

## Residents Presentation

Chairperson: T Allan

### Management of Sub-macular Haemorrhage using Vitrectomy and Sub-retinal Injection of Tissue Plasminogen Activator and Anti-vascular Endothelial Growth Factor

A Adogwa<sup>1</sup>, RA Sharma<sup>2</sup>

<sup>1</sup>Department of Ophthalmology, General Hospital, Port-of-Spain, Trinidad and <sup>2</sup>Caribbean Eye Institute, Valsayn, Trinidad

**Introduction:** Sub-macular haemorrhage is an uncommon but visually devastating complication of choroidal neo-vascularization and wet age-related macular degeneration. It can result in damage to the retina due to several factors including, iron and haemosiderin toxicity to photoreceptors, shearing factors to the retina caused by clot retraction and physical separation of the photoreceptors from the retinal pigment epithelium (RPE). Early intervention therefore, is essential to better visual outcome. There are no definitive management protocols which varies from intravitreal injections of anti-vascular endothelial growth factor (anti-VEGF) to vitrectomy with and without tissue plasminogen activator (tPA). We present three cases of sub-macular haemorrhage managed by vitrectomy and subretinal tPA and anti-VEGF.

**Method:** Three patients underwent pars plana vitrectomy (PPV) followed by sub-retinal injection of 50 ug of tenecteplase (tissue plasminogen activator) and 1.25 mg bevacizumab (anti-VEGF).

**Results:** All patients showed subjective and objective improvement, measured by visual acuity as well as Optical coherence tomography (OCT) scans. Visual acuity improved from perception of light to 20/40 or better in all eyes at six months follow-up.

**Conclusion:** Pars plana vitrectomy with sub-retinal injection of tPA and anti-VEGF appears to be a safe and efficacious management option in the treatment of sub-macular haemorrhage.

### Vision Loss Secondary to Traumatic Optic Neuropathy

J Bristol-Smith, RA Sharma

Department of Ophthalmology, Scarborough General Hospital, Tobago

**Aim:** To raise an awareness of traumatic optic neuropathy (TON); to highlight the presentation, diagnosis, management and outcomes.

**Introduction:** Traumatic optic neuropathy (TON) results in severe visual impairment. It usually follows direct or indirect trauma to the optic nerve. Traumatic optic neuropathy can be unilateral or bilateral. Indirect traumatic optic neuropathy is the most common form of TON.

**Method:** A case review of clinical notes of patients presenting with loss-of-vision following trauma during the period August 2012 to January 2015 was carried out. Three cases of traumatic optic neuropathy were identified. Detail review of these three case notes was carried out.

**Results:** The visual outcomes were poor in all cases. This ranged from hand movements to no perception of light.

**Conclusion:** In all cases, the diagnosis was delayed. This may be a major factor in the poor visual outcomes. Raising awareness of this condition and how to diagnose it may allow early detection and better outcomes.

### A Case Series of Combined Pars Plana Vitrectomy and Penetrating Keratoplasty with the use of a Temporary Keratoprosthesis

D Modeste<sup>1</sup>, R Sharma<sup>2</sup>, D Singh<sup>3</sup>

<sup>1</sup>Ophthalmology and ENT Department, Port-of-Spain General Hospital, Trinidad and <sup>2,3</sup>Caribbean Eye Institute, Valsayn, Trinidad

**Introduction:** Temporary keratoprosthesis use during pars plana vitrectomy (PPV) followed by penetrating keratoplasty (PKP) has allowed posterior segment surgeons the ability to manage complex, coinciding anterior and posterior pathologies. Pathologies which may be traumatic or

non-traumatic in nature. Its use provides a clear window into an otherwise cloudy anterior medium while still providing a closed pressure system to allow posterior segment pathology to be addressed. Subsequently a PKP can be performed as the temporary keratoprosthesis preserves the peripheral cornea. A PKP at the end of a vitrectomy ensures that this clear window is maintained postoperatively and allows follow-up evaluation of the posterior segment. This case series follows three patients with various anterior and posterior pathologies. A total of three eyes underwent the procedure and completed eight months of follow-up postoperatively.

**Conclusion:** At the end of four months, three eyes had an improvement and stabilization of their visual acuity with no adverse side effects. The combination of PPV and PKP with temporary keratoprosthesis allows the resolution of complex posterior and anterior segment disease. This combined procedure has shown its value in treating patients with an only eye or poor visual acuity bilaterally due to poor anterior media clarity and posterior segment disease.

### **Patient Education as a Tool in the Management of Diabetes Follow-up**

*D Bartholomew<sup>1</sup>, R Sharma<sup>2</sup>*

*<sup>1</sup>Department of Ophthalmology, General Hospital, Port-of-Spain, Trinidad and <sup>2</sup>Caribbean Eye Institute, Valsayn, Trinidad*

**Objective/Introduction:** The management of Diabetes Mellitus (DM) continues to pose a challenge on the individual, regional and global scale. Within the Eye Clinic at the General Hospital at Port-of-Spain, Trinidad, the number of cases referred for vitrectomy due to diabetic complications has steadily risen over the past five years.

**Method:** One year ago, 250 patients and all staff were subjected to a questionnaire to establish the baseline of knowledge. An educational programme comprised of group education sessions, handouts, one-to-one information sessions, dietitian lectures and seminars was then instituted. A similar number of staff and patients were re-evaluated to ascertain its efficacy and reach.

**Results:** Almost 100% correct responses were received by staff. In addition, there was an increase in the number of correct responses for most questions, particularly complications of diabetes. It should be noted that patients were attentive during all sessions and participation was keen in interactive sessions, with many patients volunteering information the more sessions they attended. Group education sessions also have provided anecdotal evidence of improvement in not only psychological well-being, but of goodwill towards the patients themselves.

**Conclusion:** Patient education is essential to better self-management of diabetes resulting in fewer complications

and ultimately reducing morbidity and mortality of this disease.

**Practical implications:** Diabetes education is twofold: Treatment of new and existing patients and prevention delivered to young people nationwide.

### **Anterior Segment Optical Coherence Tomography to Assess Angle Structure in Patients with Primary Angle Closure**

*S Brown<sup>1</sup>, K Clarke<sup>2</sup>, D Murray<sup>3</sup>*

*<sup>1</sup>Kingston ophthalmic training center, <sup>2</sup>(HDH) Canada, Ontario and <sup>3</sup>The University of the West Indies*

**Background:** Assessment of the anterior chamber drainage is an important predictor and diagnostic measure in glaucoma practice. Gonioscopy is the gold standard method used to assess angle structure. However, anterior segment optical coherence tomography (AS-OCT) can be a useful complement to gonioscopy in assessing the drainage angle in patients with primary angle closure. It gives a cross-sectional image without requiring any contact with the eye.

**Purpose of research:** The purpose of this study is to present the AS-OCT findings in two patients with primary angle closure before and after undergoing YAG laser iridotomy. A review of the technique to measure the angle parameters using quantitative tools, including identification of important anatomical landmarks will be present.

**Results:** In both patient's angle width and area increased following YAG laser iridotomy. The change in measurements for angle opening distance (AOD500, AOD750), trabecular iris space area (TISA500; TISA750) and scleral spur angle (SSA) varied before and after significantly.

**Conclusion:** The detailed images produced by AS-OCT make it a useful addition to gonioscopy by providing quantitative measurements, which can be compared over-time.

### **The Effects of Intravitreal Gas on Vitreomacular Traction**

*M Cassar<sup>1</sup>, R Sharm<sup>2</sup>*

*<sup>1</sup>Port-of-Spain General Hospital and <sup>2</sup>Consultant Ophthalmologist, Caribbean Eye Institute*

**Background:** This study shows the effects of the use of intravitreal gas to treat vitreomacular traction.

**Method:** Six persons with vitreomacular traction were treated with intravitreal gas. These patients were followed over a period of at least three months using OCT imaging

**Results:** All patients had resolution. None required vitrectomy. No adverse effects recorded.

**Conclusion:** This study suggests that this treatment is a safe, cost-effective, minimally invasive and successful treatment for vitreomacular traction.

Intravitreal gas use in vitreomacular traction. These data have never been published before neither have they been presented to any scientific meeting.