Cataract/Refractive Surgery

Chairperson: W Hastings

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Retropupillary Artisan Aphakic Intraocular Lens in a Patient with Marfan Syndrome

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Marfan syndrome is a pleotropic autosomal dominant genetic disorder that results in weakening of connective tissue in the musculoskeletal, cardiovascular and ocular organ systems. The major ocular abnormality in Marfan syndrome is ectopia lentis (lens subluxation or dislocation). Clinically, ectopia lentis is bilateral in 60–87% of Marfan patients and is stable from childhood. A 12-year old contact lens user, myopic, of -10 D with Marfan syndrome, presented to our centre with a right anterior lens subluxation. Phacoaspiration was performed on his right eye and an inverted retropupillary Artisan aphakic intraocular lens (IOL) was placed. Within six months of presentation, he later presented with a left anterior lens subluxation and secondary ocular hypertension by pupillary block, with an intraocular pressure of 48 mmHg. The same procedure was performed on the right eye, and in the immediate postoperative period, he presented with a self-limiting decompression retinopathy. The Artisan IOL proved to be an excellent visual alternative in this patient with poor lens support apparatus. Post-surgical aphakia, traumatic and nontraumatic dislocation/subluxation of the crystalline lens continues to be a challenge for ophthalmologists when surgical correction is intended. The Artisan aphakia IOL has a different design from previous generations of iris-fixated IOLs. This new design gives the benefit of no long term corneal decompensation in young patients. The vaulted design also reduces the likelihood of iris associated complications.

Refocus™ Surgery for Presbyopia Technique and Results

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Objective: To discuss the results of the Refocus™ Implant (RI) for presbyopia in Jamaica and advancements in the device, instrumentation and technique.
Method: Clinical trials of the RI commenced in the United States of America (USA) in March 2000 with complete enrolment in October 2012. Numerous innovations in the RI device, the surgical instrumentation and the implant procedure have subsequently been made. The primary outcome parameter of distance corrected near visual acuity (DCNVA) was evaluated under uniform conditions at specified intervals postoperatively to monitor the efficacy of the procedure in the 296 patients that have had binocular PresVIEW™ scleral implant (PSI) surgery in Jamaica to date.
Results: Those patients implanted with the current generation RI and technique have shown increased improvement in DCNVA, with greater stability over time as compared to earlier techniques used. Preoperative mean monocular DCNVA in this final cohort was 20/78. At the one-year milestone, 93% of eyes had DCNVA > 20/40. Improved stability was evidenced by the continual improvement during the course of the follow-up.
Conclusions: Advancements in RI design, instrumentation and technique have simplified the Refocus™ procedure. Compared to earlier surgeries, a greater number of patients treated by a wider variety of surgeons now obtain DCNVA 20/40 or better as set for this procedure. The two-piece locking PSI has yielded a more stable and longer lasting improvement in DCNVA and decreased intraocular pressure.

Cataract Surgical Rate Survey in Trinidad and Tobago

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Introduction: Approximately 85% of all cataract is age-related. The number of cataract operations performed per year, per million population (cataract surgical rate (CSR)) is a proxy indicator of access to eye care services. In countries where the CSR is ≥ 4000, it is unusual to find individuals who are blind from non-operated cataract. The World Health Organization has reported CSRs varying between 1000 and 2600 for the Caribbean region (2006 data). However, there is concern within local circles that these figures may not be representative due to a lack of reliable data from the private sector. In addition, the Latin America cataract surgery survey has demonstrated that CSRs may change significantly over time.

Objective: This survey aims to estimate the CSR in Trinidad and Tobago. The study also aims to determine the feasibility of conducting a wider regional (Caribbean) survey similar to the Latin America cataract surgery survey.

Method: In 2013, a pilot study in Trinidad and Tobago was conducted over a 14-week period. Ophthalmic surgeons performing cataract surgeries in Trinidad and Tobago (public and private sectors) were contacted *via* weekly e-mail to the Ophthalmological Society of Trinidad and Tobago. They were directed to a web link to enter the number of cataract surgeries they had performed or supervised in the preceding week. Information was collected anonymously. The main study will run from January to June 2014. If successful, the trend of the CSR will then be monitored over a five to ten-year period.

Results: Results from this pilot study showed a response rate of 9–33% (three to 11 respondents per week) among the 33 ophthalmic surgeons surveyed. Five hundred and eighty-one cataract surgeries (range 10–78 per week) were performed over 14 weeks. The estimated CSR was 1660 per year per million population – [(581/14) x 52/1 300 000] x 1 000 000.

Conclusion: Age-related cataract and open-angle glaucoma account for 73.2% of blindness in the Caribbean (Barbados Eye Study 2010). Regionally, the population aged 65 years and over is expected to double between the period 2000 and 2020, with a greater number of people suffering visual loss and blindness from cataract. The anonymity and the involvement of both public and private sector ophthalmic surgeons will improve response rates and reliability of CSR data. This could assist in the development of a national policy for eye care.