in 54.1%, others refused. Among 57.8% kin who were aware, 51.3% gave consent. Prior knowledge of eye donation, literacy and socioeconomic status did not have any significant influence on willingness. Major reasons for denial included unwillingness to discuss the issue and religious beliefs. Counselling was found to be the best method to facilitate eye donation.

### Conclusion
In this study, literacy, socioeconomic status, and prior knowledge of eye donation had no correlation with donor corneal tissue procurement. An active counselling by eye donation counsellor is the main factor which is responsible for eye donation.
<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>CLINICAL AND HISTOPATHOLOGICAL FEATURES OF OCULAR SURFACE SQUAMOUS NEOPLASIA - A TWO YEAR RETROSPECTIVE STUDY.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>TO STUDY THE CLINICAL AND HISTOPATHOLOGICAL FEATURES OF OCULAR SURFACE SQUAMOUS NEOPLASIA (OSSN).</td>
</tr>
<tr>
<td>Results</td>
<td>OSSN WAS MOST COMMONLY SEEN AT THE MEAN AGE OF 61.6 YEARS. 56.25% OCCURRED IN MALES AND 43.75% IN FEMALES. MAJORITY OF THE CASES (93.75%) WERE UNILATERAL. THE MOST COMMON PRESENTATION WAS A NODULE AT THE LIMBUS (81.25%). TEN CASES (62.5%) SHOWED FEEDER VESSELS. CORNEAL INVOLVEMENT WAS NOTED IN 6 CASES (37.5%). OF THE TOTAL CASES 12.5% WERE RECURRENT LESIONS AND THE REST WERE PRIMARY LESIONS. ONE CASE (6.25%) WAS FOUND TO BE RETROPOSITIVE. HISTOPATHOLOGICALLY, 3 CASES (18.75%) WERE CONFIRMED TO BE INVASIVE SQUAMOUS CELL CARCINOMA, 3 CASES (18.75%) WERE CARCINOMA IN SITU, 8 CASES (50%) SHOWED MILD DYSPLASIA AND 2 CASES (12.5%) SHOWED MODERATE TO SEVERE DYSPLASIA.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>OSSN WAS FOUND TO BE MORE COMMON IN ELDERLY MALES, WITH THE MOST FREQUENT PRESENTATION BEING A NODULE AT THE LIMBUS. HISTOPATHOLOGICAL ANALYSIS WILL AID IN THE EARLY DIAGNOSIS AND TREATMENT OF THESE MALIGNANCIES AND HELP IN DECIDING THE NEED FOR ANY ADJUNCTIVE TREATMENT FOLLOWING EXCISION.</td>
</tr>
</tbody>
</table>
**Title of Paper**
Clinical outcomes of Thyroid orbitopathy

**Purpose**
To study the wide spectrum of clinical manifestations, the severity of presentation, visually significant complications and its management, and the response to treatment of Thyroid orbitopathy.

**Method**
A retrospective study of 78 patients with Thyroid who presented to Ophthalmology department of Amrita Institute of medical sciences. All the patients were subjected to complete Ocular examination which included Visual acuity, Tonometry, Colour vision testing, Schirmer’s test, Hertels exophthalmometry, Slit lamp examination, Fundus examination. Clinical activity score of each patient at first visit was noted. The patients were specifically evaluated for exposure keratits, lid signs and compressive optic neuropathy. The patients were categorised into those who received conservative management, intravenous methyl prednisolone, radiotherapy and orbital decompression.

**Results**
- 60.3% were females.
- Lid retraction was the most common finding (63%).
- 61.50% had proptosis at presentation, of which 18% had severe proptosis. Among those with proptosis, 61.5% were males.
- 59.7% patients had Extraocular muscle involvement of which 1.3% showed involvement of all 4 recti muscles, 34.21% had 2 muscles, 15.7% had 3 muscles, 44.7% single muscle involvement.
- 5.1% developed optic nerve compression and 12.8% developed glaucoma (incidence equal among males and females).
- Only 7.9% had clinical activity score more than 3.
- 12.82% received intravenous methyl prednisolone, 2.8% underwent orbital decompression, 3.8% received radiotherapy, majority treated with lubricants alone.

**Conclusion**
The presentation of thyroid Ophthalmopathy varies from simple conjunctival congestion to complications like optic nerve compression. Majority of patients presented in inactive stage. Those who presented in active phase and treated appropriately showed significant improvement in symptoms and less complications. Proper grading of severity and appropriate management can prevent visual loss.
**Title of Paper**
Effect of corneal collagen crosslinking with riboflavin in keratoconus-A prospective observational study

**Purpose**
To evaluate the efficacy of corneal collagen crosslinking with riboflavin (C3R) in patients with progressive keratoconus by studying the outcome in terms of corneal topography and best corrected visual acuity (BCVA)

**Method**
12 eyes of 9 patients who underwent C3R for progressive keratoconus were included in the study. Pre-operative BCVA and keratometry values were obtained. All the patients were followed up at 3 months and 6 months post-operative period to look for changes in BCVA and corneal topography.

**Results**
Out of the 12 eyes studied 58.3% had moderate keratoconus and 41.6% had severe keratoconus. On follow up at 6 months post treatment no eyes had deterioration in vision. 58.33% maintained pre-operative BCVA. 25% showed 1 line improvement and 16.6% showed 2 line improvement on Snellens visual acuity chart. Maximum K decreased by a mean of 1.86D (from 54.28 ± 5.35 to 52.42 ± 4.64) and was found to be statistically significant (p<0.001). K minimum decreased by a mean of 2.34D (from 48.50 ± 4.28 to 46.16 ± 4.14) (p<0.001)

**Conclusion**
From our study C3R is an effective treatment for arresting the progression in keratoconus
Title of Paper: EFFECT OF PAN RETINAL PHOTOCOAGULATION ON VISUAL ACUITY IN PATIENTS WITH PROLIFERATIVE DIABETIC RETINOPATHY

Purpose: Diabetic retinopathy is a microvascular complication of diabetes. PRP is the standard treatment for PDR. PRP lessens the chance of severe visual loss. This study explains the effect of PRP on visual acuity.

Method: This is a prospective study conducted in PDR patients who attended RIO retina clinic for PRP in a period of 1 year from January 2017 to January 2018. 100 eyes were studied. The base line visual acuity and visual acuity after a period of six weeks after completion of PRP were recorded. Both males and females of age ranging from 40 to 70 years were taken. Those with advanced media opacities and baseline visual acuity less than counting fingers were excluded from the study.

Results: 100 eyes were studied. Mean age was 56 years. Mean distribution of diabetes was 10 years. Sex distribution was male 63% and female 37%. A statistically significant (P value < 0.05) difference is noted in the visual acuity after PRP. 47% eyes maintained same base line visual acuity. 44% eyes showed improvement in vision. 9% eyes showed reduction in vision either due to macular edema or due to advancement of disease itself.

Conclusion: PRP is a safe and effective method to control diabetic retinopathy. Most cases presented with retinal vascularisation and a good regression of new vessels noted with PRP. Visual acuity is maintained as before and even improved after PRP.
Title of Paper | RELATIONSHIP AMONG STANDARD VISION TESTS, QUALITY OF LIFE AND ABILITY TO PERFORM DAILY ACTIVITIES IN GLAUCOMA PATIENTS.
---|---
Purpose | 1. To assess the quality of life by subjective (Visual Functioning Questionnaire) and objective (ADREV) tests.  
2. To find out the correlation between glaucoma stages and Quality of Life (QoL)
Method | Cross sectional study of 50 glaucoma patients was done. Best corrected visual acuity, baseline IOP, slit lamp and fundus examination, gonioscopy and visual field examination were carried out. Patients were categorised as mild, moderate and severe on the basis of Disc damage likelihood scale (DDLS) and Hodapp Parrish Anderson criteria. Quality of life was assessed subjectively using Visual Functioning Questionnaire-25 (VFQ-25) and objectively by Assessment of Disability Related to Vision (ADREV test) by assessing the ability to perform activities of daily living. Contrast sensitivity and stereopsis were the other parameters assessed.
Results | Of the 50 patients, 25 (50%) were POAG, 23(46%) PACG and 2 were secondary glaucoma. Based on DDLS and Anderson criteria, there were 15(30%) mild, 19(38%) moderate and 16(32%) advanced glaucoma cases.  
Mean ADREV/ VFQ scores were mild 58.5/82.5, moderate 55.5/75.4, advanced 48.4/54.5.  
In ADREV tasks, the lowest score was for motion detection (mean-5.2) and maximum score was for ambulation (6.2).  
Advanced glaucoma patients have difficulty in detecting motion (4.6), recognising street signs(4.5) and colour matching(5.1).  
Stereopsis was seen in 66% of mild, 26% of moderate and in none of advanced glaucoma patients.  
Contrast sensitivity was also reduced with glaucoma progression.
Conclusion | ADREV scores correlates significantly with VFQ scores in all categories of glaucoma.  
With respect to Quality of Life, glaucoma patients faced difficulty in performing fine tasks. However even advanced glaucoma cases were able to carry out their daily activities without much help.  
It was seen that as glaucoma progresses, stereopsis and contrast sensitivity decline rapidly.
### Title of Paper

A CRYPTIC SWELLING IN THE EYE

### Purpose

To report the occurrence of extra osseous Multiple Myeloma in the eye.

### Method

A 52 year old female who was under chemotherapy for Multiple Myeloma presented with complaints of pain and foreign body sensation in the left eye of one month's duration and a BCVA of 6/60 (RE), 6/18 (LE).

A firm, mobile and tender swelling measuring 2cm x 1.5cm was noticed in the upper temporal quadrant of the left eye with dilated vessels over the swelling. Another swelling measuring 0.5cm x 0.5cm was found in the upper quadrant of her right eye. The swelling in the left eye was excised and sent for HPE.

### Results

Excision biopsy of the swelling from the left eye showed a well circumscribed neoplasm. Immunohistochemistry confirmed it as Multiple Myeloma with CD138 and Lambda positivity suggestive of plasma cell myeloma.

### Conclusion

Classically extra osseous myeloma has been considered uncommon with CNS and head and neck involvement accounting for only 16% of all the documented cases. Only three cases of conjunctival involvement have been reported so far.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>BATTLE WITH THE CRAB-A RARE CASE OF METASTASIS OF CARCINOMA BREAST TO IRIS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To acknowledge the wide spectrum of clinical presentation of metastasis from carcinoma breast and the wonderful response of these masses to chemotherapy.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>42 year old female, known case of Carcinoma breast Stage IV (ERPR and HER-2 negative), post Breast conservation surgery with Latissimus Dorsi flap and adjuvant chemotherapy with FAC - D regime, presented 4 years after detection of the same, with complaint of discoloration in Right eye of 1 month duration, which after evaluation was suspected to be metastasis to iris. PET CT showed deposits in lungs and suspicious skeletal metastasis. She was started on Gemcitabine/Carboplatin regimen following which there was significant reduction in size of tumour.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>1 month after institution of chemotherapy the lesion has reduced in size and vascularity to almost half the initial presentation. 1 year follow up showed a small fibrotic tissue left behind.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Carcinoma of the breast is the most common malignancy to metastasize to the uvea. The choroid is predominantly affected (81%), with much lower rates in the iris (only 9%). The treatment of multisystemic involvement is systemic chemotherapy, while external radiotherapy or brachytherapy are recommended for the treatment of focal metastases.</td>
</tr>
</tbody>
</table>
Title of Paper: A new classification for glaucoma

Purpose: With the advent of modern diagnostic techniques in glaucoma and better understanding of its pathophysiology, the current classification fails in effective description of all parameters of the disease process. A new classification which is capable of defining all modern disease entities in current glaucoma practice is elaborated.

Method: Glaucoma is a disease which is developing radical shifts in its understanding and management. The most significant reason for this is advances in technology in two specific areas. 1) Information technology to standardize field tests so that human error can be excluded and test results made reproducible and analyzable with comparable data from an age related normal. 2) Development of reliable imaging techniques like OCT and other similar equipments capable of assessing glaucoma associated disc and retinal changes and then analyzing it with data form an age specific normative data.

Results: 2 new inventions in the field of ophthalmology, the OCT and the computerized field analyser has unearthed a whole group of glaucoma-like conditions which were not mentioned on the standard glaucoma classification. Currently these newly discovered glaucoma-like entities are merely mentioned as a sub group in OAG with which it has no logical relationship, and hence give no justice to their understanding or management. For no other alternative we are keeping these diseases like low/normal tension glaucomas and similar conditions under OAG with which they have practically no similarity at all, causing deficiencies in their understanding and management.

Conclusion: A totally new format for classification of glaucoma is elaborated which specifically targets the problems thrown up by identification of different glaucoma like conditions exposed by the newer diagnosing modalities which ironically were developed for diagnosing, tracking and managing classical glaucomas.
# Abstract Details: DS19-116

## Title of Paper
PNEUMATIC DISPLACEMENT OF SUBMACULAR HEMORRHAGE

## Purpose
To evaluate the outcomes of pneumatic displacement of submacular hemorrhage due to various causes

## Method
This is a retrospective, single center, interventional, noncomparative, case series study of 23 eyes. 13 cases were diagnosed as CNV, 3 RAM, 3 PCV, 3 traumatic choroidal rupture and 1 as valsala retinopathy. All cases received intravitreal injection of expansile gas (C3F8, 0.3 ml) and postured face down for 5-7 days. AC paracentesis was done right after gas injection. Intravitreal anti-VEGF was injected at the same time in 16 cases. IOP measured in all cases after the procedure and at subsequent follow up. Further anti-VEGF injections were done in CNV and PCV cases as needed afterwards on subsequent follow up.

## Results
The submacular hemorrhage was successfully displaced from underneath the fovea in all cases. The bleeding disappeared totally in 83% of cases and was dispersed in the vitreous cavity in 17%. VA improvement at 1 month was significantly higher than baseline VA. 17 cases experienced improved BCVA, 4 patients experienced drop in the BCVA and 2 patients maintained their baseline BCVA after the procedure at 1 month. The mean VA improved from 1.55 log MAR at baseline to 1.108 log MAR at 1 month which was statistically significant. 1 patient developed rhegmatogenous retinal detachment after the procedure.

## Conclusion
Pneumatic displacement in submacular hemorrhage appears to be a safe and effective technique to treat the condition with good visual outcomes. It is an easy procedure and is associated with very less rate of procedure related complications.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Comparison of analgesic effect of subtenon 's and peribulbar anaesthesia in cataract surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To compare the analgesic effect of peribulbar and subtenon 's anaesthesia in patients undergoing cataract surgery during April 2017 - April 2018 in a tertiary eye care hospital.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Prospective study of 60 consecutive patients who underwent cataract surgery done by same surgeon with either peribulbar or subtenon 's anaesthesia with 2% lignocaine and 0.75% bupivacaine. The pain score in visual analogue scale is used in this study ranged from 0-10. Scores noted during administration of anaesthesia, intraoperative period and post operative period and compared.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>30 patients each in both groups with mean age of 62.93±8.9 were studied. Mean pain score during administration of anaesthesia (1.03±0.18) is significantly lower in subtenon 's group compared to peribulbar (5.57±1.165) p value 0.003. Mean pain score during intraoperative period was significantly less in subtenon 's group (1.2±0.61) compared to peribulbar group (5.13±1.59) p value 0.02. No significant difference in pain scores between these two methods during post operative period with mean value of (2.07±0.86) in subtenon 's and (2.23±0.89) in peribulbar with p value 0.260.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>This study showed subtenon 's route of anaesthetic substance provided statistically significant better analgesia compared to peribulbar route during administration of anaesthesia and also during surgery. However in post operative period there was no statistically significant difference in analgesia in the two group.</td>
</tr>
<tr>
<td><strong>Title of Paper</strong></td>
<td>Mystery Behind Rapidly Progressing Unilateral Proptosis</td>
</tr>
<tr>
<td>-------------------------</td>
<td>--------------------------------------------------------</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>Rapidly progressing unilateral proptosis can be due to orbital metastasis and should be evaluated for metastasis elsewhere.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>76 year old female patient with history of uterine sarcoma post surgery and chemo-therapy presented with rapidly progressing unilateral proptosis of left eye since one week underwent ocular examination following imaging</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Rapidly progressing unilateral proptosis on MRI showed orbital metastasis. On further evaluation, detected hidden metastasis in lungs and spine</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Orbital metastasis from uterine sarcoma is very rare. Orbital metastasis in a known case of uterine sarcoma with rapidly progressing unilateral proptosis underwent further evaluation. This led to diagnosis and management of foci of metastasis elsewhere (lungs and spine)</td>
</tr>
</tbody>
</table>
**Title of Paper**: Pneumatic displacement of post traumatic sub macular haemorrhage

**Purpose**: To evaluate the efficacy of pneumatic displacement of sub macular haemorrhage in post traumatic cases

**Method**: Three cases of post traumatic sub macular haemorrhage confirmed with spectral domain OCT (SD-OCT) was injected with 0.3 ml of intravitreal C3F8 (perfluoropropane). Post operatively all of them were advised prone position for 1 week duration. The final outcome was measured in terms of displacement of sub macular haemorrhage, visual improvement and OCT features which were analysed post injection at 1 week, 3 weeks and 1 month

**Results**: Mean visual acuity prior to injection was 2.66 log MAR. All patients post injection, had a successful displacement of sub macular haemorrhage which was confirmed with SD-OCT, but two cases had foveal thinning and choroidal rupture which accounted for lower visual outcome. Mean visual acuity post injection at 1 month follow up visit was found to be 0.92 log MAR

**Conclusion**: Intravitreal C3F8 injection alone with prone positioning is effective in displacing sub macular haemorrhage in post trauma cases. However the final visual outcome depends on the structural integrity of retinal layers.
<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>A study of intraocular pressure measured using the Schiotz and Non-contact tonometers as compared to the Goldmann applanation tonometer.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>To compare IOP measurement recorded by Schiotz tonometer (ST) and Non contact tonometer (NCT) with that of Goldmann applanation tonometer (GAT) and to compare the IOP measurements in glaucomatous and non-glaucomatous eyes.</td>
</tr>
<tr>
<td>Method</td>
<td>This cross-sectional study was done on patients above 40 yrs of age, who attended the ophthalmology OPD at MES Medical college between January 1, 2017 and December 31, 2017. Eyes with scarred cornea, previous corneal surgeries and active eye infections were excluded. Patients were selected by random sampling and after a detailed evaluation and informed consent, the IOP was measured using Schiotz, Non-contact and Goldmann applanation tonometer under topical anaesthesia with a 5 minute interval between each measurement. Data was entered in MS excel sheet and analysed using SPSS software and compared.</td>
</tr>
<tr>
<td>Results</td>
<td>607 eyes of 304 patients studied which included 146 females and 158 males, between age-group 40-90 year. Mean IOP measured by GAT, NCT and ST were 15.87, 18.99, 16.98 mmHg respectively. Paired-t-test showed difference-of-mean between GAT and NCT was -3.17 with SD of 3.14 and between GAT and ST was -1.10 with SD of 2.15. Among 103 glaucomatous eyes, paired-t-test showed difference of mean between GAT and NCT was -2.31 with SD of 3.728 whereas difference of mean between GAT and ST was -0.649 and SD of 2.417.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>IOP values obtained by NCT and schiotz-tonometer were higher than GAT. IOP measurements by schiotz were closer to IOP measured by GAT than those measured by NCT. Hence schiotz tonometer can be used as mass-screening-tool where use of GAT is not-feasible, instead of non-portable-high-maintenance NCT.</td>
</tr>
</tbody>
</table>
# Title of Paper
ANOTHER MALIGNANT MASQUERADER

## Purpose
To report primary presentation of a squamous cell carcinoma of the lung as an ocular inflammation

## Method
A 60 yr old male chronic smoker was referred by Neurologist for a red eye. He had been treated for redness and associated left-sided dull-aching-pain for a month as scleritis and sinusitis without relief. BCVA was RE-6/6, LE-6/18. Ocular examination showed nasal congestion and chemosis with multiple dilated episcleral vessels. Anterior chamber was shallow nasally and pupillary dilatation showed a solid intraocular mass lesion behind lens extending from 8 'O'-clock to 10 'O'-clock, obscuring nasal margin of the disc. There was a large bullous retinal-detachment inferiorly, sparing macula. Intraocular-pressure was normal. On reviewing MRI, a large nasal filling defect was visible in vitreous.

## Results
USG B-scan confirmed the mass lesion and an MRI of the eye and orbit showed it involved the nasal ciliary body and choroid. As the acute presentation and the radiological findings were not typical of a melanoma it was presumed to be a metastasis and a search was made for the primary. This was found in the left lung. A CT guided biopsy of the lung lesion and the hilar lymph nodes confirmed the diagnosis of squamous cell carcinoma. The patient was sent to the oncologist for further management.

## Conclusion
Melanoma is the commonest malignant tumour of the uveal tract but secondary deposits are a close second. Carcinoma lung which affects smokers is known to metastasise to the eye. What made our patient unique is that he presented with ocular symptoms and signs while the primary remained silent.
### ABSTRACT DETAILS : DS19-122

<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>Cyber knife radio surgery for intra ocular malignancy</th>
</tr>
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<tbody>
<tr>
<td>Purpose</td>
<td>To assess the efficacy and safety of cyber knife radio surgery for ciliary body melanoma</td>
</tr>
<tr>
<td>Method</td>
<td>54 year old lady parented with blurring of vision in left eye for two weeks duration. On further evaluation she was diagnosed to have ciliary body melanoma. She was not willing for enucleation and opted for eye preserving modality. Contrast enhanced CAT scan simulation computerised treatment planning and verification was done. Cyber knife radio surgery was performed with a dose of 50Gy in 5 fractions.</td>
</tr>
<tr>
<td>Results</td>
<td>Four months after the treatment MRI showed no further increase in size of the lesion. Clinically there was minimal reduction in size.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Cyber knife radio surgery is currently believed to be a safe and minimally invasive modality in the treatment of intra ocular malignant lesion. It could be used as an alternative treatment for enucleation.</td>
</tr>
</tbody>
</table>
Title of Paper
Evaluation of Clinical Outcome of Patients with Macular Edema who Underwent Intravitreal Triamcinolone Acetonide Injection

Purpose
To assess the change in visual acuity, intraocular pressure (IOP) changes and lens changes in eyes injected with Intravitreal Triamcinolone Acetonide (IVTA) as a treatment for macular edema during the follow up period of 6 months

Method
The study was carried out to evaluate prospectively the efficacy and safety of intravitreal triamcinolone acetonide (ivta) injection in macular oedema. Patient who were diagnosed to have macular edema were enrolled in the study after obtaining written informed consent and fulfilling the inclusion criteria. 50 eyes of 48 patients were included in the study. All patients received a complete eye examination inclusive of best corrected visual acuity, Applanation tonometry, slit lamp examination, lens status evaluation, indirect ophthalmoscopy and slitlamp biomicroscopy of the posterior pole with 90D lens. OCT was done wherever necessary. Evaluation done at first week, first month, fourth month and sixth month postoperative.

Results
30 eyes (60%) out of 50 test eyes showed vision improvement following IVTA. Also 15 eyes remained static (30%) and 5 eyes (10%) deteriorated after IVTA. Raised IOP after IVTA was noticed in 15 (30%) and 5 eyes showed iop rise at the end of 7th day and 8 out of 50 showed IOP rise at the end of one month which were controlled with medication. None of the eyes had IOP rise at end of 6months. Lens changes were noticed in 6 eyes (12%), posterior subcapsular cataract was seen in 4 eyes and nuclear sclerosis noticed in 2 eyes.

Conclusion
IVTA is an effective and relatively safe modality of treatment for macular edema. The main side effect was IOP elevation which occurred at interval from 7 days to 1 month. IVTA is a favourable therapeutic tool in managing macular edema for certain duration of time with minimal transient side effect.
**Title of Paper**  
AN UNUSUAL PRESENTATION OF LACRIMAL GLAND FOSSA TUMOUR

**Purpose**  
To report a case of plexiform neurofibromatosis with unusual features

**Method**  
A 23 year old male came to the Ophthalmology OPD for cosmetic correction of his swollen and drooped right upper eyelid. There was facial dysmorphism and the right eye showed a down and in proptosis. Dextroelevation was restricted. Both eyelids showed obvious plexiform neurofibromas. BCVA was RE-6/9 LE-6/6. Lisch nodules were seen bilaterally. Neurofibromas were seen on the lower limbs, chest, back and face. Multiple Café-au-lait spots were present over the trunk.

**Results**  
An MRI scan showed plexiform neurofibroma involving right periorbital region, orbital pre-septal space and superior extraconal compartment extending till superior orbital fissure. The sella was widened and partially empty with right sphenoid wing dysplasia, hamartoma and arachnoid cyst in brain. Neurologist and endocrinologist opinion was taken and patient was started on hormone replacement therapy after detailed evaluation and relevant investigations.

**Conclusion**  
Plexiform neurofibromas can cause more than a cosmetic problem and other associations like in this patient and may need the integrated approach of the ophthalmologist, neurologist and endocrinologist.
<table>
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<tr>
<th><strong>Title of Paper</strong></th>
<th>ASSESSMENT OF OCULAR MORBIDITIES IN VERY LOW BIRTH WEIGHT INFANTS DURING FIRST YEAR OF LIFE</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To find out the various ocular morbidities in infants born with very low birth weight (&lt;1500 grams) during first year of life.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>• All babies born with weight &lt;1500 grams were identified. Details at birth and neonatal period including ROP screening details collected. Babies expired during neonatal period were excluded. Babies were further followed up at 6 months and one year of age. During each follow up visit, detailed ophthalmological examination done to look for various ocular morbidities.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>In total 77 babies enrolled for the study, out of which 12 babies (15.5%) lost follow up during study period. All children had refractive errors in one or both eyes, out of which mixed astigmatism is the most common (30.5%). 71 babies (92.2%) had exposure to oxygen. 9 babies (11.6%) had retinopathy of prematurity. 5 babies (6.4%) had strabismus. 1 baby had primary optic atrophy. 1 baby had cataract. 4 babies (5.2%) had cortical visual impairment.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Most common ocular morbidity in very low birth weight babies is refractive error.</td>
</tr>
</tbody>
</table>
### Title of Paper
Paraneoplastic Optic Neuritis and Exudative Retinal Detachment in a Patient with Lung Carcinoma

### Purpose
To report a case of Paraneoplastic optic neuritis with exudative retinal detachment in 57 yr old male with ca lung.

### Method
57 yrs old male presented with defective vision of right eye for 1 month. Best corrected vision in right eye was 6/36 and left was 6/6. Right eye had RAPD grade 3. Anterior segment was normal in both the eyes. Fundus examination of right eye showed swelling of optic disc with peripapillary exudative retinal detachment and left eye showed optic disc pit with subfoveal detachment. MRI brain did not reveal any lesions in brain. Blood investigations were normal except a positive mantoux test. CT thorax revealed a suspected malignant lung lesion with multiple lytic lesions in bone.

### Results
There were multiple bony swellings over the chest. Biopsy done from the lesion showed bony metastasis probably from a lung primary. Patient was referred to an oncologist for further management.

### Conclusion
Optic neuritis can be a paraneoplastic manifestation of a lung carcinoma. We should keep it in mind at least in atypical presentations.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>ASSOCIATION OF SEVERITY OF RETINAL HARD EXUDATES WITH SYSTEMIC RISK FACTORS IN DIABETIC RETINOPATHY PATIENTS WITH HARD EXUDATES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>TO STUDY THE ASSOCIATION OF THE SEVERITY OF RETINAL HARD EXUDATES WITH SYSTEMIC RISK FACTORS LIKE AGE OF ONSET, DURATION OF DIABETES, PRESENCE OF ASSOCIATED HYPERTENSION, LEVELS OF HBA1C, SERUM LIPID PROFILE AND URINE MICROALBUMIN</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>A HOSPITAL BASED CROSS SECTIONAL STUDY, INCLUDED 100 DIABETIC RETINOPATHY PATIENTS WITH HARD EXUDATES. ALL PATIENTS WERE SUBJECTED TO DILATED FUNDUS EXAMINATION. SEVERITY OF RETINAL HARD EXUDATES WERE GRADED BY COLOUR FUNDUS PHOTOGRAPHS USING TOPCON FUNDUS CAMERA. THE GRADING OF RETINAL HARD EXUDATES WAS PERFORMED BY MODIFIED AIRLIE HOUSE CLASSIFICATION. THESE GRADES WERE FURTHER DIVIDED INTO TWO GROUPS. GROUP 1 &quot; MINIMAL HARD EXUDATES AND GROUP 2 &quot; PROMINENT HARD EXUDATES. HBA1C , SERUM LIPID PROFILE , URINE MICROALBUMIN WERE OBTAINED. ASSOCIATION OF SEVERITY OF RETINAL HARD EXUDATES AND THESE PARAMETERS WERE ANALYSED.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>OUT OF 100 DIABETIC RETINOPATHY PATIENTS WITH HARD EXUDATES, THERE WERE 51% FEMALES AND 49% MALES. THE MEAN AGE WAS 59.07 +/- 7.552. OUT OF TOTAL PATIENTS, 74% HAD PROMINENT HARD EXUDATES AND 26% HAD MINIMAL HARD EXUDATES. ON UNIVARIATE ANALYSIS, SEVERITY OF RETINAL HARD EXUDATES WAS SIGNIFICANTLY ASSOCIATED WITH SYSTEMIC HYPERTENSION (p VALUE = 0.008) SERUM CHOLESTEROL (p VALUE &lt; 0.001), LDL (p VALUE &lt; 0.001), TRIGLYCERIDES (p VALUE &lt; 0.001), HBA1C(p VALUE &lt; 0.001) AND URINE MICROALBUMIN (p VALUE = 0.001)</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>SEVERITY OF RETINAL HARD EXUDATES IN DIABETIC RETINOPATHY PATIENTS IS SIGNIFICANTLY ASSOCIATED WITH SYSTEMIC RISK FACTORS LIKE SYSTEMIC HYPERTENSION, DYSLIPIDEMIA, HBA1C LEVELS AND URINE MICROALBUMIN</td>
</tr>
</tbody>
</table>
# ABSTRACT DETAILS : DS19-130

<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>Choroidal osteoma: clinical features and treatment outcome</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To describe the clinical profile and treatment outcomes of a series of 10 cases of choroidal osteoma from a tertiary eye care centre.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Retrospective analysis was done in patients who were diagnosed with choroidal osteoma between 2013 to 2017. Multimodal imaging (B scan, OCT) was done to confirm the diagnosis. Patients having SRF irrespective of the presence of detectable choroidal neovascularisation were injected with anti VEGF. All the cases were followed up for a minimum of 6 months.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Out of the 10 patients (mean age 36 years) diagnosed with choroidal osteoma, 9 were symptomatic while the remaining one was diagnosed incidentally. Mean BCVA at presentation was 0.49 logmar. The location of choroidal osteoma was macular in 5 patients, peripapillary in 3 patients and combination of peripapillary and macular in the rest. 2 cases had bilateral choroidal osteoma. SRF collection was noted in 9 patients at presentation. Mean number of intravitreal injections (Bevacizumab, Ranibizumab) received was 3.6. Resolution of SRF was noted in all cases following the injection.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Choroidal osteoma, which is a rare benign tumor typically seen in adults, can be diagnosed accurately with OCT and ultrasonography. Intravitreal anti VEGF injection promises satisfactory results for associated SRF. The disease warrants prompt diagnosis and frequent follow up for the effective management.</td>
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</tbody>
</table>
### Title of Paper

unusual ocular manifestations of dengue fever

### Purpose

To report two cases of dengue fever with serious ocular manifestations.

### Method

<table>
<thead>
<tr>
<th>Case 1</th>
<th>Case 2</th>
</tr>
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<tbody>
<tr>
<td>A 62 year old male on treatment for dengue fever presented with pain and proptosis of left eye. At presentation vision was perception of light with severe lid oedema, restriction of ocular movements, chemosis and hypopyon.</td>
<td></td>
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<tr>
<td>A 26 year old male with dengue fever presented with severe pain and acute proptosis of left eye. His vision was no perception of light, tense lid edema with a total hyphema and glaucoma</td>
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</table>

### Results

<table>
<thead>
<tr>
<th>Case 1</th>
<th>Case 2</th>
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<tbody>
<tr>
<td>His platelet count was 36000, USG-B scan and CT-orbit confirmed panophthalmitis. He did not respond to systemic and intravitreal antibiotics and underwent eviseration of left eye after 2 days</td>
<td></td>
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<tr>
<td>Platelet count was 65000. MRI showed retrobulbar and intra-ocular bleed. His condition worsened despite all attempt to reduce the intra-ocular pressure. Repeat MRI the next day revealed globe rupture and an evisceration was done</td>
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</tbody>
</table>

### Conclusion

Panophthalmitis and globe rupture are rarely reported devastating ocular complications of dengue fever. Pathogenesis of these manifestations is still unknown and it could be immunogenic and inflammatory response to dengue fever. Hence we should be aware of and vigilant towards dengue related ophthalmic involvement.
**Title of Paper**
Analysis of the outcomes of cataract surgery in patients with Diabetic Retinopathy in a tertiary eye care institute

**Purpose**
To analyse the outcomes of cataract surgery in patients with diabetic retinopathy undergoing monocular cataract surgery and to estimate the risk of progression of diabetic retinopathy in the eye undergoing surgery in comparison to the non-operated eye.

**Method**
Fifty patients with Diabetic Retinopathy who underwent monocular cataract surgery at our institute were included in the study. Perioperative glycaemic control was assessed by HbA1C measurement and complete examination done. Postoperative examination included the Snellen visual acuity and the status of retinopathy and maculopathy. Progression of retinopathy if any in the operated eye was recorded clinically using the fellow (unoperated) eye as the control. Symmetric progression of retinopathy or maculopathy defined as simultaneous progression in both the operated and fellow eyes. Asymmetric progression defined as more progression in the operated eye when compared to the fellow non-operated eye.

**Results**
At 6 months follow up 13 patients (26%) had progression in both the operated and control eyes. 1 patient had asymmetric progression in the operated eye. 70% of patients had visual acuity of 6/6 and the difference between the mean preoperative and postoperative vision was significant statistically (p<0.001). Most patients who had progression (92.3%) were Hypertensive on treatment. Progression was more common (92.3%) in patients with higher grades of preoperative Diabetic Retinopathy and 53.8% of patients with progression had preoperative macular edema.

**Conclusion**
Our findings suggest that uncomplicated phacoemulsification cataract surgery may not be responsible for an accelerated rate of Diabetic Retinopathy progression postoperatively. Any progression that does occur postoperatively may simply represent the natural course of the disease, systemic factors, or both rather than the influence of cataract surgery.
**Title of Paper**
Benign fornical conjunctival epithelial inclusion cyst in a child

**Purpose**
case report

**Method**
A case report on benign fornical conjunctival epithelial inclusion cyst in a child

**Results**
4yr old male presented with non progressive, non traumatic swelling in the inferior fornix of left eye since 1yr. On examination the swelling was cystic in nature. proceeded with cyst excision and HPR report was consistent with benign epithelial conjunctival cyst.

**Conclusion**
Conjunctival cyst causes mechanical compression on the cornea leading to corneal astigmatism. The complete cyst excision aided in preserving vision and preventing the recurrence.
**Title of Paper**
Ganglion cell complex (GCC) thickness as a predictor of visual outcome in optic neuritis.

**Purpose**
To analyse the GCC thickness in optic neuritis patients and to find its correlation with the visual prognosis.

**Method**
It is a retrospective study which included 15 eyes of 11 patients who presented with optic neuritis. Data was collected from electronic medical records. Parameters assessed were visual acuity, colour vision, pupils, dilated fundoscopy, visual fields, MRI brain with orbital cuts, spectral domain OCT scans of the peripapillary retinal nerve fiber layer (pRNFL) & macula with GCC thickness. The data obtained at the time of presentation and at follow up were analysed. Statistical analysis was done to find any correlation between GCC thickness, pRNFL, visual acuity and visual fields.

**Results**
Mean GCC thickness at presentation was 66.15 µm and at follow up was 64.74 µm. 80% of the eyes had thinning of GCC (less than or equal to 75 µm) at presentation. Significant correlation was obtained between GCC thickness & initial visual acuity (p < 0.025) and GCC thickness & final visual acuity (p < 0.034) respectively. No significant correlation was obtained between pRNFL thickness and initial or final visual acuity.

**Conclusion**
Ganglion cell loss is an early indicator of axonal damage and thus is a better predictor of visual prognosis in optic neuritis than pRNFL.
Title of Paper: PROSPECTIVE NON RANDOMIZED STUDY COMPARING SURGICALLY INDUCED ASTIGMATISM AND ENDOTHELIAL CELL LOSS IN PATIENTS UNDERGOING FEMTOSECOND LASER ASSISTED CATARACT SURGERY VERSUS PHACOEMULSIFICATION

Purpose: To analyse and compare the surgically induced astigmatism and the endothelial cell loss in patients undergoing femtosecond laser-assisted cataract surgery (FLACS) and phacoemulsification.

Method: The study population consisted of 106 eyes of 91 patients, who were enrolled into two groups (53 eyes in each group). Group A included patients who underwent surgery by FLACS and Group B had patients who underwent phacoemulsification. The follow up period was 6 months in both the groups. Patients who came to the OPD underwent detailed history taking and ophthalmologic examination. Cataract grading was done and after routine preoperative workup, the surgery was performed. All patients were reviewed at 1 week, 1, 3 and 6 months. At each review visual acuity, slit lamp examination, optical biometry and specular microscopy was done.

Results: 49 patients in the FLACS group and 48 patients in phacoemulsification group were found to have 6/6 vision. The SIA was 0.84 ± 0.80 in the first week which reduced to 0.50 ± 0.45 at 6 months in the phacoemulsification group. In FLACS group, SIA was 0.82 ± 0.44 in the first week and 0.49 ± 0.47 at 6 months. The difference between the two was not statistically significant. Endothelial cell loss was seen to be slightly high in the phacoemulsification group and energy required was less in the FLACS group. The time required was slightly higher in the FLACS group.

Conclusion: Femtosecond laser assisted cataract surgery has a definite advantage in perfection of capsulorhexis which cannot be created manually but the cost is a disadvantage. We could find no evidence to support claims that femtosecond laser assisted cataract surgery is a major advance and better than the phacoemulsification.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Nature and Nurture model of Keratoconus (KC): From genetics to gene expression</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Purpose: To understand the contribution of underlying genetic basis (nature) and the environmental basis (nurture) in the pathogenesis of keratoconus (KC)</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Methods: Nature: Blood from 3 KC families after pedigree charting was analysed (exome sequencing) for collagen genes among other and compared to non-KC (control). Nurture: Tears were analysed for alterations in collagen isoforms (COLI, COLIV), inflammatory markers (IL6, TNFα) and collagen cross linking enzyme (LOX) through gene expression studies in 23 KC eyes and 25 control subjects</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Results: A novel mutation in collagen gene (COLIV) was noted which could be causative in the disease. The levels of COL IV isoforms were significantly reduced in KC cohort compared to controls (p&lt;0.05) and correlated with LOX</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Conclusion: This novel mutation in collagen gene first to be reported may be a causative factor in familial KC. The association of genetic (nature) and gene expression (nurture) may contribute to drive KC pathogenesis which can be harnessed for disease management</td>
</tr>
</tbody>
</table>
**Title of Paper**
Factors predicting visual outcome in Open Globe Injuries

**Purpose**
To analyse the factors predicting visual outcome in eyes with zone II and zone III open globe injuries as per BETT's classification.

**Method**
It is a retrospective interventional study in which 50 patients who primarily presented with zone II and III open globe injuries during a period of 2013-2017 were analysed. All of them underwent reparative surgery and subsequent surgeries if needed. The factors like Initial visual acuity, Corneal involvement, Hyphema, Pupil involvement, Uveal prolapse, Retinal detachment, Vitreous haemorrhage, Choroidal detachment, Number of surgeries underwent etc. were analysed, if they can predict the final visual outcome. Secondary outcome measures were Good visual acuity which was taken as better than or equal to 6/60, and poor visual outcome as worse than 6/60.

**Results**
Mean age was 32.74 years (3-73yrs). All of them underwent reparative surgery on the day of presentation and they were then followed up for an average of 13.56months during which period further procedures were done. 96% were accidental while 4% were due to assault. 78% had zone II while 22% had zone III injuries. 24 were penetrating injuries, 22 were globe rupture, 2 had IOFB and 2 had combined penetrating and IOFB. 82% were males and 18% were females. 58% had good visual outcome. Pupil involvement (p-value=0.04) and poor initial visual acuity (p-value=0.004) had statistically significant correlation with final visual outcome.

**Conclusion**
In zone II and III open globe injuries, poor visual acuity and pupil involvement can be considered as a predictor of poor final visual acuity.
Title of Paper | Bowman’s Layer Topography - A paradigm shift in studying the corneal surface
---|---
Purpose | Purpose: To study topography and aberrations of the corneal surface and Epithelial-Bowman’s interface using AS-OCT based indices.
Method | Methods: 225 normal and 25 KC eyes were retrospectively analyzed using undistorted OCT B-scans (12 scan) and Pentacam HR. Axial and tangential curvatures for OCT was calculated from the detected Anterior corneal surface (ACS) and Epithelium Bowman’s Interface (EBI) edges on the B-scans. Similarly, curvatures of the same ACS were obtained from Pentacam (OCULUS Optikgerate GmbH, Germany). Wavefront aberration was also analyzed by ray tracing and 6th order Zernike analyses on OCT (ACS and EBI) and Pentacam data (ACS only). Paired t-test and ANOVA was used for statistical comparisons.
Results | Results: Higher and lower order aberrations were greatest for the EBI followed by the anterior corneal surface in KC eyes (p<0.05). Kmax of the interface was steeper than the anterior corneal surface by 1D (p<0.05). Paired comparison of ACS vs. EBI on normal eyes showed significance difference in defocus (p=0.01), spherical aberration (p=0.02) and astigmatism 0̅—| (p=0.001) between OCT ACS and OCT EBI.
Conclusion | Conclusions: This study presents a novel, non-invasive method for "virtual de-epithelization" using OCT, where no physical removal of epithelium is required. Significantly steeper EBI than the ACS was measured with OCT. This tool can be useful for preoperative planning of trans-epithelial procedures and customized corneal crosslinking.
Title of Paper  Oral Eplerenone in chronic CSCR

Purpose  To evaluate the efficacy and safety of oral eplerenone (Eptus, Glenmark) as a treatment option for chronic central serous chorioretinopathy.

Method  Prospective study done on cases chronic CSCR. At baseline and each follow-up visit, OCT imaging was performed, including manual measurements of the height and diameter size of subretinal fluid. All these patients underwent serum cortisol levels, serum potassium level in addition to RFT at baseline. All of them were started on Eplerenone. Monthly monitoring of RFT and potassium was done for 3 months and thereafter every 3 monthly. The primary outcome measure was the reduction in subretinal fluid and change in visual acuity.

Results  21 eyes of 19 patients were enrolled. Mean follow-up time was 6.4 ± 4.3 months. Baseline BCVA was 0.54 ± 0.44 log MAR, which improved to 0.42 ± 0.43 log MAR at the final visit (P = 0.04). Mean CMT decreased from 282.69 ± 103.23 μm at baseline to 236.75 ± 90.10 μm at final visit (P = 0.11), and the mean of maximum SRF height decreased from 155.63 ± 95.27 μm at baseline to 77.19 ± 95.68 μm at the final visit (P = 0.04). SRF resolved completely in 18 eyes.

Conclusion  In eyes with persistent SRF due to CSCR eplerenone therapy was associated with a significant decrease in maximum SRF height, as well as an improvement in BCVA. Hence oral eplerenone should be considered as a low-cost alternative to the expensive treatments available.
**Title of Paper**

MANY MOODS OF ECTASIA

<table>
<thead>
<tr>
<th>Abstract</th>
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<tbody>
<tr>
<td>Ectasia post refractive surgery is a dreaded complication which is poorly understood and hence often undetected. It can be caused by a multitude of modifiable and non-modifiable factors which include inadequate preoperative screening, persistent eye rubbing, poor healing, hormonal fluctuations, subclinical inflammation of the ocular surface and inherent genetic susceptibility. Collagen degradation is the hallmark of corneal ectasia, which is a cellular phenomenon. Hence it is prudent to venture into unchartered territories and study the molecular markers of ectasia. To be able to give a wider group of patients the option of safer refractive surgery, we need to improve our diagnostics and make our screening more robust. Thus, this video is our attempt to elucidate the complex interplay between clinical factors, imaging, molecular and genetic markers to make better sense of why we get ectasia and understand the different moods and modes of its presentation.</td>
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<td>Title of Paper</td>
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<tr>
<td>Abstract</td>
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</table>
**Title of Paper**

BILATERAL MULTIFOCAL CHOROIDAL SECONDARIES IN A CASE OF POORLY DIFFERENTIATED NON SMALL CELL CARCINOMA LUNG

**Purpose**

To identify site of primary malignancy in a case of bilateral multifocal secondaries in choroid

**Method**

60 yr male, chronic smoker, presented with progressive defective vision more in Rt temporal side, with associated head ache. He had worsening of breathlessness and 1 episode of hematemesis few weeks before & consulted pulmonologist. From there was referred here for evaluation of defective vision. BCVA (RE) -1 MCF in superior field and (LE)-6/60. Rt. fundus showed large lesion with surrounding bullous detachment of superior half of retina. Later preretinal haemorrhage developed over that. Choroidal detachment also seen in few areas. Lt. fundus showed 3 subretinal lesion with RPE changes in posterior pole.

**Results**

USG B scan also showed choroidal detachment and retinal detachment. USG guided FNAC from thoracic lesion was inconclusive. But as findings in eye was strongly suspicious of malignant lesion, probably from lung, a biopsy from lung which was imaging assisted was done & it showed poorly differentiated Non Small Cell Ca lung. Patient was reffered to radiotherapy for palliative treatment

**Conclusion**

Choroidal secondaries from non small cell Ca lung is rare. A bilateral and multifocal choroidal lesion in old age should always be suspicious of metastases. In patients with history of chronic smoking lung is a most common primary.
# ABSTRACT DETAILS : DS19-149

<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>A comparative study of visual field progression of pseudoexfoliation vs primary open angle glaucoma</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Purpose- To compare the rates of progression of pseudoexfoliation (PXF) vs primary open angle glaucoma (POAG).</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Methods &quot; 85 PXF with more than 5 reliable visual fields were compared with 85 POAG patients. Demographics, IOP, inter-visit IOP fluctuation, mean deviation (MD), pattern standard deviation, visual field index, anti-glaucoma medications (AGM) and rates of progression by trend analysis and event based analysis were compared. Progression was defined as a rate of progression &gt;-1%/year on trend analysis or likely and possible progression on event analysis or both on the Guided Progression analysis (GPA).</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Results- Mean baseline IOP (17.2 PXF vs 16.7 POAG, p = 0.503) and mean baseline MD (-11.19 PXF vs -10.51 POAG, p = 0.625) were not significant. Mean IOP fluctuation across visits was significantly greater (PXF 3.06 (SD 1.74) vs POAG 2.41 (SD 1.23), p = 0.005). PXF had a higher change in MD (4.02 PXF vs 0.72 POAG, p = 0.01) and at the final visit PXF had worse MD (-15.21 vs -11.23, P = 0.004). Rate of progression trend (-2.14%/year PXF vs -0.08%/year POAG, p &lt; 0.001) was statistically significant. More PXF eyes showed progression 54 (63.5%) compared to POAG (p &lt; 0.005). After adjusting for age, duration and AGM multivariate analysis showed PXF (OR: 5.43, 95% CI: 2.56-11.51) was a risk factor for progression.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Conclusion- PXF had a higher rate of progression compared to POAG possibly related to greater IOP fluctuation and need closer follow up and more aggressive therapy.</td>
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</table>
# Title of Paper
Zepto precision capsulotomy—precision, safety, and predictability—an analysis.

## Purpose
To evaluate the efficacy of Zepto precision capsulotomy device in achieving a perfect capsulotomy in various grades of cataract.

## Method
10 eyes of 10 patients undergoing phacoemulsification were part of this study conducted at Medical Trust Hospital. The grade of cataract ranges from grade 2 to grade 5 nuclear sclerosis including white hyper mature cataract. The Zepto precision capsulotomy device was used in all of the cases to create capsulotomy. The ease with which capsulotomy was made, the completeness of capsulotomy, presence of any tags, the precise shape and regularity of capsulotomy, time taken for capsulotomy, presence of any complications, centration of the IOL, postoperative stability of refraction were postoperatively observed at 1 month, 3 months, and 6 months.

## Results
In 9 out of 10 patients a perfect 5.25 mm central round capsulotomy was achieved. In 1 case the capsulotomy was slightly decentred inferiorly by 1 mm. No tag were found in any of the cases. The average time required for the entire capsulotomy was 1 min 45 sec. In none of the cases any wound burn or corneal edema was noticed on postoperative follow up till 6 months. The capsulotomy maintained good shape and size. All IOLs were perfectly centred including the patient with slightly decentred capsulotomy. All IOLs were perfectly centred including multifocal IOL.

## Conclusion
The Zepto precise capsulotomy device is a very reliable, relatively economic and relatively easy method for achieving perfect capsulotomy, especially in cases of premium IOL implants.
### Title of Paper
Outcomes of multifocal intraocular lens implantation in pediatric eyes

### Purpose
To study the preoperative profile and postoperative visual, quality of life outcome and complications in pediatric eyes with multifocal intraocular lens implants

### Method
All children requiring primary or secondary intraocular lens implantation where the IOL could be placed in the capsular bag were assigned to this prospective study. The cause for cataract, laterality, preoperative and postoperative corrected and uncorrected distance and near visual acuity, slit lamp observations, intraocular pressures, type of surgery, postoperative IOL positioning, intra and postoperative complications and quality of life estimation were recorded. SPSS ver21 was used for data analysis and the outcomes were documented.

### Results
21 eyes of 14 pediatric patients were included in this study, 7 of them underwent bilateral surgery. Age range was 1 to 14 years. Logmar best corrected visual acuity for distance and near improved in 100% of eyes. Average corrected distant visual acuity was 0.2 (6/9p) and near vision was 0.4 (N8) without near addition. The average residual spherical power was 0.26DS and astigmatism was -0.22DC. 9 eyes had raised IOP immediate post procedure. The average IOP after 1 month was 17.14 mm of Hg. The quality of life questionnaire indicated satisfactory levels of performance at school and play.

### Conclusion
Multifocals IOLs are an effective and safe implant to impart instant near vision correction, thereby bypassing the need to wear or be compliant with bifocals, thus aiding in overcoming amblyogenic influences.
# Abstract Details: DS19-154

<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>B-Hex pupil expander Vs Iris hooks in small Pupil Phacoemulsification</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To evaluate the efficacy of B-HEX Pupil expander in facilitating easier Phacoemulsification in eyes with small pupil compared to traditional iris hooks used to expand the pupil.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>20 eyes of 20 patients who underwent Phacoemulsification cataract surgery with pupil less than 4 mm were part of the study conducted at Medical Trust Hospital. All the patients had undergone surgery by a single surgeon at Medical trust Hospital Cochin. The patients were randomly divided into two groups each group having ten patients. In group 1, the B-HEX pupil expander was used to expand the pupil, where as in Group 2, tradition Iris hooks were used. Following parameters were observed: Time taken for surgery, Effective Phacoemulsification time, Intraoperative complications, Post operative pupilary size, shape and apperance.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>The average total taken time for surgery was less in group 1. The rate of complication was less in Gp1. Average effective Phacoemulsification time was also less in Gp.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>B-HEX Pupil expander is a safer, faster and effective aid in small pupil phacoemulsification, compared to the tradition IRIS hooks. Average total Phacoemulsification time was 12.36 Mins in GP 1 and 16.28 Mins in GP 2.</td>
</tr>
</tbody>
</table>
### Title of Paper
Posterior chamber phakic Intraocular lenses in refractive surgery: Preoperative profile and postoperative outcomes

### Purpose
To assess the pre operative visual, refractive and topographic profile and to analyse postoperative vision, contrast and complications of patients undergoing phakic intraocular lens implantation

### Method
This prospective study enrolled patients that underwent phakic intraocular lens implantation after refractive surgery work up. The corrected pre op and uncorrected post op distance visual acuity, pachymetry, keratometry, topography, white to white, anterior chamber depth, and specular microscopy, along with postoperative anterior chamber angles, corneal and lens status and vaulting of the phakic IOL were recorded at 1 month.

### Results
59 eyes of 32 patients with myopia, simple and compound myopic astigmatism underwent posterior chamber phakic IOL. Average sphere corrected was -8.4 D and the average cylinder was -1.5 D with 45.8 +/- 2.2 being the average steep k values. Mean CCT, WTW and ACD in these patients were 511.9 +/- 42, 11.44 +/- 0.65 mm, 3.24 +/- 0.33 mm respectively. Average post op UCDVA was 0.1 logmar with most eyes better than preop CDVA. Average post op phakic IOL vault wrt the natural lens was 455 micron and average IOP 13.74 +/- 2.8 mmHg.

### Conclusion
Posterior chamber phakic IOLs are a safe and predictable means of providing good vision especially in high myopes with borderline corneae. Accurate preoperative sizing of the lens is key to optimum results.
<table>
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<tr>
<th><strong>Title of Paper</strong></th>
<th>Importance of family screening in Angle closure glaucoma</th>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>to determine if sibling screening effectively identifies undiagnosed angle closure.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Probands with primary angle closure suspicion (PACS), Primary closure or primary angle closure glaucoma (PAC/PACG), and open angles without glaucoma (OA) will be identified. One sibling of each proband will be examined and classified gonioscopically by a physician masked to proband diagnosis. Angle closure was defined as greater than or equal to 180 degree of iridotrabecular contact with or without peripheral anterior synchiae, IOP elevation or glaucoma (i.e. primary angle closure suspect, Primary angle closure, Primary angle closure glaucoma).</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Siblings of Indian patients with angle closure have a substantially higher risk of angle closure as compared to siblings of individuals with open angles.</td>
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<tr>
<td><strong>Conclusion</strong></td>
<td>Given the significant risk of angle closure in siblings of angle closure patients, advising patients to have their siblings screened may be of high clinical yield.</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>Morphology of functioning trabeculectomy blebs using ASOCT</td>
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</tbody>
</table>
| **Purpose**       | Bleb morphology is an important clinical parameter which will indicate the bleb function and bleb related complications.  
                        Purpose -to image trabeculectomy bleb using AS-OCT. |
<p>| <strong>Method</strong>        | Materials and methods- this is a retrospective observational study where eyes that have underwent trabeculectomy with ologen 6 months postoperative will be evaluated. Bleb morphology will be assessed for bleb wall reflectivity, bleb pattern in multiform reflectivity, visibility of drainage route and presence of hyperreflectivity area. Bleb function is considered successful if IOP is &lt;18 mm Hg without medication at 6 months. |
| <strong>Results</strong>       | underevaluation                                          |
| <strong>Conclusion</strong>    | underevaluation                                          |</p>
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Subclinical Dysthyroid Optic Neuropathy (DON) &quot;are pVEP changes a precursor to diagnosis of impending DON&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>DON is a sight threatening complication known to affect patients with Thyroid Associated Orbitopathy (TAO). Early diagnosis of DON is imperative to prevent irreversible visual loss. The role of pVEP to identify optic nerve dysfunction in equivocal and subclinical DON is illustrated in the following case series</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>This is an observational case series of patients with suspected DON attending a tertiary eye Institute. A detailed medical and ocular history, visual acuity, refraction, proptosis measurements, anterior and posterior segment evaluation, ocular movements, tonometry, diplopia charting along with thyroid function tests were recorded. All patients were subjected to neuroimaging. The subclinical DON underwent pVEP. Definite DON was suggested either by the presence of disc edema or any two of the following such as RAPD, decrease in visual acuity, impaired colour vision or contrast sensitivity or visual field defects and subclinical DON in equivocal cases or with electrophysiological evidence of optic nerve dysfunction.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>First two cases were definite DON with the presence of bilateral proptosis, RAPD, EOM restriction and disc edema. However, case 3 was a hyperthyroid patient with bilateral proptosis with no clinical evidence of optic nerve dysfunction on presentation. However, pVEP showed an early P100 latency prolongation (122.7 msec) to small check size in the right eye, which was an equivocal response. Over the next two weeks, patient developed nasal choroidal folds which was followed by an electrophysiological change of P100 amplitude reduction in both eyes indicating optic nerve compression. So pVEP is a likely predictor of early optic nerve dysfunction</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>In definite DON, pVEP is not mandatory. In subclinical DON, pVEP appears to have a promising role to identify early optic nerve dysfunction. This helps to implement appropriate treatment to prevent irreversible vision loss</td>
</tr>
</tbody>
</table>
# Title of Paper
ASSESSMENT OF OCULAR BIOMETRIC PARAMETERS AND REFRACTION IN CHILDREN WITH RETINOPATHY OF PREMATURENESS, A COMPARATIVE STUDY BETWEEN LASER TREATED AND NATURALLY REGRESSED CASES

## Purpose
To evaluate and compare ocular biometric parameters and refraction in patients (3-9 years) with retinopathy of prematurity

## Method
The refractive status of the ROP patients who had come for follow up was analysed using cycloplegic refraction. The biometric parameters which included the axial length, anterior chamber depth and keratometry was recorded using Zeiss IOL Master and lens thickness analysed using A-scan.

## Results
49 laser treated eyes and 25 naturally regressed ROP eyes were included in the study. Myopia was the refractive status highest noted in ROP patients (36.5%) including both high myopia and myopia. There was statistically significant difference in the corneal curvature (p-0.002) and anterior chamber depth (0.001) between the two groups. The mean corneal curvature in laser treated group was 45+/3.2 and in non laser group 43.4+/1.1. The steeper corneas (F-33.8, p-0.00) and increased lens thickness (F-16.87, p-0.00) were contributed to the myopic shift.

## Conclusion
Myopia was the refractive status highest noted in ROP patients (36.5%). The steeper corneas and increased lens thickness were contributed to the myopic shift and the axial length did not show any statistically significant difference.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Smartphone based low cost screening in retinopathy of prematurity in an Indian population</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To design a low cost, non-contact smartphone based screening system in retinopathy of prematurity and to illustrate its potential clinical application as a teleophthalmology system.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Neonatal intensive care unit based bed-side ROP documentation done between January 2018 and May 2018. Images captured by using a smartphone and non-contact +40D, +28D or +20D indirect condensing lenses. Coaxial light source of the phone was used to acquire digital image of the fundus. With our usual smartphone based camera we extracted high-quality, still images from the video clip</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Total of 220 eyes of 110 infants were screened for ROP. 50 out of 220 eyes were diagnosed as ROP and only 20 eyes were diagnosed to Type 1 ROP showing an incidence of 9.09%. We used smartphone imaging in 22 out of total 50 eyes diagnosed to have ROP. It is a lightweight, user-friendly, high quality smartphone based fundus imaging with field of view varying from 30 degree, 55 degree and 90 degree with +20D, +28D and +40D indirect condensing lenses respectively, which gives excellent images for ROP documentation. It can also be used as telescreening device.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>The currently described system was able to take consistently high-quality fundus photographs for bed-side documentation of ROP in neonatal ICUs using readily available instruments that are portable with simple power sources.</td>
</tr>
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</table>
## ABSTRACT DETAILS : DS19-163

<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Ischemic optic neuropathy with surprises galore</th>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To study various systemic factors that can predispose to ischemic optic neuropathy</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>46 years old male, chronic smoker, diabetic, hypertensive presents with sudden defective vision right eye for 10 days. BP -170/130 mmHg, bilateral feeble pulses, carotid bruit (Right side). Anterior segment - normal, grade 1 RAPD (RE). Vision 6/60 (RE), 6/18 (LE), BCVA 6/18 (RE), 6/6 (LE). Colour vision defective (RE). HFA shows inferior altitudinal field defect (RE). Fundoscopy - clear media, hyperemic disc oedema of 2Disc dioptre, cup obliterated (RE) and superonasal disc margin blurring, CDR 0.3 (LE), Generalised arteriolar narrowing, Arterovenous crossing changes, dilated veins, superficial haemorrhages, hard exudates (BE), macular star (LE) - suggesting Non-arteritic anterior ischemic optic neuropathy (RE) with Grade 4 hypertensive retinopathy (BE)</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Elevated Haemoglobin, homocysteine, blood sugar values, deranged RFT, carotid Doppler - Atheromatous plaque causing internal carotid artery occlusion, USG-KUB - Bilateral raised renal echoes, renal Doppler - Bilateral renal artery stenosis.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Ischemic optic neuropathy rather than an isolated ocular diseases is an ocular reflection of homocysteinemia predisposing to ICA occlusion, Renal artery stenosis leading to secondary hypertension. This knowledge have given us a better understanding of their pathogenesis clinical features and management and also to reduce their incidence.</td>
</tr>
</tbody>
</table>
Title of Paper | Visual Outcome, Contrast Sensitivity and Spherical Aberrations in Patients Undergoing SMILE vs PRK  
--- | ---  
Purpose | To compare the safety, efficacy, predictability, refractive outcome, contrast sensitivity and spherical aberrations in eyes undergone SMILE & PRK over one year follow-up period.  
Method | A retrospective study was carried out to compare the visual outcome of 50 eyes which underwent PRK and 50 eyes which underwent SMILE at follow-up periods of 1, 3, 6 and 12 months. Pre & postoperative uncorrected visual acuity, best corrected visual acuity, contrast sensitivity and spherical aberrations were compared.  
Results | 100% & 95% of the eyes which underwent SMILE and PRK respectively achieved postoperative refraction within 0.5D of the intended target refraction. Better contrast sensitivity was found in SMILE group as compared to PRK group. Post-operative spherical aberrations were found to be more in PRK group (0.4168) as compared to SMILE group (0.3720).  
Conclusion | SMILE is better in terms of refractive accuracy and quality of vision as compared to PRK.
# Awareness about eye complications of diabetes mellitus among diabetic patients

## Title of Paper
Awareness about eye complications of diabetes mellitus among diabetic patients.

## Purpose
Awareness about diabetic retinopathy among diabetic patients is an important factor for early diagnosis and management of diabetic retinopathy. The purpose of this study was to evaluate awareness about eye complication of diabetes mellitus.

## Method
The study period is from June 2017 to May 2018. The sample was selected randomly from patients with diabetes mellitus attending general OPDs and medical camps. Questionnaire was given to participants to assess their awareness about eye diseases caused by diabetes. Questionnaire included questions to assess knowledge about diabetes, awareness about complications of diabetes and treatment options for diabetic retinopathy.

## Results
Total of 117 participants were interviewed (68 females and 49 males). While 62.3%(73) of participants know normal FBS value is <120mg%, 23.93%(28) think 200mg% is the cutoff. 73.5%(86) of participants know renal disease as complication of diabetes, whereas 36.75%(43) know there are eye complications for diabetes mellitus. 58.11%(68) of the participants think eye complication is cataract, only 30.7%(36) knows diabetic retinopathy is complication. 45.3%(53) of participants advocates for annual checkup, 20.5%(24) think no need of checkup unless there are symptoms. 48.8%(57) of participants got information from doctors, 49.4%(52) from friends and relatives and 38.3%(46) from TV channels.

## Conclusion
Though there is good knowledge about diabetes among the participants, awareness about diabetic retinopathy is marginal. Awareness about annual checkup is also less, which will lead to delay in diagnosis. There is an imperative need to implement strategies to increase awareness of diabetic retinopathy and importance of retinal screening.
# Title of Paper
Prevalence of open angle glaucoma among pseudoexfoliation patients in a tertiary care centre

# Purpose
To evaluate the prevalence of open angle glaucoma among patients with pseudoexfoliation syndrome attending outpatient clinic of a tertiary care ophthalmology centre in Thiruvananthapuram, Kerala.

# Method
A hospital based cross sectional study comprising of 177 individuals was conducted. The examination included slit lamp biomicroscopy, tonometry, optic disc evaluation and visual field analysis in suspected subjects. Data was statistically assessed using SPSS software.

# Results
The prevalence of open angle glaucoma among PEX patients was 18.64. Among the patients with glaucoma, 18.2% was in women and 81.8% was in men. The mean age of patients presented with PEX was 66.

# Conclusion
Open angle glaucoma is fairly common in patients with pseudoexfoliation. According to the present study, the prevalence among men is around 4 times the prevalence among women (with pseudoexfoliation).
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Disc oedema following trauma may not be papilloedema!</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To report a case of bilateral optic disc swelling presenting ten days after a road traffic accident.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>When his two wheeler skidded a 38 year old male developed a renal laceration and large perinephric haematoma, but there was no head injury and vision was normal. Ten days later he presented with sudden painless loss of vision in the right eye. His best corrected visual acuity was 6/24 (right eye) and 6/6 (left eye). The right pupil showed a grade II RAPD. Both discs were oedematous, more so the right. There were cotton wool spots and splinter haemorrhages near the right disc. There was an inferior field defect in the right eye while the left field was normal.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Patient was treated with intravenous methylprednisolone for 3 days followed by oral steroids for 11 days. His disc oedema and vision improved five days later. One month later the visual acuity was 6/6 in the right eye and the right disc appeared paler than the left.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Although increased intracranial pressure is the commonest etiology for bilateral disc swelling after road traffic accidents this could be due to other causes. Here we have optic disc oedema which responded to steroids and was probably due to optic neuritis.</td>
</tr>
<tr>
<td><strong>Title of Paper</strong></td>
<td>AN OCULAR HAVOC A TENNIS BALL CREATES IN A GAME OF CRICKET !!!</td>
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<td>-------------------</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>Case report of a closed globe injury of the eye in a 19 year old male following blunt trauma.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>A prospective and descriptive case report based on data from clinical records, patient observation and analysis of diagnostic tests.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>After blunt trauma, the vision became CFCF with PR accurate. The IOP was 26mmHg. There was posterior subluxation of lens. Fundus showed sub-hyaloid haemorrhage extending over optic disc with commotio retinae in the macula. We started him on IV Methyl Prednisolone 1gm OD for 3 days with topical steroids. After 1 week, his vision improved to 3/60NIP. Fundus showed a macular hole and choroidal rupture inferiorly. After 3 weeks, the vision was the same. Hence after 6 months, he underwent Vitrectomy with membrane peeling and gas injection followed by prone positioning for 7 -14 days which improved his vision to 6/60.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>For 6 months following injury, traumatic macular hole should probably be observed rather than surgically repaired, because of the possibility that the macular hole may close. If it does not close spontaneously, vitrectomy surgery can successfully close macular holes associated with trauma and improve vision.</td>
</tr>
</tbody>
</table>
## Title of Paper
A JOURNEY OF A THOUSAND MILES BEGINS WITH A SINGLE STEP !!!

### Purpose
To evaluate the anatomical and functional outcome of an urgent penetrating keratoplasty in a perforated infectious corneal ulcer.

### Method
A known case of peripheral ulcerative keratitis developed large corneal perforation secondary to superadded corneal ulcer which was temporarily healed with Cyanoacrylate glue application and BCL. She was symptomatically better. After 10 days corneal infiltrates were noticed hence underwent therapeutic keratoplasty. Following which her vision improved. Again after 15 days she developed angle infiltrates at recurrence sites so anterior chamber wash with Amphotericin B and Intracameral voriconazole was given. Her vision improved subsequently. She received multiple intrastromal injections in between. However after 6 months, retrolental membranes with corneal infiltrates were noticed so she underwent Penetrating keratoplasty.

### Results
The anatomical and functional integrity was achieved inspite of developing secondary glaucoma.

### Conclusion
Our result confirms that therapeutic penetrating keratoplasty for keratitis, especially in corneal perforation, is successful in restoring anatomic integrity and visual rehabilitation. Without therapeutic surgery, the eye would have been lost.
## ABSTRACT DETAILS : DS19-172

<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>Posterior corneal curvature changes following Small incision lenticule extraction Vs Photorefractive keratectomy</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>To study and compare the changes in posterior corneal curvature following Small incision lenticule extraction (SMILE) and photorefractive keratectomy (PRK) in low, moderate and high myopia.</td>
</tr>
<tr>
<td>Method</td>
<td>Prospective, comparative, non-randomized study. 40 eyes of 20 patients who underwent SMILE and PRK were included in the study. All patients were categorized into mild myopia (&lt;3D), moderate myopia (3D-6D), high myopia (&gt;6D). Posterior corneal curvature of all patients were recorded preoperatively and postoperatively at 1st, 3rd and 6th months respectively.</td>
</tr>
<tr>
<td>Results</td>
<td>Following SMILE, patients with moderate and high myopia showed significant increase in the mean posterior surface keratometric values (p value&lt;0.05); but the changes were very minimal in low myopia group. The changes seen in the PRK treated patients were minimal except for a few cases of high myopia.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>SMILE and PRK causes changes in posterior corneal curvature. In SMILE changes were significant in moderate and high myopia however it was insignificant in low myopia. Most of the patients in PRK treated group were in low and moderate myopia category; this could be a reason for the insignificant changes in these patients.</td>
</tr>
</tbody>
</table>
**Title of Paper**
Correlation between visual acuity on presentation and Optical Coherence Tomography pattern in patients diagnosed to have Branch Retinal Vein Occlusion

**Purpose**
We studied the correlation between visual acuity on presentation and OCT pattern in patients diagnosed to have BRVO. This was to ascertain the OCT pattern with the most favourable visual outcome in patients with Branch Retinal Vein Occlusion

**Method**
22 patients presenting at a tertiary care hospital who were diagnosed to have BRVO were assessed based on the pattern of their OCT. They were categorized into groups based on their visual acuity on presentation using Snellen chart and the central retinal thickness (CRT) value of their OCT. This is an observational prospective study.

**Results**
The results of the study showed that the most common OCT pattern in patients with BRVO was cystoid (45.5%) followed by mixed (31.8%), Sponge like thickening (SLT) (18.2%) and serous retinal detachment (4.5%). Visual acuity on presentation was found to be best for those with SLT pattern in whom 100% of patients had a visual acuity >6/60 and 75% had a CRT value in the range of 250-400µm

**Conclusion**
Visual outcome in patients with BRVO has been shown to correlate with their OCT. Sponge like thickening pattern on OCT carries the most favourable visual outcome in patients with BRVO. Patients diagnosed to have BRVO can hence be counselled on their visual prognosis based on their OCT pattern at presentation.
## Title of Paper
Oct biomarkers - ? Boon or bane

## Purpose
To investigate the optical coherence tomography (OCT) biomarkers in refractory DME (Diabetic Macular oedema) pre and post treatment by intravitreal dexamethasone (DEX) implant and predict the treatment outcome post injection

## Method
Retrospective, observational cohort study in a single centre. A total of 68 eyes from 49 patients treated with DEX implant for refractory DME were included in the study. The morphological features in SD- OCT (Spectral domain) scans pre and post to DEX implants such as submacular fluid, cystoid changes, inner segment-outer segment (IS-OS) continuity, and location and number of hyperreflective foci (HRF), Disorganisation of inner retinal layers (DRIL), vitreomacular interface abnormalities, and epiretinal membrane were compared and evaluated. The BCVA and central macular thickness were recorded at baseline and at 1, 2 and 3 months after treatment with DEX implants.

## Results
The presence of subretinal fluid, lesser number of HRF, maintained integrity of the IS-OS layer and inner retinal layers were all predictive of better visual outcome after treatment with DEX implants. The mean CMT improved from 373.65µm to 202.34 µm at 3 months (p <0.001)

## Conclusion
SD- OCT biomarkers can help to predict the response to DEX implant in refractory DME
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Making of an eye</th>
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<tbody>
<tr>
<td><strong>Abstract</strong></td>
<td>Eye is most important organ which provides us vision. As a good ophthalmologist it is necessary to know about the structure of an eye and also how to examine an eye in clinics. For residents and trainees, it is not possible always to get patient’s eye as a subject for a good hands-on training and detailed eye examination. An artificial eye can be used in ophthalmic setup for teaching and training purpose, especially for residents and trainees in a situation where they cannot get free hand-on on regular clinic patients. By this video we are going to demonstrate how to make an cost-effective and cosmetically good looking artificial eye by yourself and can use it for day to day training for residents in clinics.</td>
</tr>
</tbody>
</table>
Title of Paper
Real world Experience of Anti-Vascular Endothelial Growth Factor (Anti-VEGF) Pharmacotherapy: Comparative Analysis between Superotemporal and Inferotemporal Branch Retinal Vein Occlusion

Purpose
Comparative analysis of ST/ITBVO with Anti-VEGF pharmacotherapy. Primary Objective: Interpret the mean visual acuity improvement and central macular thickness (CMT) change between STBVO and ITBVO arms. Secondary outcome measure is to assess the difference in the recurrence rate, mean follow up duration and mean number of injections required in the two arms

Method
Retrospective analysis of 124 eyes of 124 patients (ST BRVO n=80; ITBRVO n=44) who visited the retina department between January 2015 and December 2016, with a minimum follow up of 6 months duration. The baseline visual acuity was assessed, the nature of vein occlusion was determined from the fundus photo. Baseline CMT was obtained from the SD-OCT (Heidelberg Eng, Germany). Visual acuity and CMT was reassessed during the 1st, 3rd and 6th month follow up. The type of Anti-VEGF agent used and the mean number of injections required in each arm and recurrences (CMT>320u) was assessed. Complications occurred during the followup were also studied.

Results
Mean age of study population was 64.3 years with no sex predilection. Mean visual acuity improved in both arms which was statistically significant (P< 0.026 STBVO arm) (P< 0.010 ITBVO arm) compared to the base line. CMT showed a statistically significant improvement in both the arms (P< 0.001). Even though the recurrence rates were higher in the STBVO arm, it failed to show a statistically significant value. Mean number of injections (2.46, 2.75) and mean follow up duration (21.84, 21.18) across the two groups was comparable in both the arms. 20.14% of all cases required sectoral laser and 8.33 % of cases had vitreous hemorrhage.

Conclusion
Results of Anti-VEGF pharmacotherapy were comparable in both the STBVO and ITBVO arms. Anti-VEGF therapy significantly improves the central macular thickness to near normal normative data with significant improvement in the visual acuity.
**Title of Paper**  
Focal Choroidal Excavation (FCE) on Spectral Domain Optical Coherence Tomography- A case report

**Purpose**  
To describe morphology, clinical features and association of a naive entity focal choroidal excavation (FCE).

**Method**  
This is a case report of 43 years female focal choroidal excavation (FCE) defined as excavation of retinal pigment epithelium and chorio-capillary band with preservation of foveal contour, initially presented with idiopathic choroidal neovascular membrane (CNVM) followed with spectral domain optical coherence tomography (SD-OCT) done from 2013 to 2018 (5 years duration).

**Results**  
43 yr female presented in 2013 with blurring of vision in left eye (OS). On examination best corrected visual acuity was 6/24, N36 in OS. Fundus OS showed choroidal neovascular membrane (CNVM), which was confirmed on fundus fluorescein angiography. Following treatment with multiple anti-VEGF injections there was complete resolution of CNVM with vision improved to 6/6, N6. During follow-up from 2014 to 2018 we found Focal Choroidal Excavation (FCE) on SD-OCT which was progressively increasing in depth from 37 to 76 µm and length 159 to 589 µm.

**Conclusion**  
Focal Choroidal Excavation(FCE) is a new entity diagnosed on SD-OCT, usually associated with pachychoroid spectrum of disease and co-exist with choroidal neovascular membrane (CNVM), central serous retinopathy (CSCR) and polypoidal choroidal vasculopathy (PCV), although pathogenesis is unclear.
# Title of Paper
Outcome of reduced fluence photo dynamic therapy in non resolving central serous chorio retinopathy with subfoveal leak

## Purpose
To assess the outcome of reduced fluence photo dynamic therapy in non resolving central serous chorio retinopathy with subfoveal leak.

## Method
Retrospective analysis of 25 patients who had undergone photo dynamic therapy (PDT) for non resolving central serous chorio retinopathy (CSCR) with subfoveal leak was done. Best corrected visual acuity (BCVA), serous macular detachment (SMD) height in optical coherence tomography (OCT) and choroidal thickness in enhanced depth imaging (EDI) in the pre procedure visit were compared with that in the postPDT 1 month visit and last visit. The outcome measures were visual acuity, complete resolution of fluid in OCT and adverse events noted if any.

## Results
Of the 25 patients analysed, there was improvement in BCVA in 1 month postPDT visit (0.49±0.425) and in last visit (0.35±0.409) from baseline (0.43±0.410). SMD height had reduced in the postPDT visit 1 month (15.04±29.794) and in final visit (0.00) compared to the baseline (159.92±78.899) with P value<0.001. There was significant reduction in choroidal thickness by EDI from baseline (377.96±85.811) in postPDT 1 month (314.45±93.806) and in final visit (300.60±108.681) with (P value<0.001). Complete resolution of fluid in OCT noted in 76% by 1 month postPDT and in 80% by last visit. No adverse events noted in fundus auto fluorescence follow up.

## Conclusion
Reduced fluence PDT is an effective and safe modality of treatment in non-resolving central serous chorio retinopathy with significant anatomical and functional improvement.
<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>Electroretinogram changes before and after anti VEGF pharmacotherapy in patients with retinal vein occlusion.</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>To study the electrophysiological changes in the affected eye and fellow eye before and after anti VEGF pharmacotherapy in patients with retinal vein occlusions.</td>
</tr>
<tr>
<td>Method</td>
<td>After obtaining clearance from the Institutional Ethics Committee, a prospective, uncontrolled, non-randomized interventional study was conducted on patients with treatment naïve retinal vein occlusion, who presented to the retinal OPD department. Detailed ophthalmic evaluation, electroretinogram (ERG) and optical coherence tomography (OCT) was done at presentation. All enrolled patients were given anti VEGF intravitreal injections. And in 1 month follow up detailed ophthalmic evaluation, ERG and OCT were repeated and analysed in both affected eyes and fellow eyes.</td>
</tr>
<tr>
<td>Results</td>
<td>Of the 18 patients analysed, there showed a significant improvement in retinal function on ERG in affected eyes 1 month after treatment as compared to the baseline, in the form of increase in the mean scotopic a wave amplitudes and photopic b wave amplitudes with a p value of 0.021 and 0.042 respectively. Fellow eyes also showed improvement in retinal function. There showed a significant impairment in retinal function in the affected eyes as compared to fellow eyes, evidenced by decreased mean photopic b and a wave amplitudes, and prolonged b and a wave implicit times and flicker implicit times.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>This study suggests that ERG should be used as a mandatory test in all patients with retinal vein occlusions, as it is a definite objective measurement of retinal function. ERG can also be used as a tool for monitoring treatment response, for prognosticating and predicting the risk of developing complications.</td>
</tr>
</tbody>
</table>
**Title of Paper**
ALLERGIC FUNGAL SINUSITIS PRESENTING AS OPTIC NEURITIS: A DIAGNOSTIC DILEMMA

**Purpose**
TO FAMILIARISE OPHTHALMOLOGISTS WITH THE RARE BUT POTENTIALLY VISION THREATENING COMPLICATION OF OPTIC NEURITIS FROM ALLERGIC FUNGAL SINUSITIS.

**Method**
RETROSPECTIVE CASE REPORT OF AN OTHERWISE HEALTHY 26 YEAR OLD LADY WHO PRESENTED WITH CLINICAL FEATURES CONSISTENT WITH ACUTE OPTIC NEURITIS LEFT EYE. CT BRAIN AND ORBIT REVEALED AN INVASIVE MASS IN SPHENOID SINUSES, EXTENDING TO FRONTAL AND ETHMOIDAL SINUSES, ERODING CLIVUS AND FURTHER EXTENDING INTRACRANIANALLY WITH COMPLETE ENCASEMENT OF LEFT OPTIC NERVE AND 90° ABUTMENT OF RIGHT OPTIC NERVE. ENT EXAMINATION REVEALED NASAL POLYPOSIS WITH SINUSITIS. AN EMERGENCY FESS (FUNCTIONAL ENDOSCOPIC SINUS SURGERY), ENDOSCOPIC BIOPSY AND OPTIC NERVE DECOMPRESSION WERE DONE. INTRAVENOUS 1 GRAM METHYL PREDNISOLONE INJECTIONS WERE GIVEN POSTOPERATIVELY FOR 5 DAYS FOLLOWED BY TAPERING DOSE OF ORAL STEROIDS FOR 2 WEEKS.

**Results**
VISUAL ACUITY IN LEFT EYE IMPROVED TO 6/6:N6 WITH COMPLETE RESOLUTION OF RAPD, COLOUR VISION AND VISUAL FIELD DEFECTS. ENDOSCOPIC BIOPSY REVEALED POLYPOID FRAGMENTS OF INFLAMED SINONASAL MUCOSA WITH A DENSE MIXED INFLAMMATORY INFILTRATE IN A LAKE OF BRIGHTLY EOSINOPHILIC ALLERGIC MUCIN WITH SHEETS OF DEGENERATING EOSINOPHILS. NO FUNGAL TISSUE INVASION OF MUCOSA WAS SEEN; CONFIRMING THE DIAGNOSIS OF ALLERGIC FUNGAL SINUSITIS (AFS). CULTURE OF BIOPSY SPECIMEN GREW ASPERGILLUS FUMIGATUS.

**Conclusion**
ALTHOUGH (AFS) ALLERGIC FUNGAL SINUSITIS IS A COMMON CAUSE OF CHRONIC RHINOSINUSITIS, OPTIC NEURITIS CAUSING VISUAL LOSS IS RARE. THIS REPORT HIGHLIGHTS THE TIMELY DETECTION OF AFS IN A YOUNG PATIENT WITH NO PRIOR HISTORY OF SINUSITIS, ITS PROMPT MANAGEMENT AND COMPLETE RESOLUTION AND RECOVERY WITH EARLY TREATMENT.
**Title of Paper**
Aggressive lacrimal sac malignancy masquerading as acute and relapsing dacryocystitis

**Purpose**
Malignancy of lacrimal sac is rare and may go unnoticed until advanced stage. This case report is to emphasize on the need for high index of suspicion in cases of acute and relapsing dacryocystitis not relieving with conventional treatment.

**Method**
73 year old female with hypertension and history of cerebrovascular accident two years back, presented with epiphora of six months duration and swelling medial to medial canthus in right eye for one month.

On examination J shaped erythematous, warm, tender swelling measuring 2x2x1.5 cm present medial to medial canthus RE, with variable consistency, being firm in upper part and bony hard in lower part, with irregular borders, continuous with zygomatic bone below.

Other anterior segment structures normal, fundus normal. Left eye normal. BCVA 6/9 BE.

**Results**
Treated with antibiotics and supportive measures for 10 days. Swelling decreased in size, not completely relieved. CT orbit with PNS showed aggressive infiltrating lesion in right medial canthus involving lacrimal sac and surrounding soft tissues with erosion of adjacent bones. Lesion extending through inferior concha, reaching up to hard palate.

HPR awaited.

Treatment depends on type and extent of tumour and general condition of patient.

The most common lacrimal sac malignancy is primary and of epithelial origin. Majority being invasive squamous cell carcinoma. Wide resection and radiotherapy are the treatment measures. Local spread and local recurrence are more common than distant metastasis.

**Conclusion**
the most common symptom of lacrimal sac malignancy is epiphora. Relapsing dacryocystitis cases should be thoroughly evaluated and followed up. Early diagnosis and treatment has got better prognosis. Long term follow up needed to identify recurrence.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>My Vitreomacular Traction &quot;...Seven years on</th>
</tr>
</thead>
</table>
| **Purpose**        | To describe my experiences visual and otherwise with vitreomacular traction  
                      To help towards understanding the patient's perspective in vitreomacular traction |
| **Method**         | When I was diagnosed with vitreomacular traction it was all of a sudden due to acute PED  
                      and a central scotoma. Over the last seven years I have kept track of my symptoms and had  
                      regular OCTs done at least once in six months. |
| **Results**        | My BCVA was 6/6 initially and fear of losing it was real. In that eye colours appeared lighter  
                      and lights brighter. The distortion and scotoma was never bothersome and near vision  
                      continued to be N6. What often fascinated me was the macropsia compared to the other eye  
                      and the fact that objects seen binocularly were intermediate in size. It made me realise that  
                      even if imperfect I always had the vision to live a "normal" life even if reduced to using that  
                      eye alone. Fear of surgery and potential complications made me receive my retina  
                      specialist's advice to wait |
| **Conclusion**     | Over the years I have learned to accept my condition. Unilateral VMT is not a handicap.  
                      Without comparing I would not be aware of my loss |
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>SPONTANEOUS HEMORRHAGIC CHEMOSIS- AN INDICATOR OF EXTENSIVE RETROBULBAR ARTERIO-VENOUS MALFORMATION</th>
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<td><strong>Purpose</strong></td>
<td>To report a case of conjunctival capillary hemangioma, with proptosis presented in a 17-year-old girl</td>
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<td><strong>Method</strong></td>
<td>17-year-old girl presented with complaints of redness left eye and recurrent bleeding from nose. On examination, left eye with hemorrhagic chemosis, prominent tortuous dilated vessels in inferior bulbar and tarsal conjunctiva, with mild eccentric proptosis. Fundus examination revealed blurred disc margins suggestive of disc edema, with dilated tortuous veins macular edema. Ultrasonogram eye and MRI was done and evaluated</td>
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<td><strong>Results</strong></td>
<td>USG- <em>multiple dilated and tortuous linear anechoic areas noted in medial aspect of left retrobulbar area, possibly hemangioma</em> MRI- <em>Tangle of vessels in left retrobulbar and retromaxilary area, possibility of vascular malformation was considered</em></td>
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<td><strong>Conclusion</strong></td>
<td>Conjunctival capillary hemangioma can have orbital component also which can present as proptosis. Hence it is essential to evaluate in detail every case of conjunctival hemangioma</td>
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</table>
Title of Paper | FACTORS AFFECTING VISUAL OUTCOME IN PATIENTS WITH DERMATOCHALASIS
---|---
Purpose | To find out factors regarding the severity of dermatochalasis that affects the visual determinants and quality of vision, in elderly population and to predict the improvement after upper lid blepharoplasty
Method | A descriptive study on 44 eyes of 22 patients were conducted, regarding the severity of dermatochalasis and visual outcome. Symptomatology of itching, watering and eyestrain was enquired; upper lid changes of lid crease, laxity and fullness examined; ptosis measurement and schirmer test was done, and peripheral field, central field and tropicamide/phenyephrine refraction was assessed. Contrast sensitivity measured as difference between visual acuity with light and no light. Comparison of severity of dermatochalasis- lid changes with visual outcome "field/dryness/ contrast sensitivity refraction was made. Exclusion criteria included age<40yrs, neuromuscular deficits (facial muscles), other ocular diseases.
Results | Patients with lateral lid laxity have more frequent complaints of watering (p=0.029), those with lateral fullness have more problem of eyestrain (p=0.016), superior field defect is more frequently found in those with medial laxity and drooping (p=0.013), and those with medial laxity/ drooping have more temporal field defect (p=0.007)
Conclusion | dermatochalasis can hinder the quality of vision in elderly population, ad hence upper lid blepharoplasty can be a solution to several non-specific visual complaints in this population
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<td>PROSPECTIVE STUDY ON THE CLINICAL COURSE OF DRY EYE AFTER CATARACT SURGERY</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>To evaluate the clinical course of Dry eye after Cataract surgery: 1) To compare the dry eye parameters between Small Incision Cataract Surgery and Phacoemulsification.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Samples were collected from 208 uncomplicated cataract patients (Group 1, 104- SICS patients and Group 2, 104- Phaco patients) who were 40 years old or older. Clinical examination included evaluation pre-operatively to rule out preexisting ocular surface disorders. Dry eye incidence and pattern were analyzed at days 7, 30 and 90 after Small Incision Cataract Surgery and Phacoemulsification using Ocular Surface Disease Index (OSDI) questionnaire, tear break up time (TBUT), Ocular surface staining, Schirmer I test without anaesthesia and Meibography.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>There was no significant preoperative intergroup difference in subjective and objective dry eye test values (P &gt; 0.05). Both the groups showed similar trend of persistently declining objective and subjective dry eye test values till 3 months, as compared to their respective preoperative values (P &lt; 0.05), although there were no significant intergroup changes seen throughout the postoperative period (P &gt; 0.05). After 3 months, the dry eye test values returned to near baseline data in both the groups, however preoperative levels of tear function and ocular surface are not completely reached.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Tear film instability is a complication seen in early post-operative period of cataract surgery. Both phacoemulsification and SICS, can affect the dry eye test values in almost similar manner till about 3 months post-operatively.</td>
</tr>
<tr>
<td>Title of Paper</td>
<td>Scleral patch graft for bleb leak</td>
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<tr>
<td>Abstract</td>
<td>A diabetic patient who had undergone trabeculectomy was referred for bleb leak. Examination showed a partially amputated trabeculectomy flap with elevated thin bleb. The bleb was excised and a scleral patch graft was sutured onto the original flap. The challenge here was to maintain filtration through the original trabeculectomy while restricting overfiltration.</td>
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</table>
## ABSTRACT DETAILS : DS19-189

<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>OPTICAL COHERENCE TOMOGRAPHY (OCT) CHANGES IN HIGH MYOPIA</th>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To study the Optical Coherence Tomography (OCT) changes occurring in the peripapillary and macular region in highly myopic eyes.</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>We investigated the frequency of OCT abnormalities in the peripapillary and macular region of highly myopic eyes, defined as a myopic refractive error of -6 dioptres (D) or more. This was a prospective study of 140 eyes of 86 patients of high myopia who attended our OPD between January 2016 and May 2017. Patients with other co-existing ocular pathologies such as Diabetic maculopathy or AMD were excluded. OCT of peripapillary and macular region were obtained by Spectral-domain OCT, Spectralis, Heidelberg Engineering Co, Heidelberg, Germany. Fundus Fluorescein / Indocyanine Green Angiography were done in relevant cases.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Of 140 eyes, 91(65%) were above 40 years old and 49(35%) were below 40 years. 78 eyes (56%) had myopia -6 to -10D, 51(36%) had -11 to -20D and 11(8%) had &gt; -20D. The macular changes detected were Posterior staphyloma in 94(67%), Myopic Traction Maculopathy (MTM) in 60 (43%), chorioretinal atrophy in 31 eyes (22%), dome-shaped macula (DSM) in 20(14%) and CNVM in 12 (9%). The peripapillary changes observed were myopic conus in 110 (79%), vascular-microfolds in 88(63%), ERM in 63 eyes (45%), retinoschisis in 51 (36%) and peripapillary intrachoroidal cavitation in 11 (8%).</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>OCT is indispensable in the diagnosis and management of visually impairing conditions in pathologic myopia such as myopic traction maculopathy and CNVM. Evaluation by OCT will also provide insight into unexplained visual loss in high myopia such as MTM or DSM and rarer entities such as peripapillary intrachoroidal cavitation</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>Membrane dissection in Proliferative Diabetic Retinopathy</td>
</tr>
<tr>
<td>-------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Abstract</strong></td>
<td>Removal of vascularised membrane to release any existing traction is a critical step during vitrectomy for advanced Diabetic eye disease. They cannot be simply peeled from the surface of the retina, as this would result in severe hemorrhage and/or tearing of the retina. Segmentation, delamination, en-bloc resection and bimanual dissection represent the main surgical techniques employed in Diabetic vitrectomy. Through this video we demonstrate few of these steps as well as highlight the use of Pick in membrane dissection.</td>
</tr>
</tbody>
</table>
Title of Paper: To study the association of Glaucoma and Helicobacter pylori

Purpose: To investigate the incidence of H. Pylori infection in Glaucoma patients and to find the characteristics of Glaucoma in Helicobacter Pylori patients.

Method: Case control study in which 35 Glaucoma and 35 age and sex matched normals are taken and Patients of H. Pylori positivity will undergo evaluation for Glaucoma. And Glaucoma patients serum level of Anti H. Pylori IgG antibody via ELISA method will be tested with venous samples for H. pylori positivity. Normals are patients who are evaluated for diseases like cataract.

Results: Our study was done to find out the correlation between the Glaucoma and H. Pylori positivity. We did a Multi throned approach in which we found that out of 50 Glaucoma patients 17 patients were found to be H pylori Positive. In biopsy proven H pylori Positive cases, the Glaucoma was not found to be significantly high but among Glaucoma patients, H. Pylori positivity was found to be higher than that of normals.

Conclusion: This study is using serologic analysis of anti H. pylori antibody, and could find a higher positivity between Glaucoma and H. pylori Positivity.
Title of Paper: Glued scleral fixated IOLs: Analysis of indications, visual and surgical outcomes

Purpose: To study the indications and circumstances resulting in glued SFIOLs and its outcome in terms of vision, postoperative astigmatism and complications.

Method: A retrospective study was performed on glued SFIOLs performed at our centre over five years. Patients’ demographic data and information on baseline preoperative visual acuity, indication for surgery, postoperative visual acuity, astigmatism, lens centration, hypotony, uveitis and secondary rise in IOP were assessed using routine clinical examination, topography, Scheimplug imaging and anterior segment OCT and the results noted.

Results: Of a total of 20 eyes studied, 4 were pediatric and the rest adult. The indications for scleral fixated intraocular lens were trauma, surgical aphakia, spontaneous posterior dislocation of lens and subluxated intraocular lens. Associated ocular pathologies like glaucoma, macular hole, diabetic retinopathy and cone rod dystrophy were seen in 20% of eyes. A foldable hydrophobic 3 piece acrylic IOL was used in 85% of eyes. From a preop vision of CF, in all patients, the visual acuity improved to a post op average of 0.3 logmar units. Secondary glaucoma was the commonest complication.

Conclusion: Glued SFIOLs have a favorable visual outcome and few complications, even in the presence of ocular comorbidities in experienced hands.
### Title of Paper
Changes in anterior segment parameters after laser peripheral iridotomy: An anterior segment optical coherence tomography study

### Purpose
To investigate the changes in anterior segment parameters, as assessed by anterior segment optical coherence tomography (ASOCT) in Indian subjects after laser peripheral iridotomy (LPI).

### Method
In this prospective interventional study, patients with angle closure who were scheduled for LPI were recruited. Static gonioscopy was performed in the dark with 1-mm light beam reduced to a narrow slit for assessing superior, inferior, nasal and temporal angles. The angle in each quadrant is graded as per Shaffer grading system. Anterior segment parameters by ASOCT under dark conditions were compared before and after LPI. Measurements performed by customized software included angle opening distance (AOD 500, AOD 750), trabecular iris surface area (TISA 500, TISA 750), Anterior chamber depth (ACD) and scleral spur angle (SSA).

### Results
Images of 90 eyes of 45 patients with angle closure were assessed. The mean age at LPI was $56 \pm 11.19$ years and majority were women (68.9%). Scleral spur was not identified in 2.5 % angles. LPI resulted in angle widening in ASOCT with significant increases in AOD 500, AOD 750, TISA 500, TISA 750 and SSA ($p<0.05$ for all) in all angles of both eyes except TISA 500 in nasal angle of right eye and superior and temporal angles of left eye. There was no significant change in ACD after LPI in both eyes.

### Conclusion
This study confirms that Laser peripheral iridotomy results in a significant angle widening measured by ASOCT after laser peripheral iridotomy.
### Title of Paper
In Vitro activity of Moxifloxacin against conjunctival Flora.

### Purpose
To study the in vitro activity of Moxifloxacin against conjunctival flora in patients undergoing cataract surgery.

### Method
**DESIGN:** Descriptive study  
**MATERIALS AND METHOD:** Conjunctival swab was taken from 480 patients who were posted for cataract surgery between November 2016 and February 2018. Culture and sensitivity was done using these samples. Moxifloxacin resistance was studied in samples which grew bacteria.

### Results
181 samples grew Staphylococcus epidermidis (coagulase negative staphylococcus) of which 52 (28.72%) were resistant to Moxifloxacin, 39 samples grew Staphylococcus aureus of which 18 (46.15%) were resistant to Moxifloxacin.

### Conclusion
There is a high incidence of resistance to moxifloxacin in organisms grown from conjunctival sac. With such a high incidence of resistance, Moxifloxacin may not be a good choice antibiotic for cataract surgery either as preoperative topical prophylaxis or as intracameral injection to prevent postoperative endophthalmitis.
# Title of Paper
Pan scleritis masquerading as orbital cellulitis - A diagnostic challenge

## Purpose
This is a rare case of pan scleritis presenting as orbital cellulitis creating a diagnostic and therapeutic dilemma for the treating clinician.

## Method
74 year old male patient known case of Myelodysplastic syndrome, diabetes presented with fever and features of left orbital cellulitis. His BCVA was 6/12 and 6/60 in right and left eye respectively. Fundus was normal. His lab parameters revealed elevated inflammatory markers with leukocytosis. MRI brain with contrast showed preseptal cellulitis, bilateral maxillary sinusitis with no collection. He was treated with intravenous antibiotics with limited response. Fundus re-evaluation 3 days later had extensive choroidal detachment with Bscan demonstrating fluid in subtenons space. Hence we changed our diagnosis to posterior scleritis with anterior scleritis.

## Results
Screening for autoimmune workup including pANCA and cANCA along with chest Xray and Mantoux test turned out to be negative. He was initiated on systemic steroids with complete resolution of symptoms and he remained disease free at 2 months follow up on tapering dose of oral steroids.

## Conclusion
This is a rare association of pan scleritis with myelodysplastic syndrome. Pan scleritis should be considered in the differential diagnosis of orbital cellulitis as both has similar clinical signs, especially when it doesn’t respond to the conventional treatment.
## Title of Paper
GLAUCOMA IN HALLERMANN- STREIFF SYNDROME : A CASE REPORT

## Purpose
To evaluate the ophthalmological features and the cause of glaucoma in a case of hallerman streiff syndrome

## Method
35 year old male with complaints of painless bilateral reduced vision for the past 3 months underwent measurement of visual acuity (VA),Intraocular pressure (IOP) by Goldmann applanation tonometry, anterior segment examination with Slit Lamp microscopy, Gonioscopy, and Anterior segment optical coherence tomography (ASOCT).

## Results
Patient had features of short stature, grey hair, bird like face and mandible hypoplasia. He had VA of hand movements in both eyes, IOP of 50 mm Hg in right eye and 62 mm Hg in left eye. Gonioscopy revealed closed angles in all quadrants of both eyes with few areas of peripheral anterior synechiae. Fundus revealed glaucomatous optic atrophy with tortuous vessels. Scleral spur was not identified in ASOCT images in all angles. Patient was started on anti glaucoma medications with systemic acetazolamide for initial control of IOP followed by peripheral laser iridotomy and trabeculectomy in both eyes.

## Conclusion
Hallerman-Streiff syndrome is a rare congenital anomaly characterized by a peculiar bird facies, mandibular and maxillary hypoplasia, dyscephaly, cataracts, microptalmia,glaucoma, hypotrichosis, skin atrophy, and short stature. The target of therapy is to prevent and treatment of complications.
"TO REMOVE OR NOT TO REMOVE " •:THE CHALLENGING CASE OF DIPLOPIA POST SCLERAL BUCKLING.

A forty one year old lady with intractable diplopia following scleral buckling surgery done 18 months ago. BCVA was 6/18, N6 with significant compound myopic astigmatism OD and 6/6, N6 OS respectively. She had a right hypotropia and exotropia which worsened in upgaze and left gaze. There was restriction of elevation and adduction OD with positive Forced Duction Test. Retina was attached in both eyes with buckle effect OD and laser scars in the periphery OS. She was prescribed Fresnel prism 20pd BI and BU OD, but patient was not relieved of diplopia. Peroperatively there was a silicone scleral tyre with 360 degree encircling band with fibrosis and severe adhesions around the rectus muscles. She underwent buckle removal with Lateral Rectus recession 8mm and Inferior Rectus recession 4mm OD. Postoperatively, she was orthophoric for near with a small exophoria for distance. Her ocular movements were full and diplopia disappeared. Retina remained attached and her BCVA improved to 6/9, N6 OD with significant reduction in myopia. Restrictive strabismus after scleral buckling is challenging and difficult to manage. It is usually caused by periocular fibrosis and scarring. This video shows that dissection and lysis of adhesions with removal of scar and buckle (if needed) and recession of the appropriate rectus muscle in the area of restriction usually gives gratifying results.
# A case of empty sella syndrome

<table>
<thead>
<tr>
<th>Purpose</th>
<th>Case of 43 year old female with history of intermittent blurring of vision both eye since 2 months. Associated with headache, nausea and vomiting.</th>
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<tbody>
<tr>
<td>Method</td>
<td>On examination showed BCVA both eye 6/6. Fundus examination showed papilloedema. HFA 30 - 2 showed peripheral constriction of fields both eye. Neurology reference was given. LP was done which showed raised CSF pressure (25 cm of H2O)</td>
</tr>
<tr>
<td>Results</td>
<td>MRI and CT brain showed empty sella. No intracranial space occupying lesion was seen.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Diagnosis of idiopathic intracranial hypertension was made after ruling out intracranial pathology.</td>
</tr>
</tbody>
</table>
Title of Paper: CATCH ME IF YOU CAN- Idiopathic intracranial hypertension the great evader

Purpose: To report a case of Idiopathic intracranial hypertension who presented with unilateral acute marked blurring of vision and unilateral disc edema.

Method: A 22 year female was admitted in Neurology for evaluation of left sided frontal headache and occasional diplopia. During the course in hospital, she developed sudden blurring of vision in LE and worsening of headache. BCVA was 6/6 RE and 5/60 in LE with grade 2 RAPD, defective colour vision LE and no diplopia. Anterior segment examination was normal. Fundus showed marked disc edema in LE and fundus was normal in RE. MRI Brain with contrast showed bulky Orbital segment of left optic nerve with hyperintense signals and mild perioptic stranding. VEP showed prolonged P100 latencies in LE. Differential considered were LE Optic neuritis and raised intracranial tension.

Results: She was also given a pulse dose of IV Methyl prednisolone 1gm for 5 days in view of suspected Optic neuritis. Lumbar puncture done showed opening pressure of 32.5 cm of H2O with 2 cells/mm3 (Mononuclear only) and normal CSF glucose and protein. Systemic work up was normal and considering the possibility of Idiopathic Intracranial Hypertension, she was started on IV Mannitol. Her vision improved to 6/6 in LE. Repeat CSF opening pressure after 5 days was 23.5 cm of H2O. At one month review she maintained vision of 6/6 BE with improvement in colour vision, complete resolution of disc edema.

Conclusion: This is a rare case of Idiopathic Intracranial Hypertension presenting with acute, unilateral, marked blurring of vision and unilateral disc edema in a young female mimicking Optic neuritis with complete visual recovery with prompt initiation of systemic osmotic diuretics.
<table>
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<tr>
<th>Title of Paper</th>
<th>Pass on the Light...</th>
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<tbody>
<tr>
<td>Abstract</td>
<td>India has the largest corneal blind population in the world. In spite of an infrastructure strong enough to increase keratoplasty numbers, lack of a constant supply of high quality donor corneal tissue creates a huge demand-supply deficit in keratoplasty. Hospital Cornea Retrieval Programme (HCRP), initiated by the Eye Bank Association of India attempts to motivate and counsel the relatives of a deceased person in Hospital for Eye Donation and organizing for quick, convenient tissue retrieval. Unlike voluntary donation, HCRP has great advantages like availability of donor medical history, access to younger and healthier tissue, reduced death- to- retrieval time and cost effectiveness. This video attempts to sensitize and motivate doctors, nurses and hospital social workers, especially involved in areas with high mortality to involve themselves in this noble work and promote eye donation. Lets inspire them to pass on the light.</td>
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# ABSTRACT DETAILS : DS19-203

<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>A case of type 3 idiopathic macular telangiectasia</th>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>A case of type 3 idiopathic macular telangiectasia</td>
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<tr>
<td><strong>Method</strong></td>
<td></td>
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<tr>
<td><strong>Results</strong></td>
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<tr>
<td><strong>Conclusion</strong></td>
<td>Type 3 idiopathic macular telangiectasia can be diagnosed if other differential diagnosis are ruled out.</td>
</tr>
</tbody>
</table>
**Title of Paper**
Bilateral central serous retinopathy secondary to hypercortisolism.

**Purpose**
To highlight the importance of general and systemic evaluation in case of bilateral/Atypical central serous retinopathy [CSR].

**Method**
A 43 yr old diabetic lady presented with decrease of vision and floaters in the left eye. She gives history of early menopause, recent weight gain and head ache and was diagnosed to have both eyes Central Serous Retinopathy[CSR] with Right eye eye Pigment Epithelial Detachment. In view of the bilaterality of CSR and systemic complaints, an endocrinology consultation was sought and on evaluation she was found to have increased cortisol levels. MRI brain revealed Pituitary Microadenoma which was later excised. 2 months post Pituitary Microadenoma excision, CSR completely resolved in BE and BVCA was 6/6.

**Results**
A 61 yr old gentleman known case of Carcinoma lung presented with blurring of vision in both eyes and we made a diagnosis of bilateral Central Serous Retinopathy based on OCT and FFA. On examination, he had Cushingoid features and detailed systemic evaluation revealed paraneoplastic ectopic cushings disease.

**Conclusion**
Both these cases presented with bilateral CSR and on evaluation they were found to have hypercortisolism. We highlights the importance of thorough systemic evaluation in Bilateral/Atypical CSR to rule out endogenous or exogenous steroid excess.
**Title of Paper**
An unusual association of gyrate atrophy with cavernous haemangioma - "A case report

**Purpose**
to present a case of bilateral gyrate atrophy with unilateral cavernous haemangioma

**Method**
presenting the case of a 51-year-old female consulting for a progressive fall of visual acuity since childhood. BCVA is 6/24 in RE and 6/12p in LE. On examination, both eyes had grade 1 nuclear sclerosis and fundoscopic examination revealed confluent, circular patches of chorio retinal atrophy and bony spicules in mid peripheral region suggestive of gyrate atrophy with retinal pigment epithelial changes at macula in both eyes. Right eye had a small pre retinal haemorrhage near to a small cluster of aneurysmal lesions within the posterior pole along the inferotemporal venous arcade

**Results**
Macular OCT confirmed the retinal pigment epithelial changes, cystoid macular edema and epiretinal membrane in right eye and small cystic spaces with epiretinal membrane in left eye . Scan along the cluster lesions showed multiloculated cavernous spaces within the inner layers of retina . FFA done revealed hyperfluorescent confluent lesions with hypofluorescent boundaries in the region of gyrate atrophic patches. Aneurysmal lesions showed an early arterial phase hypofluorescence , with hyperfluorescence appearing in venous phase and continue to persist even in late phases suggestive of cavernous hemangioma. No evidence of any leakage seen.

**Conclusion**
Retinal angiomatous lesions like cavernous hemangioma can complicate chorioretinal atrophic conditions like gyrate atrophy.
Title of Paper: The Curious Case of the Resistant Acute angle closure

Purpose: To acknowledge the limitations of conservative treatment modalities in a very severe angle closure attack.

Method: 55 year old female, who presented to OPD after an overnight complaints of painful decrease in vision in left eye and redness for 4 hours, which on evaluation was diagnosed to be a Primary angle closure attack. She had a history of intake of Tab Wikoryl (Paracetamol 550mg, chlorpheniramine maleate 2mg phenylephrine hydrochloride 5mg caffeine 16mg) She was treated with intravenous mannitol and IOP lowering topical medications. Still the IOP was not getting controlled, Hence an emergency therapeutic paracentesis was done and patient responded to laser peripheral iridotomy.

Results: After Paracentesis, IOP was reduced drastically and the pupils responded to pilocarpine, Tab wikoryl was stopped and the patient was discharged on pilocarpine.

Conclusion: Topical anticholinergic sympathomimetic drugs, TCS, MOA inhibitors drugs predispose to PAC attack. Need for the general physicians to overlook the red apart from conjunctivitis and a torch light AC examination must be emphasised to prevent such angle closure attacks.
### Title of Paper
Role of Ultra widefield fluorescein angiography in Diabetic Macular Oedema. Is Peripheral Ischaemia a culprit too?

### Purpose
To determine the relationship between retinal ischaemia and the presence of macular oedema (DME) in clinically diagnosed Nonproliferative diabetic retinopathy using Ultra widefield fluorescein angiography imaging and standard angiography.

### Method
A retrospective review of 50 eyes of 48 treatment-naïve diabetic patients who underwent diagnostic wide field imaging using the 102˚ non-contact lens with Hiedelberg Imaging system and standard 30˚ 7 field angiography was done. The extent of retinal ischaemia was noted and graded. Correlation of peripheral retinal ischaemia with macular edema and its chronicity was evaluated.

### Results
60% eyes with DME exhibited areas of significant retinal ischaemia as seen on wide field imaging. There was a significant direct correlation between DME and peripheral retinal ischaemia. Wide field imaging identified more eyes and severe grade retinal ischaemia than standard angiography. Also wide field imaging detected new vessels in 9 eyes compared to standard angiography.

### Conclusion
Retinal ischaemia is significantly correlated with DME in treatment-naïve patients with DR. Wide field imaging is a useful tool for detecting peripheral retinal ischaemia and associated new vessels which may have direct implications in the diagnosis, follow-up and treatment of DME.
Title of Paper: Focal choroidal excavation and its associations- a new spectral domain optical coherence tomography finding

Purpose: To describe the clinical findings and multimodal imaging in patients with focal choroidal excavation (FCE).

Method: It is retrospective observational case series. The medical records of 8 eyes of 8 patients with FCE were reviewed. Multimodal imaging findings including color photography, fundus autofluorescence (FAF), fluorescein angiography (FA), indocyanine green angiography (ICGA), spectral-domain optical coherence tomography (SD-OCT), enhanced depth imaging (EDI) and OCT angiography (OCTA) were analyzed.

Results: The mean age of the patients was 39.5±22.55 years. All patients had unilateral involvement. Excavation was of conforming type in 4 eyes and non-conforming type in other 4 eyes. FCE was associated with choroidal neovascular membrane (CNVM) in 2 eyes and central serous retinopathy in 1 eye. FCE was located sub-foveally in 3 eyes and extrafoveally in 5 eyes, EDI revealed compression of outer choroidal layers beneath the excavation. In all eyes abnormally large choroidal vessels were seen adjacent to the excavation with mean choroidal thickness of 399 ±58.07µm.

Conclusion: Focal choroidal excavation is a newly described idiopathic entity. Focal choroidal excavation appears to be an association of pachychoroid spectrum disease and diagnosed mainly on structural OCT. Although most lesions remain stable, secondary choroidal neovascularization may occur which responds well to intravitreal anti-VEGF agents.
**Title of Paper**
Tomographic evaluation of the natural progression of Retinal Artery Macro-aneurysms (RAM).

**Purpose**
To study the tomographic features of RAM and assess their correlation with the natural progression.

**Method**
A retrospective analytical study of 22 patients with RAM who attended our OPD was done. The demographic and clinical details were noted. Heidelberg Spectralis SD OCT was used to perform a high definition OCT analysis. Tomographic features noted included location, size, vessel wall, internal consistency and associated signs of activity.

**Results**
Of the 22 patients, 55% were male and 45% female. 91% of the patients were hypertensive. In 12 eyes, lesions were more than 300µ in diameter. In 17 eyes, the vessel wall was indistinct. The internal consistency was hyper-reflective in 12 and hypo-reflective in 5 eyes. The RAM was shrunken with crenated appearance in 5 eyes. In the acute stages, the RAM was larger, had a heterogeneous appearance with hyper-reflectivity inside and no distinct vessel wall and were associated with bleeding. RAMs with a distinct vessel wall & hypo-reflectivity were likely to be exudative. Inactive RAMs were shrunken and dense.

**Conclusion**
OCT features of RAM including the size, presence or absence of vessel wall and the amount of internal reflectivity can help us prognosticate RAMs and hence, understand the disease progression better. This information further aids us in decisions about treatment and prognosis.
Title of Paper | A NEW IMAGING MODIFICATION TO DIAGNOSE LAMELLAR HOLE ASSOCIATED EPIRETINAL PROLIFERATION
---|---
Purpose | To report the differences in imaging characteristics of Lamellar hole associated epiretinal proliferation (LHEP) and Epiretinal membrane (ERM) and to study the usefulness of a new imaging modification in identification of LHEP on SD OCT.
Method | A retrospective review was performed on LAMH, FTMH and ERM eyes that were imaged on OCT at the Retina clinic during the period Jan 2017 and Jan 2018. Identification of LHEP was done on SD OCT images. OCT features were compared between ERM patients and those with LHEP. Comparison of white on black OCT images with back on white OCT images at a predetermined contrast (12) on the Spectralis image viewing software was done.
Results | 24 eyes were diagnosed to have LHEP. ERM on SDOCT appeared to have increased reflectivity with less thickness compared to LHEP. All LHEP eyes did not have lamellar defects or full thickness defects. The white on black images identified LHEP in 86% cases but the detection was 100% on black on white images. LHEP was seen as a grey lesion with thin black outline on white on black OCT images compared to black ERM lesions.
Conclusion | LHEP is an uncommon pathology seen on SD OCT images in eyes with LAMH, ERM and FTMH. The back on white images on SD OCT detects LHEP more easily than the traditional white on black images and helps to differentiate from ERM.
<table>
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<tr>
<th><strong>Title of Paper</strong></th>
<th>Intra Ocular Contact Lens Versus LASIK: A Prospective analysis of 50 eyes with High Myopia</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To compare and analyse the post operative vision and complication between ICL and LASIK in high myopes</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>25 eyes each underwent intra ocular contact lens implantation and LASIK respectively and were compared. Refractive status ranged between -10.00DS to -13DS. Post operative vision, complication were compared analysed for 3 years.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Eyes which underwent ICL had a better visual recovery, stability of vision and less complication</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Intra Ocular Contact Lens proved to be better than LASIK according to the post operative vision, stability and complications.</td>
</tr>
</tbody>
</table>
Title of Paper
The Utility of Retcam wide-field imaging in paediatric retinal pathologies other than ROP.

Purpose
To analyse the feasibility of Retcam Wide-field fundus imaging in children.

Method
It was a retrospective observational study done in paediatric patients who underwent Retcam imaging during the period November 2016 to May 2018, at a tertiary eye care centre. A detailed medical history, visual acuity assessment, cycloplegic refraction, slit lamp examination and indirect ophthalmoscopic examination were done in all cases. Subjects were followed up during the study period as per the case warrants. Out of the total 1310 examinations on Retcam, 1264 examinations involved ROP eyes. After excluding these eyes, 46 eyes with pathologies other than ROP were included in the analysis.

Results
A definite retinal pathology could be identified in 42 eyes while in 4 eyes (8.6%) images were not clear. The pathologies identified included Retinoblastoma (14 eyes), Optic nerve tumours (2 eyes), TORCH infections (4 eyes), post trauma (4 eyes), Retino-choroidal colobomas (4 eyes) and others - PFV, Coat’s disease, FEVR, Microophthalmos, Macular scar and Disc pallor. The mean age of study group was 9 months (2 weeks to 2.5 years). It was observed that the clarity of images was best up to 1 year of age and poor beyond that age.

Conclusion
Retcam Wide field imaging is a useful investigative modality that enables easy documentation of fundus and to monitor the progression of many retinal pathologies especially in children less than 1 year of age. It also helps clinicians to convince parents regarding the need for treatment, follow up and referral.
Ocular manifestations of Von Recklinghausen's Neurofibromatosis in a young adult

To evaluate the ophthalmological features and the cause of glaucoma in a patient with Von Recklinghausen's Neurofibromatosis

A 20 year old male with complaints of painless reduced vision in the right eye which he noticed until recently underwent measurement of Visual Acuity (VA), Intraocular pressure (IOP) with Goldmann applanation tonometer, Gonioscopy with Sussman lens, slit lamp microscopy and Indirect Ophthalmoscopy (IDO).

Patient had cafe au lait spots with neurofibromas over his trunk and arms. His VA was hand movements right and 6/6 left. IOP was 25 mm Hg right and 20 mm Hg left. Anterior segment in the right showed Lisch nodules, prominent corneal nerves and relative afferent pupillary defect. Gonioscopy revealed narrow angles with no nodules or membranes. Right fundus had chronic Retinal detachment (RD) with both eyes optic disc glaucomatous cupping. Patient had undergone right RD surgery and his intraocular pressure has been maintained on anti glaucoma medications.

The choice of treatment in Von Recklinghausen's Neurofibromatosis depends on the severity of glaucoma, the patient's age and mechanism if glaucoma.
## ABSTRACT DETAILS : DS19-216

| Title of Paper | Clinical profile of thyroid ophthalmopathy in patients with Graves disease |
| Purpose | Thyroid-associated orbitopathy or Graves ophthalmopathy, is part of an autoimmune process that can affect the orbital and periorbital tissue. Early identification of development of thyroid ophthalmopathy is important as the disease process can become sight threatening. This study analyses the clinical characteristics, sociodemographic variables and risk factors of thyroid ophthalmopathy. |
| Method | This is a cross sectional study conducted in 36 patients with graves disease attending OP department of medical college Thiruvananthapuram and RIO for a period of 1 year from January 2017 to January 2018. The clinical characteristics and demographic patterns of patients are evaluated and are classified based on EUGOGO classification. Subjects who have a prior diagnosis of graves disease are included in the study. Patients who are sick due to other systemic disease like cardiac failure end stage renal disease are excluded. |
| Results | Out of the 36 patients taken, majority were females (65.7%). Majority of patients had lid signs (85.7%). Exophthalmos was found in 82.9%. 50% had moderate to severe soft tissue involvement. 68.6% showed some amount of extraocular muscle involvement. 58% had some sort of corneal involvement, of which 2.7% is sight threatening. Optic nerve dysfunction noted in 5.5%. No association was found between comorbidities and severity as well as activity of disease. There was no association of severity as well as activity of disease with TSH value. 20% patients has active disease (clinical activity score ≥ 3) according to EUGOGO classification. 8.3% has sight threatening disease, 27.7% has moderate to severe disease and 64% has mild disease when classified according to EUGOGO classification. |
| Conclusion | Majority of patients in our population has mild disease with predominant lid signs. Only 8.3% has sight threatening disease. TSH value as well as comorbidities has no significant association with severity or activity of the disease. EUGOGO classification is a useful tool for classifying patients with thyroid ophthalmopathy. |
Title of Paper: ACUTE RIGHT SIDED ECCENTRIC PROPTOSIS AND LEFT PAROTID SWELLING - AN UNUSUAL PRESENTATION

Purpose: To analyse correlation between simultaneous presentation of acute right sided eccentric proptosis and left sided parotid lesion.

Method: 43 year male acute onset rapidly progressing right eye protrusion and left parotid enlargement 1.5 months, associated diplopia, anosmia, epistaxis. History of watering from right eye 10 months back. General examination: left parotid swelling 12*10*7cm, widened root of nose, right intranasal mass filling nasal cavity completely. Right eccentric proptosis with eyeball pushed laterally and superiorly, 5*1cm mass in medial orbital wall extending inferomedially. All extraocular movements restricted on right, grade 1 RAPD. BCVA-Rt 6/18, Lt-6/6. Right central field "enlargement of blind spot, Right fundus suggestive of compression of optic nerve, 360 degree choroidal folds.

Results: CT showed large aggressive mass epicentered in Right ethmoid sinus with erosion of right cribiform plate & right lamina papyracea with right intra orbital extraconal compartmental extension and to medial rectus. MRI was consistent with PNS malignancy with extensive spread to surrounding including right orbit. Left parotid showed metastases with lymph node enlarged. Diagnostic nasal biopsy of mass done and sent for histopathology examination.

Conclusion: Unilateral eccentric proptosis with rapid progression which began as nonspecific watering months before proptosis. Nonspecific watering unilateral should raise suspicion of PNS malignancy. By the time it erodes orbital wall it would have undergone distant metastases. Presentation with ipsilateral proptosis and contralateral parotid swelling is very rare and unusual.
**Title of Paper**  
Beware of the Unawareness

**Purpose**  
To acknowledge the limitations of conservative treatment modalities in a case of orbital cellulitis and corneal opacity due to exposure keratopathy

**Method**  
11 year old boy, case of recurrent sinusitis, presented with fever, pain and swelling of left eye, with recently treated Right eye orbital cellulitis. On examination, child was diagnosed with orbital cellulitis of left eye with corneal epithelial defect following inadequate lid closure and exposure of the left eye. He was started on Topical antibiotic and lubricant eyedrops along with systemic Antibiotics.

**Results**  
Patient became afebrile and symptomatically better. On 3rd day, he developed seizures and on Imaging "left eye orbital cellulitis with frontal lobe abscess with midline shift. Burr hole evacuation of abscess was done and the child recovered. Eventually left eye epithelial defect healed with corneal macular opacification

**Conclusion**  
This signifies the importance of Imaging and multidisciplinary approach in a case of rhinosinusitis or orbital cellulitis even in symptomatically better patients.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>It was not VKH</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To report leukemic choroidopathy masquerading as Vogt-Koyanagi-Harada disease (VKH).</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>A 27 years old male patient presented with complaint of diminution of vision both eyes with best corrected visual acuity 6/6 both eyes. Fundus examination showed multiple areas of serous detachment and provisional diagnosis of VKH was made. Fundus Fluorescein angiography (FFA) was suggestive of VKH. But B-scan did not show any choroidal thickening. So Indocyanine Green Angiography (ICGA) was advised. Patient came after nine days and examination showed spontaneous resolution of the detachment. ICGA did not show any hypocyanescent areas usually associated with VKH.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>Since diagnosis was not certain, it was decided to investigate the patient for other causes of uveitis. Blood test report came positive for Acute lymphoblastic leukemia. He was referred to oncologist.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Spontaneous resolution of serous retinal detachment in a short period of time can be seen in leukemic choroidopathy before its treatment starts. This report also emphasizes the importance of performing ICGA in atypical cases of uveitis.</td>
</tr>
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</table>
A Questionnaire Based Survey on the Economic and Social Implications of Lens Induced Glaucoma and Hypermature Morgagnian Cataract in Kerala in the Present Scenario

To study the social and economic implications of Lens induced glaucoma and Morgagnian cataract in the present scenario in Kerala.

Questionnaire based survey conducted among all lens induced glaucoma and Hypermature Morgagnian cataract cases in a tertiary referral centre in Kerala between 2017 January to 2018 May. 32 patients with Hypermature Morgagnian cataract (n= 24) and Lens induced Glaucoma (n=8) were enrolled. Mean age was 63.78 years including 12 males and 20 females (62.5%). Right eye was involved in 17 while left eye in 11 and bilateral in 4 patients

18 patients (56%) had no income of their own and were dependent or housewife.6 patients were not having any offspring while the mean number of children were 2.3. Monthly income was less than 10000 in 26 cases (81.25%). 87.5% had only primary school education. 13 patients (40.6%) did not come for eye checkup since there was nobody to look after them. 11 (34.4%) had economic issues and 6 (18.75%) had co morbidities as a reason for postponing eye surgery. Patients were from village (40.6%) Coastal areas (40.6%) and town (18.75%). Transport to hospital was a problem in only 2 cases

The upfront educated and literate Kerala society is facing new challenges in the delivery of health care system to the needy in the form of unavailability of people to look after, co morbidities as barriers compared to economic issues. This highlight the need for distributing resources in a better way
<table>
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<tr>
<th>Title of Paper</th>
<th>IOP changes following Phacoemulsification</th>
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</table>
| Purpose        | 1) To find out the IOP changes in eyes with preexisting angle closure disease (ACD) following Phacoemulsification surgery  
2) To compare this IOP changes with age matched control eyes and with POAG eyes. |
| Method         | Inclusion criteria:  
1) Set A: Eyes with cataract and ACD (PACS, PAC, PACG).  
2) Set B: Eyes with Cataract and POAG.  
3) Set C: Eyes with Cataract with no other ocular comorbidities.  
30 eyes were taken in each group.  
Follow up done post surgery for 3 months.  
IOP was measured by Applanation Tonometry (AT)  
Change in IOP was categorized as  
a) Same: If IOP did not fluctuate more than 2 mm Hg  
b) High: If IOP increased more than 2 mm Hg  
c) Low: If IOP reduced more than 2 mm Hg |
| Results        | In ACD group:  
A) 50% patients had drop in IOP (average 4.5 mmHg).  
C) IOP was elevated in 10% with average rise of 3 mm Hg  
D) IOP remained same in remaining 40%  
In POAG group  
A) 65% patients had IOP in the same group  
B) 22% had lower IOP. Average IOP drop was 4.1 mmHg.  
C) Remaining only 13% had a rise in IOP. Average 4 mmHg  
In eyes with only Cataract  
A) 56% patients had IOP change less than 2 mm Hg  
B) 36% had lower IOP. Average drop of 3.9 mm Hg  
C) 8% had high IOP. Average IOP rise of 4.1 mm Hg. |
| Conclusion     | 1) IOP reduction was more commonly found in ACD group compared to POAG or pure IMSC group  
2) Larger percentage of patients had no significant IOP change in POAG group and IMSC group.  
3) IOP rise was rarely seen in all the 3 groups with similar small frequency. |
<table>
<thead>
<tr>
<th>Title of Paper</th>
<th>Diabetic Macular Edema (DME) with Large Serous Macular Detachment &quot;A new subtype or a rare association&quot;</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>To evaluate the findings of Diabetic retinopathy cases with large serous macular detachment by multimodal imaging. Study tries to understand whether this is two different conditions i.e. Diabetic Macular edema with superadded central serous Chorioretinopathy associated together or a new entity</td>
</tr>
<tr>
<td>Method</td>
<td>Retrospective consecutive case series of 17 patients. All patients underwent multimodal imaging including FFA, Spectral OCT, fundus autofluorescence and EDI. FFA showing CSCR like RPE leaks and/or fundus autofluorescence showing Hyperautofluorescent patches were included. Cases with hazy media obscuring the interpretation of FFA and FAF were excluded</td>
</tr>
<tr>
<td>Results</td>
<td>18 eyes of 17 patients, including 14 males with a mean diabetes mellitus of 15.4 years were analyzed. Mean Subfoveal fluid height in OCT was 216.5 microns. 33.3% had double layer sign and mean Subfoveal choroidal thickness was 312 microns. 66% had pachyvessels in EDI. 16 eyes had Hyperautofluorescent patches in autofluorescence test. 88.8% had NPDR. 77.7% had RPE smoke stack leaks other than diabetic changes. Focal laser to the leak alone resulted in resolution of fluid in most of the cases. Younger age of onset of diabetes and presence of hypertension appears to be associated with this condition</td>
</tr>
<tr>
<td>Conclusion</td>
<td>FFA and Fundus autofluorescence confirm CSCR like picture in some diabetic retinopathy cases. This could be a new subtype of DME called diabetic Chorioretinopathy (DCR) supported by the EDI and presence of pachyvessels rather than an association of DME with CSCR</td>
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<tr>
<td>Title of Paper</td>
<td>Autofluorescence Imaging in monitoring of Optic Nerve Head Melanocytoma</td>
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<tr>
<td>Purpose</td>
<td>To underline the significance of serial autofluorescence imaging in monitoring the progression in a case of optic nerve head melanocytoma.</td>
</tr>
<tr>
<td>Method</td>
<td>A case of OpticNerve Head melanocytoma with secondary CNVM is presented which was diagnosed, treated and then was followed up for the next 5 yrs with color fundus photography and autofluorescence imaging at each follow up.</td>
</tr>
<tr>
<td>Results</td>
<td>Though the diagnosis of Optic Nerve Head melanocytoma is based solely on clinical examination, the treatment and monitoring needs other imaging techniques like autofluorescence imaging, color fundus photography and OCT to detect progression in size and development of complications. In this case we were able to detect increase in size of the lesion on Autofluorescence imaging before it could be seen on color fundus photography.</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Autofluorescence imaging appears to be a good monitoring tool as compared to color fundus photography to detect progression in size in cases of ONH melanocytoma. This imaging modality may help in early identification of size increase and may serve as a biomarker for predicting malignant transformation.</td>
</tr>
</tbody>
</table>
# Title of Paper

ARE BABIES BORN OF INFERTILITY TREATMENT MORE PRONE FOR SEVERE RETINOPATHY OF PREMATURITY?  
A PRELIMINARY ANALYSIS OF CRADLE ROP DATA

## Purpose

To examine the incidence of Retinopathy of Prematurity (ROP) in children conceived through assisted reproductive techniques and to analyse whether the severity of ROP varied with babies born through natural conception.

## Method

This was a retrospective chart analysis of the CRADLE ROP data between Sep 2016 and April 2018 and included neonates screened for Retinopathy of Prematurity using the mobile Retcam Imaging system. Birth weight, gestational age, time of first examination, presence or absence of any stage of ROP, severity of the disease especially APROP and treatment were analyzed.

## Results

492 Neonates were examined during this period. ROP was detected in 24.7% neonates and treatment for ROP was advised in 19.6% neonates. 34 infants (6.9%) were born through assisted conception. Infants born through assisted conception accounted for 25% of all those infants requiring treatment. Out of those born through natural conception 22% (10 of 458) developed ROP and 17.8% of these needed treatment. 32% (11 of 34) of those born through assisted conception cases developed ROP and 54% (6 of 11) of these needed treatment. Bilateral APROP requiring antiVEGF treatment was seen in 11% babies in the assisted conception group compared to 1.9% in the other group.

## Conclusion

ART babies make up a considerable proportion of the ROP babies who need treatment. Therefore increased vigilance is required when screening babies conceived by assisted conception. With the demand for infertility treatment and use of assisted conception increasing, it can only be expected that this number will increase in future.
# Title of Paper
Full Thickness Skin Graft (FTSG) in periocular reconstructions- long term outcome

## Purpose
To evaluate the outcomes of periocular reconstructions in patients who underwent full thickness skin graft (FTSG).

## Method
Retrospective noncomparative interventional study of patients who underwent full thickness skin graft between 2011 to 2017. Demography, indications for surgery, donor sites and graft related complications were analysed. The primary outcome measures were FTSG host site complications like partial/complete graft failure, graft infection, acute bleeding/haematoma, graft hypertrophy, and graft contracture. Secondary outcome measures were lid position, colour match and graft pigmentation.

## Results
Fifteen eyes of 12 patients were included. There were 8 males and 4 females. Follow up ranged from 6 to 48 months. Indications were cicatricial ectropion (66.7%), trauma (16.6%) and following tumour excision (16.6%). Donor sites were post auricular (41.7%), pre auricular (25%) & upper arm (33.3%). Early postoperative complications included lower eyelid graft contracture in 4 eyes (26.7%) and partial failure in two eyes (13.3%). Late sequelae were mild ectropion (20%) and graft hyper pigmentation in 13.3% eyes. Ectropion due to ichthyosis and trauma had a recurrence. Good lid position attained in 12 eyes (80%) and good color match in 14 eyes (93.3%).

## Conclusion
Majority of patients with full thickness skin graft have excellent graft survival and minimal donor site morbidity. The final outcome depends on the underlying pathology and the timing of surgery.
Title of Paper
To study prevalence of diabetic retinopathy among diabetic population in an urban region of Kochi city.

Purpose
1. To study prevalence of diabetic retinopathy among diabetic population in an urban region of Kochi city.
2. The study the factors associated with prevalence of diabetic retinopathy.

Method
It is a community based cross sectional study. Self proclaimed diabetics on antidiabetic treatment called as 'known diabetics' were identified through a door to door survey by community health workers in the urban area of kaloor in Kochi. Ophthalmic evaluation was done at preselected sites and patients underwent visual acuity evaluation, slit lamp and dilated fundus examination using indirect ophthalmoscopy by a trained observer. Diabetic retinopathy was classified according to ETDRS classification and sight threatening retinopathy was also defined as severe/very severe npdr/PDR/CSME. Results were entered into a proforma and computed using the IBM SPSS version 20.0.

Results
Among the 513 'known diabetics' in kaloor region, we screened 500 patients for diabetic retinopathy.

The overall prevalence of diabetic retinopathy is 22.6 % in the study. Male subjects among the known diabetics were 173. Female subjects among the known diabetics were 327. Among them the prevalence of Sight threatening diabetic retinopathy [STDR] is 6.4 % out of all the known diabetics and 28.32 % out of the subjects with diabetic retinopathy.

Conclusion
CONCLUSION
Prevalence of diabetic retinopathy is mainly associated with factors like duration of diabetes mellitus and control of blood sugars.
<table>
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<tr>
<th>Title of Paper</th>
<th>COMPARISON OF CONVENTIONAL COLOR FUNDUS PHOTOGRAPHY AND MULTICOLOR IMAGING IN MACULAR TELANGIECTASIA TYPE 2</th>
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<tbody>
<tr>
<td>Purpose</td>
<td>To compare multicolor and color fundus imaging in type 2 macular telangiectasia patients</td>
</tr>
</tbody>
</table>
| Method        | Study design: retrospective chart review  
Fourteen patients who had already been diagnosed as macular telangiectasia were enrolled in the study. Fundus images of patients were captured using conventional color fundus photography and heidelberg multicolour imaging system. Specific features of macular telangiectasia type 2 (temporal whitening, parafoveal whitening, inner retinal crystals, pigment clumping, right angled vessels, haemorrhages) were analyzed in both images by two independent observers. Analysis of OCT in discrepant cases were also done. |
<p>| Results       | 26 eyes of 14 patients affected with mactel type 2 were assessed. 38.5% cases showed temporal whitening in multicolour compared to 19.2% in CFP. Parafoveal whitening and right angled vessels were observed in multicolour imaging only. Pigment clumps are equally well seen in both imaging modalities. Retinal crystals are better seen in multicolour imaging |
| Conclusion    | Multicolor retinal imaging allows for improved detection of macular changes in macular telangiectasia type 2 compared to conventional colour fundus photography. |</p>
<table>
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<tr>
<th><strong>Title of Paper</strong></th>
<th>Association between neurodegenerative and microvascular changes in diabetes</th>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>Determine the association between neurodegenerative and microvascular changes in diabetes by evaluating the relationship between diabetic retinopathy (DR) and diabetic peripheral neuropathy (DPN).</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>We conducted a retrospective cross sectional analysis on 500 patients who attended the Endocrinology department at a quaternary health care centre in Central Kerala between November 2017 to April 2018. Patients with type 2 DM above the age of 30 who had neurological and retinal assessment done were included in the study. DPN was diagnosed and graded by history and vibration perception threshold using biothesiometer. Chi-square test was used to find the association between DR and DPN and their severities. Univariate and multivariate regression analysis were used to find added risk factors for DR and DPN.</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>There is significant association of DR with DPN with 86% of patients with DR having DPN (p value &lt; 0.001). 100% of PDR has DPN with 92.9% having severe DPN (p value &lt; 0.001). More than 80% of patients with mild to moderate NPDR has DPN (p &lt; 0.001) and 58% of patients with no DR has DPN. However only 57% of DPN patients had DR. Patients with severe NPDR and PDR were 4.161 times more likely to have DPN; the prevalence of DPN was found to rise with increasing severity of DR.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>There is significant association between DR and DPN. Our study suggests DPN precedes the development of DR. The presence of DR is a strong predictor of DPN. This supports the theory that neurodegenerative changes in DR preceded microvascular changes.</td>
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<tr>
<td>Title of Paper</td>
<td>Sub macular surgery: Diving into the red sea</td>
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<td>--------------------------------------------</td>
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<tr>
<td>Abstract</td>
<td>Sub macular haemorrhage (SMH) when it involves the central macular area, poses severe threat to vision. It is most commonly due to polypoidal choroidal vasculopathy and CNVM from AMD. Given its poor natural course, various treatment options have been tried, but ideal treatment is still dubious. Various surgical options include pneumatic displacement of SMH with or without tissue plasminogen activator and direct clot evacuation through one or more retinotomies. Here we present the surgical techniques done in our institute for SMH and their outcomes.</td>
</tr>
</tbody>
</table>
**Title of Paper**
Clinical spectrum and visual outcome of optic neuritis at a quaternary health care centre in Southern India.

**Purpose**
To evaluate the demographics, clinical features, visual outcome and prognostic factors of optic neuritis (ON).

**Method**
This is a retrospective analysis of patients with optic neuritis who presented to ophthalmology clinic at a quaternary referral centre, South India within the time period 2013 - 2017. The clinical diagnosis of ON was made on the basis of acute optic nerve dysfunction, with or without optic nerve swelling along with abnormal visual evoked potential and magnetic resonance imaging. All the patients received intravenous methylprednisolone 1 g for 3-5 days followed by tapering dose of steroids.

**Results**
43 (51 eyes) patients with optic neuritis were evaluated. Mean age was 36.92 +/-16.66. 53% of patients were in the 20-40 age group. Male female ratio was 1: 1.9. Bilateral presentation was seen in 18.6% patients. Baseline mean logMAR BCVA was 0.91 that improved to 0.15 at 6 months with 80% of patients having a BCVA of > 6/12 at 6 months. On paired T test final visual acuity was found to be significantly better than baseline visual acuity (p<0.001). Papillitis was the most common presentation (71%). Idiopathic optic neuritis (53%) was the most common type pf ON.

**Conclusion**
Contrary to Optic neuritis treatment trial, Isolated idiopathic optic neuritis is the most common optic neuritis in our population with papillitis the most common presentation. The visual outcome at 6 months was good in our study group.
Title of Paper: Ectopic Inner Foveal layers (EIFL)- Is it a big deal in the management of Epiretinal membranes?

Purpose: To compare the functional and anatomical outcomes after surgical treatment of epiretinal membranes (ERM) in cases with and without ectopic inner foveal layers.

Method: A total of 100 eyes of 98 patients with idiopathic ERM were retrospectively staged according to the newer OCT classification and divided into two groups on the basis of presence or absence of EIFL. The two groups were evaluated for various parameters including visual acuity, thickness of the EIFL, re-appearance of the foveal contour, outer retinal changes and complications before and after ERM peeling. Correlation analysis was done using chi square test and p-values were obtained for corresponding variables.

Results: Of 100 eyes with ERM, 20% had stage 1, 29% had stage 2, 42% had stage 3 & 9% had stage 4 disease. VA was worse in eyes with EIFL as compared those without it. Correlation of VA with EIFL thickness however was not significant. Surgical removal of ERM didn't alter EIFL frequency though the thickness decreased. New EIFL appeared in 4% eyes and 35% demonstrated thickened fovea after surgery. Anatomical reappearance of foveal contour was poorer in eyes with EIFL. Outer retinal changes were more common in non EIFL eyes. Lamellar hole and nontractional cysts were more common in EIFL eyes.

Conclusion: EIFL is a significant prognostic tool to predict the outcomes of surgery in Epiretinal membrane. EIFL eyes did not regain foveal contour, had less outer retinal damage but was associated with poorer visual outcomes.
Title of Paper: Qualitative OCT biomarkers for visual improvement in diabetic macular edema treated with anti VEGF (ranibizumab) injections

Purpose:
1. To identify baseline OCT biomarkers that can predict good visual outcome in diabetic macular edema after anti VEGF treatment.
2. To identify whether a change in any OCT biomarker during the study is associated with good visual outcome.

Method:
We included 37 patients with treatment-naïve diabetic macular edema and Hba1c less than 7. They were treated with monthly injections of intravitreal ranibizumab for 6 months. All patients underwent a complete ophthalmological evaluation including OCT with the Zeiss Cirrus HD OCT 4000. At 7 months after treatment, patients were divided into 2 groups, those who had >10 letter improvement and those who had < 10 letter improvement or no improvement. Baseline OCT characteristics and change after 3 injections and 6 injections were entered into proforma by 2 masked observers and results computed with the SPSS 20.0 software.

Results:
We had 16 females and 21 males. Group A had 29, group B had 8 subjects. OCT biomarkers - presence and location of cystoid spaces, presence of SRF/SMD, presence of highly reflective foci, integrity of the IS OS junction, COST line, presence of DRIL and presence of vitreomacular interface abnormalities were studied. We found that presence of subretinal fluid was a statistically significant predictor of good visual outcome. Presence of DRIL and disrupted IS -OS was associated with poor outcome. Development of DRIL or disruption of COST line during the study was also associated with poor visual outcome.

Conclusion:
Our study aimed to identify predictive factors on OCT that could signal good visual outcome after treatment in diabetic macular edema. The presence of SRF was found to be single most important predictive biomarker in OCT for good visual outcome,
Green FD-NdYAG LASER therapy for eyelid lesions

To study the role of Frequency Doubled NdYAG LASER in treatment of eyelid lesions

A retrospective study was done on 1348 patients in a tertiary care center who had undergone FD NdYAG LASER for eyelid pathologies from June 2016 to June 2017.

Patients aged 18 to 75 were included. They were followed up for 6 months, with weekly visit in first month and thereafter monthly review for next 5 months.

Patients lost to followup at 6 months were excluded.

After local infiltration with 2% lignocaine, slitlamp 532nm frequency doubled NdYAG LASER was applied. Post op, antibiotic-steroid was given.

Out of 1348 patients , 916 were Females and 432 were males. Disease distribution was Wart 26%, Molluscum 22%, Papillae 19%, Cyst 17%, Others 16% . Complications were as shown in the table. Mild redness and pain was seen in some cases. Some cases had recurrence within the 6 month followup period as shown and required a repeat procedure. They were taken as failure of treatment.

Several eyelid pathologies are amenable to LASER therapy for cosmetic reasons.

NdYAG LASER helps in bloodless and safe alternative treatment for some of these lesions.

Patients acceptance was good as it is bloodless and painless procedure.

To conclude, it is a simple alternative therapy in adnexal lesions for cosmetic purpose.
<table>
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<tr>
<th>Title of Paper</th>
<th>Making Language Handbook Apps for Ophthalmologists - Malayalam, Tamil, Bangla, Telugu, Hindi</th>
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<tbody>
<tr>
<td>Abstract</td>
<td>The authors made a few regional language translator apps for eyecare professionals to use while conversing with patients who know only that language. Four regional languages were chosen for the first trial: Malayalam, Tamil, Bangla, Telugu. The free Apps were made on Android platform using Phonegap, a mobile App programming environment. Based on feedback from ophthalmologists and optometrists, updates were made, more words and phrases added, sections created and reorganised. The updated Apps were circulated on social media and feedback is being collected for further improvements. The authors hope to use these apps to help eyecare professionals across the country to communicate with patients only familiar with specific regional languages.</td>
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</tbody>
</table>
### Title of Paper
Virtual Reality headsets for watching 3D surgical videos and 3D photos in ophthalmology

### Purpose
To evaluate the various methods of watching 3D ophthalmology content and their affordability, quality, usability and effectiveness

### Method
The authors tested various methods of 3D viewing including 3DTV, red-blue anaglyph, stereo viewer, cross & parallel eye viewing, mirror viewing and Virtual Reality Headsets including Google Cardboard.

Some ophthalmic 3D content was made by the authors using special 3D cameras, some using special smartphone apps and some using specialized computer software.

Other readymade ophthalmic 3D content was downloaded or streamed from some freely available collections online and streaming websites.

The advantages and disadvantages, affordability, quality, usability and effectiveness of all these various techniques and content was evaluated and described.

### Results
We made 3D photos and videos using smartphones and 3D cameras.

We tested expensive 3DTV, medium cost red-blue anaglyph method and inexpensive virtual reality headsets and several other methods to watch 3D surgical videos and 3D ophthalmic photos.

We learnt how to obtain 3D ophthalmology content online and to calibrate the Virtual Reality Headset for viewing 3D.

The various other methods of viewing 3D are also covered and the best method for 3D classroom teaching is discussed.

### Conclusion
The advantages of 3D videos and photos in ophthalmology and the ease of viewing such 3D content is apparent.

We hope to add value to ophthalmology teaching programme with use of this innovative teaching method which has become easily available due to recent advances in low cost technologies.
### Title of Paper
A study of OCT biomarkers in Diabetic Macular Edema (DME) treated with intravitreal Dexamethasone implant.

### Purpose
Identification and categorization of DME patients according to OCT biomarkers, seen in DME, and to study the change in these biomarkers post intravitreal Dexamethasone implant.

### Method
It is a Retrospective, observational cohort study of a total of 21 treatment naïve patients treated with intravitreal Dexamethasone implant for DME. OCT scans before treatment and at 2 and 4 months after treatment were analyzed and compared for central macular thickness, macular volume, submacular fluid, type of edema, average size and location of cystoids spaces, inner segment- outer segment continuity, quantity and location of hyperreflective foci (HRF), Vitreomacular interface abnormalities amongst others. The correlations between the same were studied by statistical analysis.

### Results
Comparison of OCT biomarkers pre and post intravitreal Dexamethasone implant showed that visual outcomes at 2 and 4 months were better in eyes with lower central macular thickness (p value of 0.007 and 0.005) and lower macular volume (p value of 0.008 and 0.005) at baseline. Also, presence of submacular fluid and integrity of the IS-OS junction at baseline were predictors of a better visual outcome in these patients.

### Conclusion
Amongst eyes with DME, in those with submacular fluid and a continuous IS-OS layer, treatment response was better. Also, visual outcomes were better in eyes with lower central macular thickness and lower macular volume. OCT biomarkers maybe a reliable tool to predict the treatment response to Dexamethasone implants in DME.
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<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Objective measurement of anterior segment lesions from Smartphone Slitlamp Photos using App</th>
</tr>
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<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>To take smartphone slitlamp photos. To evaluate the use of a measurement app on smartphone to retrospectively measure size of lesions and their progression including height, width and area based on reference measurements</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Smartphone slitlamp photos of clinical anterior segment lesions were taken by the author some with and some without using a specialized adapter. An innovative smartphone app was used to take measurements including height, width and area using a reference measurement. These measurements were also replicated on a computer. Lesions with follow-up photographs were measured to estimate progression and regression over time. The usability, effectiveness, advantages, disadvantages and accuracy of these completely smartphone based photos and measurements were evaluated.</td>
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<tr>
<td><strong>Results</strong></td>
<td>Several slitlamp photographs of anterior segment lesions were taken using smartphone with and without adapter. Measurements of pterygiums, epithelial defects, corneal ulcers, hypopyons, subconjunctival hemorrhages and other lesions were done. Pupil size, palpebral fissure width, ptosis measurements, interpupillary distance etc were also measured using other smartphone photographs. Even optic disc and cupping measurement was tried out based on the same principles using photographs obtained using smartphone, slitlamp and 90D/78D lens. The usability, effectiveness, advantages, disadvantages and accuracy of these completely smartphone based photos and measurements were evaluated.</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Smartphone Slitlamp Photography is an easy, cost efficient method of objectively recording clinical findings. This paper goes further to measure these findings objectively and retrospectively so that accurate comparison is possible. This technique adds no cost to the ophthalmologist and would help them evaluate changing lesions accurately and treat effectively.</td>
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<tr>
<td><strong>Title of Paper</strong></td>
<td>Ophthalmic Apps for Stereopsis testing &amp; Amblyopia treatment</td>
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<tr>
<td><strong>Purpose</strong></td>
<td>To evaluate Ophthalmic Apps available for stereopsis testing and Amblyopia treatment</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>Some apps for stereopsis testing and other apps for amblyopia therapy were installed and evaluated by the authors. The features of each were tested and their uses were evaluated. Advantages and shortcoming were discussed</td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>There are several free apps and some paid apps for stereopsis testing on smartphone. This works with certain low cost attachments and is very cost effective. Similarly, there are amblyopia treatment apps available and are a low cost and enjoyable experience for children needing amblyopia therapy</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>Low cost and free alternatives exist for stereopsis testing and amblyopia therapy because of advances in smartphone technology. These can potentially replace much more expensive tests and devices atleast for screening and low cost treatment</td>
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### Title of Paper
Using just a Smartphone and App to Measure Ocular Lesions

### Abstract
The author uses a freely available smartphone app to measure lesions on anterior segment photographs taken on slitlamp using the same smartphone. This method attempts to make an accurate way to document lesions like corneal ulcer, pterygium, nevus, epithelial defect and many more using only bare minimum tools. The author discusses methods to obtain good quality smartphone slitlamp photographs and the requirements for the photograph to be measurable. Measurements include not only length, breadth and angle, but also area of the concerned lesions. The author compares with measurement on a computer version of a similar image measurement tool to identify advantages and disadvantages of completing the entire process on smartphone vs on computer. The author hopes to improve eye care with the help of easy and measurable image documentation practices.
<table>
<thead>
<tr>
<th><strong>Title of Paper</strong></th>
<th>Angle Closure in a patient of High Myopia</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td>We present this rare case of Angle Closure in High Myopia</td>
</tr>
<tr>
<td><strong>Method</strong></td>
<td>36 year old painter presented with complaints of redness, eye pain of sudden onset.</td>
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<td>Initial evaluation revealed high pressures and closed angles.</td>
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<td>Pressures were lowered with antiglaucoma medications and gonioscopy confirmed angle closure.</td>
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<td>YAG LASER Peripheral Iridotomy was done</td>
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<tr>
<td><strong>Results</strong></td>
<td>Angle Closure was relieved by the YAG PI.</td>
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<td>Biometry measurements including Axial Length and Anterior Chamber Depth were taken to evaluate the reason for the counter-intuitive high myope with narrow angles</td>
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<td>This is a rare case whereas usually high myopia is associated with a large axial length and greatly reduced risk of angle closure</td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>We present this rare case of angle closure in a high myope patient</td>
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