Symposium on Retina

Chairperson: W Hastings

Saturday, July 16, 2016

Retinaws: Retinal Misadventures in the Operating Theatre: Video and Expert Panel Discussion

R Bhola

Traumatic retinal detachment surgical videos were reviewed and cases chosen to demonstrate the technique of proliferative vitreoretinopathy (PVR) membranes peeling in difficult trauma cases. When to perform circumferential retinectomy and when to peel subretinal PVR will be explained. The technique to achieve anatomical success will be reviewed and discussed.

A Case of Sector Retinal Pigmentation

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Introduction: Sector retinal pigmentation is commonly attributed to blunt trauma, retained intraocular foreign body, infections, retinitis pigmentosa, resolved retinal detachment, choroidal artery occlusion and pigmented paravenous chorioretinal atrophy (PPCRA).
Case Report: A 30-year female presented in 1997 with left eye superonasal sector retinal pigmentation and a corresponding visual field defect. She had mild measles at age six years and a severe horse riding accident at age 13 years with blood loss needing splenectomy and a negative family history of retinitis pigmentosa. The diagnosis was retinal pigmentation due to eye contusion from the riding accident. Electrophysiology suggested progressive retinal pigment epithelial dysfunction. In 2007, multiple sclerosis was diagnosed. In 2015, hyper-autofluorescent spots in other quadrants were detected but her ocular symptoms and clinical signs have not changed.
Conclusion: The electrophysiology and autofluorescent imaging results impute a progressive condition and exonerate blunt trauma. The differential diagnosis may be narrowed to infection and PPRCA, but may extend to acute zonal outer occult retinopathy and a hypothetical link to multiple sclerosis.

Subthreshold Micropulse Laser *versus* Intravitreal Anti-Vascular Endothelial Growth Factor

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Over the past decade, anti-vascular endothelial growth factor (VEGF) treatment has become the first-line treatment for clinically significant diffuse diabetic maculopathy, particularly those with subfoveal involvement. Anti-VEGF treatment has shown great efficacy with the management of macula oedema in other retinal vascular disease. It is, however, invasive and requires repeated procedures before the final resolution of the macula oedema.

Subthreshold micropulse (STMP) laser delivers localized micropulse energy with repetitive pulses causing a subvisible laser burn. There is less collateral damage as compared to conventional laser. Recently, it has been incorporated into the 577 μm laser, which is not absorbed by xanthophylls, allowing closer treatment to the perifoveal area. Its high oxyhaemoglobin:melanin absorption ratio causes less scatter, hence lower powers and short pulse durations can be used. Because of the high choriocapillaris absorption, STMP is effective in lightly pigmented fundi.

At present, either STMP or intravitreal anti-VEGF may be used a first-line treatment. Recent studies show that STMP laser efficacy is reduced with central foveal thickness of > 400 μm. In certain cases, it may be beneficial to use a combination treatment of STMP laser and anti-VEGF. The ideal timing and duration between the procedures are yet to be ascertained by clinical trials.

Crinkled Retinal Pigment Epitheliopathy

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Introduction: An undescribed pattern of crinkled retinal pigment epithelium (RPE) was observed in a family of black patients originating from Martinique, an island in the French West Indies.
Subjects and Methods: The family spanned six generations. Four generations have been examined with the following tests: visual acuity measurement, visual field testing, fundus photography, retinal auto fluorescence photography, fluorescein and indocyanine green angiography, spectral domain optical coherence tomography (SD-OCT).
Results: Forty-two members were examined and 14 were affected (the grandmother, five children, five nephews and three grandchildren). The findings were different in three affected generations, suggesting a classification into four stages: stage 1: deep lines observed in the posterior pole; stage 2: crinkled pattern of the fundus at the level of the RPE in the posterior pole, until the mid-periphery, giving an image of "dry desert land" in fluorescein and indocyanine green angiography; SD-OCT shows that this pattern is located at the level of the RPE; stage 3: corresponds to the complicated cases: two patients with outer retina atrophy, five with polypoidal choroidal vasculopathy (PCV), and stage 4: (88-year old woman) pigmentary clumping in the periphery with a deep whitish network.
Conclusion: Crinkled retinal pigment epitheliopathy was observed in a family in Martinique. Polypoidal choroidal vasculopathy seems to be frequently observed in the disorder, and the pre-existing lesions located at the level of the RPE or below the RPE have probably enhanced the risk of occurrence of PCV. The inheritance is autosomal dominant and the origin remains unknown. This is different from previously described dystrophies.

Revisiting Pneumatic Retinopexy

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Pneumatic retinopexy is a simple technique which can be performed by the general ophthalmologist to repair suitable retinal detachments. It is inexpensive, easy to do, and requires only cryotherapy or laser. It is an outpatient procedure, done under local anaesthesia. The paper outlines how to do the procedure, selection of suitable cases, positioning of the patient and follow-up. For general ophthalmologists working without access to emergency specialist retina services, this is an invaluable tool in the surgical repertoire.