The 49th Costenbader Society Annual Meeting
Senator Inn, Augusta, Maine
August 10-12, 2018

Friday, August 10, 2018

6:00 pm	Opening Reception
7:00 pm	David S. Friendly Award Presentation & Dinner

Saturday, August 11, 2018

7:00-8:00 am	Breakfast and Business meeting
8:00-8:15 am	Scientific Program Welcome and Announcements *Jonathan Salvin*

Session I: Member Presentations
Moderator: *Jonathan Salvin*

8:15-8:30 am	Familial Congenital Ophthalmoplegia *Elias Traboulsi*
8:30-8:40 am	Discussion of Previous Paper *All Members*
8:40-8:55am	Primary IOL Implantation in Infants: Before and After the Results of the Infant Aphakia Treatment Trial *M. Edward Wilson*
8:55-9:05 am	Discussion of Previous Paper *All Members*
9:05-9:20 am	Correction of 70 Diopters Exotropia with Repair of Lamellar Medial Rectus Flap Tears Alone *Irene Ludwig*
9:20-9:30 am	Discussion of Previous Paper *All Members*
9:30-9:45 am	Topical Timolol in the Treatment of Pyogenic Granuloma

Janhavi Shirali

9:45-9:55 am Discussion of Previous Paper
All Members

10:00-10:20 am Break

Session II: Children's National Medical Center Fellows Presentations
Moderator: *Marlet Bazemore*

10:25-11:00 am A Unique Presentation of 6th Nerve Palsy
Laura Andrews

11:00-11:15 am A Dilemma in the use of Hyperbaric Oxygen for the Treatment of Radiation Induced Optic Neuropathy
Laura Kueny

11:15-11:30 am The Use of Mobile Phones in Screening for Retinopathy of Prematurity in Lagos, Nigeria
Temi Abikoye

11:30-11:45 am Discussion of Previous Cases
All Members

Session III: Member Presentations
Moderator: *LeaAnn Lope*

11:50-12:05 pm Visual Outcomes in Retinoblastoma
Rebecca Mets-Halgrimson

12:05-12:10 pm Discussion of Previous Paper
All Members

12:10-12:25 pm Ultrasound Biomicroscopy Use in Pediatric Glaucoma and Cataracts
Janet Leath Alexander

12:25-12:35 pm Discussion of Previous Paper
All Members

Session IV: Workshop: Legal Issues for the Pediatric Ophthalmology Practice

Moderator: *Mary Richards & Denise Chamblee*

12:40-1:10 pm Compliance Issues for the Pediatric Ophthalmology Practice
Mary Richards

Regulatory Claims: Cases and Coverage
Denise Chamblee

Discussion:
All Members

Session V: Legislative Affairs

Moderator: *Mary Lou Collins*

1:10-1:15 pm Legislative Update
Mary Lou Collins

1:16 PM **End of Session**

Sunday, August 12, 2018

7:00-8:00 am Breakfast and Business Meeting

Session VI: Member Presentations
Moderator: *Helen Yeung*

8:15-8:30 am A Ringside Seat in the Advocacy of Early Surgery for Congenital Esotropia
Malcolm Ing

8:30-8:40 am Discussion of Previous Paper
All Members

8:40-8:55 am Subclinical Markers of Strabismus in Children Aged 5 to 18 Years
Brian Mohney

8:55-9:05 am Discussion of Previous Paper
All Members

9:05-9:20 am An Unrecognized Cause of Childhood Glaucoma
Helen Yeung

9:20-9:30 am Discussion of Previous Paper
All Members

Session VII: Children's National Medical Center Young Alumni Spotlight
Moderator: *M. Edward Wilson*

9:30-9:35 am *Helen Yeung*

9:35-9:40 am *Namratha Turlapati*

9:40-9:45 am *Janhavi Shirali*

Session VIII: Workshop: The Povidone Iodine Story
Moderator*: Sherwin Isenberg*

9:45-10:10 am The Povidone Iodine Story

Sherwin Isenberg

10:10-10:15 am Discussion of Previous Paper
All Members

10:15 -10:30 am Break

Session IX: 2017 David S. Friendly Lecture
Léon-Paul Noël

10:40 – 10:45 am Introduction of David S. Friendly Lecturer
Mohamad Jaafar

10:45 – 11:30 am Things Bernie Forgot to Mention About Universal Health Care
Léon-Paul Noël

11:30-11:45 am Discussion

Session X: Marshall Parks 100th Birthday Tribute
Moderator: *Ed Wilson & Grace Mitchell*

11:50-12:30 pm Video Presentation
M. Edward Wilson

Discussion
All Members

Session XI: Pediatric Ophthalmology History
Moderator: *Mohamad Jaafar*

12:30-1:15 pm 75 Years of Pediatric Ophthalmology
Mohamad Jaafar

Discussion
All Members

1:16 pm Adjourn

* *The George Washington University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The George Washington University Medical Center takes responsibility for the content, quality, and scientific integrity of this CME activity.*
The George Washington University Medical Center designates this continuing medical education activity for 9 credit hours in Category 1 of the Physicians' Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

* *The George Washington University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The George Washington University Medical Center takes responsibility for the content, quality, and scientific integrity of this CME activity.*
The George Washington University Medical Center designates this continuing medical education activity for 9 credit hours in Category 1 of the Physicians' Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Familial Congenital Ophthalmoplegia

Elias Traboulsi

Recessive MYF5 Mutations Cause External Ophthalmoplegia, Rib, and Vertebral Anomalies

Silvio Alessandro Di Gioia, Sherin Shaaban, Beyhan Tüysüz, Nursel H. Elcioglu, Wai-Man Chan, Caroline D.Robson, Kirsten Ecklund, Nicole M.Gilette, Azmi Hamzaoglu Gulsen Akay Tayfun, **Elias I.Traboulsi** and Elizabeth C. Engle

American Journal of Human Genetics Volume 103, Issue 1, 5 July 2018, Pages 115-124

MYF5 is member of the Myc-like basic helix-loop-helix transcription factor family and, in cooperation with other myogenic regulatory factors MYOD and MYF5, is a key regulator of early stages of myogenesis. Here, we report three consanguineous families with biallelic homozygous loss-of-function mutations in MYF5 who define a clinical disorder characterized by congenital ophthalmoplegia with scoliosis and vertebral and rib anomalies. The clinical phenotype overlaps strikingly with that reported in several Myf5knockout mouse models. Affected members of two families share a haploidentical region that contains a homozygous 10 bp frameshift mutation in exon 1 of MYF5(c.23_32delAGTTCTCACC [p.Gln8Leufs∗86]) predicted to undergo nonsense-mediated decay. Affected members of the third family harbor a homozygous missense change in exon 1 of MYF5 (c.283C>T [p.Arg95Cys]). Using in vitro assays, we show that this missense mutation acts as a loss-of-function allele by impairing MYF5 DNA binding and nuclear localization. We performed whole-genome sequencing in one affected individual with the frameshift mutation and did not identify additional rare variants in the haploidentical region that might account for differences in severity among the families. These data support the direct role of MYF5 in rib, spine, and extraocular muscle formation in humans.

Primary IOL Implantation in Infants: Before and After the Results of the Infant Aphakia Treatment Trial

M. Edward Wilson

Zachary B. Poole, BS
Rupal H Trivedi, MD MSCRS
M. Edward Wilson, MD

Purpose: The purpose of this study was to determine the long-term impact of the results of a randomized clinical trial, the Infant Aphakia Treatment Study (IATS), on clinical practice.

Methods: The medical records of children who underwent cataract surgery before IATS (between 1995-2004) and after IATS (2009-2017) were retrospectively reviewed. Those who had undergone surgery before 7 months of age were included. The main outcome measured was the treatment of the patient with primary IOL or primary aphakia at the time of surgery.

Results: A total of 253 eyes of 171 patients were analyzed for surgical outcome of primary IOL or primary aphakia. Of the unilaterally affected eyes, primary IOL was the treatment of choice in 28 (60.9%) of the pre-IATS cases and 3 (6.5%) of the post-IATS cases. In bilaterally affected eyes, primary IOL was the treatment of choice in 18 (47.4%) of the pre-IATS cases and 11 (26.8%) of the post-IATS cases.

Conclusions: The surgical outcomes of the MUSC Pediatric Ophthalmology department have seen a significant reduction in primary IOLs from 54.8% to 16.1% of infant cataract cases from the pre-IATS to the post-IATS period.

Discussion: I will discuss why this change in practice pattern has occurred and whether I think it is generalizable to other centers in the USA and Canada?, to Europe??, to the developing world??

Correction of 70 Diopters Exotropia with Repair of Lamellar Medial Rectus Flap Tears Alone

Irene Ludwig

Introduction

Exotropia has been frequently found in association with flap tear of the inferior rectus muscles along with occasional medial rectus muscle involvement. Flap tear repair alone does not usually fully correct the alignment, however, and standard recession of at least one lateral rectus muscle has frequently been needed. To date, the largest change in primary position alignment with flap tear repair alone has been about 30-35 diopters.

Case Report

A 40-year-old woman first noticed exotropia at age 12. It was initially controllable with glasses and effort, but worsened over time and became difficult to control. Family history was positive for exotropia in her daughter, there was no history of trauma, and no health problems. Alignment was;

$$58\text{-----}X(T)cc = \frac{66}{64}\text{----}50$$

Exotropia at near measured 70 diopters, she had large overelevation and overdepression of either eye in adduction (+4RSO, +3LSO, +4IOOU), and she was moderately myopic. Stereopsis measured 100 seconds. The right fundus was moderately extorted, and the left was minimally intorted. MRI scan did not show obvious pulley displacement, and there was no obvious muscle disruption or orbital abnormality. At surgery forced duction testing showed resistance to adduction in each eye, and bilateral resistance to extorsion and intorsion at 30 to 40 degrees. The left inferior rectus was normal by inspection, but the medial rectus was very weak and loose on the muscle hook. The muscle substance appeared normal, but was completely devoid of capsule. The avulsed lamellar flap was dissected free from its attachments to surrounding connective tissue and sutured to its normal position near the insertion with 7-0 polypropylene suture. The eye immediately centered itself, and the resistance to adduction was resolved. The right medial rectus had a similar appearance and was corrected in the same fashion, but the right inferior rectus also had a partial avulsion, of longitudinal type. This was repaired, along with the perimuscular pulley tissues. The spring-back test showed good centration of the eyes, but due to previous experience suggesting that 35 diopters was the maximal angle of exotropia correctible with flap tear repair alone, it was elected to recess the right lateral rectus 9mm. On the first postoperative day she measured esotropia of 25 diopters at distance, and 20 at near. and these measurements had not changed 5 weeks later. Postoperative injection and discomfort was minimal-much less than with standard surgery. She is scheduled for lateral rectus advancement, which should be completed by the time of this presentation. After the surgery, it became clear that the exotropia in her daughter had been inherited from the father, whose family had a strong history of exodeviation. This patient had no family history of strabismus herself. The daughter did not have flap tear.

Conclusions

The previously unrecognized outer lamellar flap tear of the medial rectus may have a profound effect on alignment and cause exotropia. Repair of this layer can correct large exotropia. Since this case, there have been 3 more; one with flap tear alone, and two with small recession of one lateral rectus.

Topical Timolol in the Treatment of Pyogenic Granuloma

Janhavi Shirali

Introduction: Pyogenic granulomas are benign, pedunculated lesions that often form in response to chalazia, trauma or surgery. They are treated with a short trial of a combination of an antibiotic-steroid medication or with excision in the operating room. They can cause bleeding or discomfort to patients.

Methods: A case series is presented of all patients with ocular surface pyogenic granulomas who presented between January 15, 2018 and July 15, 2018 at Pediatric Eye MD in Queens, NY. All patients with a pyogenic granuloma were included in the study and offered excision in the OR vs a trial of topical timolol. They were provided risks, benefits and alternatives of both treatment options. There were a total of 5 patients included in the study. 4 opted for topical timolol and 1 opted for excision. The patients who opted for topical timolol were given topical timolol 0.5%, twice daily for 21 days.

Results: Of the 4 patients who opted for topical timolol treatment, 3 patients had complete resolution of the pyogenic granuloma. One patient did not have resolution or improvement of the pyogenic granuloma and is considering surgical excision.

Conclusions: This small case series suggests that ocular surface pyogenic granulomas can be treated with topical timolol which has a lower side effect profile than conventional treatment with topical steroids. This therapeutic modality would have to be applied to appropriate patients, making sure to evaluate for asthma history or other contraindications. Topical timolol does not have an increased risk of elevated intraocular pressure compared to a steroid/antibiotic combination eyedrop. General anesthesia can also be avoided if eye drops are used as a first line treatment. Further studies are needed with larger case series and longer follow up.

A Unique Presentation of 6th Nerve Palsy

Laura Andrews

CC: Headache, diplopia

HPI: A 7 year old male presented to the Emergency Department with 4 days of headache, fever, and diplopia. On exam he was found to have bilateral partial CN VI palsy. Work up including imaging, lumbar puncture, and laboratory work reveal evidence for meningitis secondary to Neuroborreliosis (CNS Lyme Disease). During the course of his treatment, the patient's esotropia worsened and treatment length was extended. He was placed in prism and received extensive rheumatologic and oncologic over the next year. At 1 year, inflammation of CN VI had resolved on MRI imaging and measurements were stable, and he underwent bilateral lateral rectus recession. 8 weeks after surgery, the patient was orthophoric with perfect stereopsis.

Case objectives

1. Discuss anatomy of the CN VI and etiologies of CN VI Palsy
2. Discuss management of strabismus in this case including the long-term use of prism correction and timing of surgical intervention
3. Discuss complications of Lyme disease including diagnostic dilemmas and treatment considerations

A Dilemma in the use of Hyperbaric Oxygen for the Treatment of Radiation Induced Optic Neuropathy

Laura Kueny

CC: Decreased vision in the right eye

HPI: The patient is a 17 year old female with history of a supracellar germinoma. Her germinoma was previously treated with chemotherapy and proton beam radiation that was completed in April of 2015. She originally presented with decreased vision in the right eye in September of 2017. Her case proceeded as follows:

TIMELINE

- September 2017 – decreased vision in the right eye to count fingers, +rapd of the right eye, minimally enhanced signal of the right optic nerve on MRI, treated with IV steroids
- December 2017 – exam showed some improvement in vision in the right eye to 20/300, left eye remains within normal limits
- February 2018 – vision in both eyes worsens, HM in the right eye and CF in the left eye, treated with IV steroids and hyperbaric oxygen (HBO) initiated at 4 days post symptom onset
- May 2018 – enhancement of the right optic nerve on MRI with biopsy positive for recurrent germinoma

Case objectives

4. Discuss the association with HBO and tumor growth
5. Discuss the success of HBO as a treatment for Radiation Induced Optic Neuropathy
6. Discuss the literature available on delayed seeding of supracellar germinoma to the optic nerve

The Use of Mobile Phones in Screening for Retinopathy of Prematurity in Lagos, Nigeria

Temi Abikoye

Purpose:

This study describes the use of an iPhone combined with a 20-D lens in screening for Retinopathy of Prematurity (ROP) in Nigeria.

Method:

The study was carried out in conjunction with ROP screening programs at the Lagos University Teaching Hospital, Lagos and the University College Hospital, Ibadan.

Preterm infants with birth weights less than 1.5 kg and/or gestational age less than 32 weeks were screened. The iPhone, launched in video mode, with the 20D lens was used to examine the fundus. The Filmic Pro app used to control the light intensity of the camera flashlight which served as the light source. ROP staging was done and still images of lesions obtained from screenshots. The Indirect ophthalmoscope was subsequently used to examine the fundus to ensure there were no missed diagnoses.

Result:

The images captured by the system were satisfactory for staging and determining the need for treatment in eyes with ROP.

Conclusion:

The iPhone combined with a 20-D lens was useful in screening for ROP. This could be useful in telemedicine for ROP referral and treatment protocols in poor resource settings.

Visual Outcomes in Retinoblastoma

Rebecca Mets-Halgrimson

* *The George Washington University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The George Washington University Medical Center takes responsibility for the content, quality, and scientific integrity of this CME activity.*
The George Washington University Medical Center designates this continuing medical education activity for 9 credit hours in Category 1 of the Physicians' Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Ultrasound Biomicroscopy Use in Pediatric Glaucoma and Cataracts

Janet Leath Alexander

Introduction: Pediatric glaucoma has a unique and profound impact on infants and children. The condition is universally blinding if untreated, but vision is preserved if treatment is early and effective. Anterior segment imaging with ultrasound biomicroscopy (UBM) allows for non-invasive assessment of the eye and permits evaluation of structures not visible by direct observation. UBM may play a key role in predicting outcomes and guiding treatment for pediatric glaucoma. The advantage of UBM imaging is the comprehensive structural view of all ocular anatomy between the cornea and the pars plana. The key limitation of UBM imaging is its' predominantly qualitative application, which is not acceptable for modern day practitioners accustomed to accurate quantitative data supported by high quality evidence. Previous literature demonstrates some structural changes on UBM associated with both aphakic and congenital glaucoma. The purpose of our study is to test the hypothesis that anterior segment anatomy is 1) directly diagnostic, 2) predictive of disease course, and 3) instrumental in prospective surgical planning for children with primary, aphakic, and pseudophakic glaucoma.

Methods: A prospective multicenter clinical study. Patients age 0-25 years old are enrolled, consented, and imaged with bilateral UBM according to prospective imaging protocol at the time of general anesthesia for exam or surgery (www.eyeubm.info/imaging). Each image is then measured by masked observer using Image J analysis software, also according to prospective protocol (www.eyeubm.info/analysis). Previously published work established intraobserver repeatability, interobserver agreement, and normative data on structural changes in the pediatric eye. Means and standard deviations for each variable are calculated from our study groups: glaucoma after cataract surgery, primary congenital glaucoma, and age-matched controls. Means are compared using paired analysis with t-Test or nonparametric test. The variables among all normal control eyes are plotted with age to identify predictable growth curves and significant changes related to normal eye growth. All image analysis is done manually with ImageJ, with Python computer coding (https://github.com/karunkannan/EyeMark/wiki), and with machine learning using TensorFlow.

Results: Among the 27 variables tested among our 40 patients (55 eyes, 440 images), the majority demonstrate differences among various age groups and between the pathology group (cataract or glaucoma) compared to control group, and with our pre-and post-operative comparison. Preliminary computer programming code demonstrates consistent results with manual image interpretations, with much quicker acquisition time.

Conclusions: This is the first study to explore various algorithms to enhance the clinical utility of UBM imaging among patients with various types of childhood glaucoma. This project has recently demonstrated that our novel UBM imaging and analysis protocol is robust and able to generate

meaningful data that can be used to test our highly clinically-relevant hypothesis. Our most vital area of expansion is to enroll more patients and images, to automate our process, and to explore more sophisticated algorithms using machine learning.

Workshop: Legal Issues for the Pediatric Ophthalmology Practice

Mary Richards & Denise Chamblee

* *The George Washington University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The George Washington University Medical Center takes responsibility for the content, quality, and scientific integrity of this CME activity.*
The George Washington University Medical Center designates this continuing medical education activity for 9 credit hours in Category 1 of the Physicians' Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

Legislative Update

Mary Lou Collins

* *The George Washington University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The George Washington University Medical Center takes responsibility for the content, quality, and scientific integrity of this CME activity.*
The George Washington University Medical Center designates this continuing medical education activity for 9 credit hours in Category 1 of the Physicians' Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

A Ringside Seat in the Advocacy of Early Surgery for Congenital Esotropia

Malcolm Ing

Purpose

The author will present his experience in over 50 years of research into the subject of the functional value of early surgery for congenital esotropia. The need for this information is supported by the fact that, in certain areas of the world, the myth persists that surgical alignment after the age of 2 years is still considered a viable option for optimum functional results.

Results

Early surgery advocates had to prove their results were superior to those results achieved by advocates of later surgery (after age 2 or with more than 2 years of misalignment) in congenital (infantile) esotropia. Multiple studies, such as those by Costenbader, Parks, Taylor, Ing , Fisher (Jampolsky) , Birch, Wright and Tyschen were completed over 50 years. Surgical alignment with less than 1 year of misalignment is best for stereoacuity(P=0.001), but alignment within 2 years of misalignment may result in a binocular fusion result(P=0.001). There is progressive increase in the angle of deviation in congenital esotropia (P= 0.0002). The functional cure of congenital esotropia is stable for at least 20 years (P=0.001).

Conclusion

Chavasse was correct in his statement, ”The depth of the binocular anomaly is influenced by the onset and duration of life with the anomaly.”

Subclinical Markers of Strabismus in Children Aged 5 to 18 Years

Brian Mohney

Subclinical Markers of Strabismus in Children Aged 5 to 18 Years

Brian G. Mohney and Laura Lepor

Purpose: To report the prevalence of subclinical markers of strabismus from a community-based screening of children.

Methods: A family history and ophthalmic examination (including 6 markers of strabismus: oblique muscle dysfunction, stereopsis < 60 seconds of arc, monofixation, nasal-temporal pursuit asymmetry, dissociated strabismus, and anisometropia) were performed on children aged 5 to 18 years from the local school system and the pediatric outpatient clinic of Mayo Clinic, Rochester, Minnesota.

Results: A total of 1,000 children were examined at a mean age of 10.6 years (range, 5 to 18.98 years), 498 (49.8%) of which were male. Fifty-seven (5.7%) of the 1,000 had strabismus, and 130 (13%) others had some form of phoria. Among the 943 children without strabismus, 103 (10.9%) had one or more of the above 6 subclinical markers including 43 (4.6%) with inferior oblique dysfunction, 37 (3.9%) with anisometropia, 34 (3.6%) with subnormal stereopsis, 6 (0.6%) with nasal-temporal pursuit asymmetry, 3 (0.3%) with monofixation, and none with dissociated strabismus. A subclinical marker of strabismus occurred in 20 (12.7%) of the 157 non-tropic patients with a family history of either strabismus, amblyopia, or both, and in 83 (10.6%) of 786 non-tropic children without a family history.

Conclusions: In this community-based screening of children, subclinical disorders of binocular vision occurred in 10% to 13% of children without strabismus. Inferior oblique muscle dysfunction, anisometropia, and subnormal stereopsis were the most prevalent disorders. These findings may be useful in elucidating the genetic puzzle of childhood strabismus.

An Unrecognized Cause of Childhood Glaucoma

Helen Yeung

Helen H. Yeung, MD and David S. Walton, MD

Purpose/Relevance

To report an unrecognized cause of congenital childhood glaucoma.

Methods

This is a case study of patients with this entity. Their baseline characteristics described include: age of diagnosis, vision of the affected eye, characteristic anterior and posterior segment findings, initial intraocular pressures (IOP), gonioscopy findings, cup to disc ratio, axial lengths, final cycloplegic refraction, relative choroidal thickness, and the choice and success of glaucoma surgeries. *Complete success* was defined as IOP less than 23, *qualified success* as IOP less than 23 with medications, and *failure* as IOP greater than 23 or the performance of other types of glaucoma surgery.

Results

Four patients with four eyes with this entity are described; each patient had this condition unilaterally. The average age at presentation was 2 months. The initial vision of all the affected eyes was good fixation and following without nystagmus. Average initial IOP was 29 mm Hg (range 22 - 35 mm Hg). Abnormal prominence of conjunctival and episcleral vessels were apparent on examination for all affected eyes. On B-scan ultrasonography, there was relative thickening of the choroid versus the unaffected fellow eye in three of the four affected eyes. All affected eyes showed abnormal cupping compared to the unaffected fellow eye. The average axial length in three of the four affected eyes was 17.2 mm. Final cycloplegic refraction ranged from +1.25 to -0.50 (SE). Gonioscopy in three of the four affected eyes showed poorly defined scleral spurs and ciliary body bands. Goniotomy was performed on three of the four affected eyes. Two of the four operated eyes experienced *failure* and was followed by trabeculectomy with mitomycin C. One of the four operated eyes experienced *qualified success*. One eye has been controlled with medications alone.

Discussion

Glaucoma was confirmed in all the affected eyes. Careful systemic and ocular episcleral and anterior and posterior segment examinations, gonioscopy, and the failure of goniosurgery support the suspected related mechanism of this glaucoma.

Conclusion

This is an unfamiliar type of congenital childhood glaucoma. The recognition of this entity is

important in determining the appropriate type of initial glaucoma surgery for these young patients.

* *The George Washington University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The George Washington University Medical Center takes responsibility for the content, quality, and scientific integrity of this CME activity.*
The George Washington University Medical Center designates this continuing medical education activity for 9 credit hours in Category 1 of the Physicians' Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.

The Povidone Iodine Story

Sherwin Isenberg

Ocular Applications of Povidone-Iodine – A Personal History

In the 1980's, Leonard Apt and I began a series of studies evaluating methods to increase sterility before ophthalmic surgery. In the course of those investigations, we published the first paper in 1984 applying povidone-iodine (P-I) to the eye. In subsequent studies, we demonstrated that the administration of P-I to the eye on the operating table, preceded by the use of outpatient topical antibiotics, reduced bacteria to the lowest levels ever recorded. P-I was then shown to be effective when used for at least one week after surgery.

P-I is effective against all bacteria, viruses, and fungi in vitro - given enough contact time. Bacterial resistance is rare or non-existent with almost no allergic reactions. It colors the eye brown for 2 minutes which confirms proper administration. P-I can be prepared from preexisting powders or solutions. It is available worldwide locally or from the WHO and is very inexpensive (cost in Kenya: < US$ 0.10 for a 5 ml bottle).

In studies conducted in Torrance and then in Kenya, P-I given at birth proved to be more effective as prophylaxis against ophthalmia neonatorum than silver nitrate or erythromycin with less toxicity. P-I is now used for this purpose in many countries, but not in the U.S.

All the aforementioned studies were preventative in nature. In 2000, we began to investigate its use for treatment. In a 2002 paper, P-I proved to be as effective as topical antibiotics for treatment of bacterial conjunctivitis, as ineffective for viral conjunctivitis, and more effective for chlamydial conjunctivitis. This study was conducted in Manila, Philippines.

The number one or two cause of pediatric blindness in developing countries (depending on the region) is bacterial keratitis. In a 2017 publication, we showed that P-I was as effective as topical antibiotics to treat bacterial corneal ulcers in Manila and in two centers in India. Another major cause of pediatric blindness is fungal keratitis. In a study conducted in three centers in India, P-I was found to be less effective than natamycin, but did have an effect against smaller fungal ulcers. Several other investigators have now studied many further ocular applications of P-I. We are grateful to have contributed to these research endeavors.

David S. Friendly Lecture

Léon-Paul Noël

Things Bernie Forgot to Mention About Universal Health Care

We present a brief review of the development of Universal Health Coverage in Canada with emphasis on how the plans effects physician numbers, specialization, independence and income. Professional organizational and individual errors will be highlighted in hopes of avoiding the same miscalculations as American health care evolves.

Marshall Parks 100th Birthday Tribute

Ed Wilson & Grace Mitchell

Pediatric Ophthalmology History: 75 Years of Pediatric Ophthalmology

Mohamad Jaafar

* *The George Washington University Medical Center is accredited by the Accreditation Council for Continuing Medical Education to sponsor continuing education for physicians. The George Washington University Medical Center takes responsibility for the content, quality, and scientific integrity of this CME activity.*
The George Washington University Medical Center designates this continuing medical education activity for 9 credit hours in Category 1 of the Physicians' Recognition Award of the American Medical Association. Each physician should claim only those hours of credit that he/she actually spent in the educational activity.