May, 2013

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NEXT MEETING
Tuesday, May 14

St. Louis Marriott West
660 Maryville Centre Dr.

6:00 p.m. Light Buffet
Hosted by Tekwani Vision Center & IOP Ophthalmics
RSVP by Thursday, May 9

7:00 p.m. Business Meeting

7:30 p.m. Navin Tekwani, M.D.
“Advanced Treatment Options In Ocular Surface Disease”
“A Primer on Femtosecond Laser Cataract Surgery”

One Hour C.E.

NOMINATIONS FOR SLOS OFFICERS 2013-14
Drs. Mary Beth Rhomberg, Tom Cullinane and Sean Mulqueen of the Nominating Committee presented the following slate to serve as officers of the St. Louis Optometric Society for the year beginning June 1, 2013:

President                Jason Riley, O.D.
President-Elect           Kim Layfield, O.D.
Vice President           Steven Rosen, O.D.
Secretary                Erin Niehoff, O.D.
Treasurer                Joe Castellano, O.D.
Sgt. at Arms              Drew Biondo, O.D.
Immediate Past President  Paul Whitten, O.D.

Trustees to the Missouri Optometric Association:
Tom Cullinane, O.D.
Robert Goerss, O.D.

Election of the officers will take place during the May 14 business meeting. Additional nominations may be made from the floor.  

# # #
ANNUAL OPTOMETRIC SOCIETY
BANQUET AND EXHIBITION
Tuesday, May 14

The Kemp Auto Museum
Chesterfield, MO

This year’s event at the Kemp Auto Museum will include a special presentation by Dave Glover of the Dave Glover Show heard regularly on St. Louis talk radio, 97.1. Join SLOS members and guests for the reception at 6:30 p.m. prior to dinner and the program. Enjoy the fabulous collection of Mercedes and other fine cars for a photo op.

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# # #
Dr. Sophia Chung presented the continuing education for the April SLOS meeting. Dr. Chung is a neuro-ophthalmologist from St. Louis University and the topic for her presentation was titled “Papilledema and Lookalikes.”

Dr. Chung began by noting that Papilledema or Pseudo-papilledema is the probably the most common reason for referral from all providers including optometrists, ophthalmologists, internists, and neurologists. This is a very common problem.

The first case was of a healthy 13 year old female with no history of visual complaint that went in for a routine eye exam. The patient’s medical, family and social history were negative. Visual acuity was 20/20 with normal slit lamp, EOM’s, and pupils. The fundus however showed optic nerves that appeared edematous. Dr. Chung was not in town for the visit and the resident said this was papilledema and did a full work-up for papilledema. Was this actually papilledema or some form of Pseudo-papilledema? We will find out at the end of this discussion.

Continued on page 4 – Dr. Chung
Dr. Chung Continued
Next, Dr. Chung went over the characteristics of Papilledema and Pseudo-papilledema. Blurred margins and elevation are the worst criteria in determining whether a patient has papilledema. Blurred margins, elevation, and optic nerve crowding can be very common in a normal patient. This goes against the classic teaching that we learned in school, and therefore we have to rethink what we consider papilledema vs. pseudo-papilledema.

Pseudo-papilledema has a very characteristic appearance where there is an absence of a central optic cup. They also often have anomalous vasculature in which it looks like there is an extra set of vessels where the arteries and veins appear to be dancing with each other, intertwined with extra branching. It is very important to note that all vessels are well visualized where they cross over the margin. Pseudo-papilledema patients also may or may not have spontaneous venous pulsation (SVP). 20% of the normal population does not have SVP. The Pseudo-papilledema patient usually does not have SVP because the optic nerve is crowded, however they can. There is notable absence of hemorrhage, exudates, or any other abnormality.

Forms of Pseudo-papilledema include congenitally small optic nerves (optic nerve hypoplasia), drusen of the optic nerve, tilting of the optic nerve, and myelination of the nerve fiber layer.

Continued on next page Dr. Chung
Dr. Chung continued
Optic nerve hypoplasia is the most common optic nerve anomaly that is congenital. We do not know what causes it, the far majority is bi-lateral, and is more common in men. The optic nerves are small and vision can range from 20/20 to no light perception. A common, classic presentation of optic nerve hypoplasia is a double-ring sign where there is another band around the optic nerve where the RPE stops. Optic nerve hypoplasia can be associated with brain defects. Therefore, pediatricians need to be notified of patients that have optic nerve hypoplasia. They need to be watched closely for growth particularly during the time of puberty. All patients that have unilateral or bi-lateral optic nerve hypoplasia with decreased vision need to be scanned with an MRI. If the vision is normal, a scan is not usually done.

The leading cause of Pseudo-papilledema is drusen of the optic nerve head. There is elevation, blurred disc margins, no central cup, and anomalous vasculature. While young, drusen are often varied. At the time of puberty there is an accelerated growth of the drusen and they become manifest as the lumpy, bumpy, grape-like cluster. They also often have glial changes over the surface of the nerve head that appears white and can obscure the appearance of some of the vessels. 1% of the population has drusen and is heavily concentrated in the Caucasian race. This is because Caucasians are given smaller scleral canals at the time of birth leading to a smaller cup-to-disc ratio. It is typically bi-lateral and the mechanism is thought to be constipated axons. These axons (1.2 million) are forced to go through this smaller opening and eventually get an abnormal axonal transport leading to proteins spewing out onto the head of

Continued on page 6
Dr. Chung continued

the optic nerve which eventually calcifies. 70-80% of drusen patients get visual field defects, therefore visual fields should be performed on these patients each year.

Optic nerve fiber myelination is the third form of Pseudo-papilledema. It has a white color, is superficial, and follows the optic nerve fiber layer. Vision can range from normal with minimal myelination, to amblyopia due to -20.00D myopia with complete myelination of the nerve fiber layer.

The last form of Pseudo-papilledema is a tilted optic nerve. It is not actually tilted, but appears tilted because the embryonic fissure closes inferiorly and zippers up. This is really incomplete closure of the embryonic fissure and an abnormal formation of the inferior portion of the optic nerve (inferior coloboma) and often the surrounding retina. Therefore, only half of the optic nerve has developed normally. 1-2% of the population has tilted optic nerves and there are no associated neurological disorders. No testing or treatment is needed and we simply need to make the patient aware. The classic visual field defect is a bi-temporal defect and, usually supero-temporal, which can lead us to think there is a chiasmal lesion, falsely.

In summary, Pseudo-papilledema is usually characterized by small optic nerves, anomalous vasculature, and a central cup-to-disc ratio of 0.0.

Continued on page 7
Dr. Chung continued
Papilledema, by definition, is bi-lateral disc edema, in the face of raised intracranial pressure, with often normal acuity, color vision, and visual fields. If you have a patient with bi-lateral disc edema, it is papilledema until proven otherwise. It may end up being something else like bi-lateral optic neuritis or bi-lateral anterior ischemic optic neuritis (AION), but it is our responsibility to make sure they do not have raised intra-cranial pressure. Papilledema is an emergency. This does not mean that the patient has to be admitted to Barnes or SLU, but they must have an obligatory CT that day. It is very difficult to get an MRI the same day except in smaller communities. After the same day CT, then you can electively obtain MRI, MRV, and LP. Our obligation is to make sure the patient does not herniate the same day or more specifically, that their intracranial pressure is not going to force their brain to herniate down through their foramen. This is an emergency because we do not know the mechanism of the increased pressure. It could be a tumor; however a tumor is not likely to cause herniation that night. What will usually cause herniation that night is a hemorrhage. Venous Sinus Thrombosis is another cause, which requires hospitalization. Venous Sinus Thrombosis is the reason that MRV is now considered standard of care in the work-up of papilledema. An MRI will not pick up a lot of these cases. Occult meningitis is another possibility. However, the leading cause of papilledema in 2013 is Idiopathic Intra-Cranial Hypertension, or Pseudo-tumor Cerebri.
Continued on page 8
Dr. Chung continued

The physical presentation of acute papilledema is easy to recognize. Hemorrhages with exudates are a big give-away. There will be a hyperemic nerve with venous engorgement and loss of the definition of the vessels as they cross over the margin. Exudates will be present. There will usually be preservation of the cup as the cup is the last thing to go. Do not rely on the loss of the cup in the diagnosis of papilledema.

The more difficult cases are the most common type of papilledema, those with chronic disc edema. There may be mild disc hyperemia, dilated telangectasias, or subtle edema of the nerve fiber layer. These subtle cases can be very difficult to assess clinically and are the ones that scare us as clinicians.

As noted before, Idiopathic Intra-Cranial Hypertension (IIH) or Pseudo-tumor Cerebri is the leading cause of papilledema. These patients may present with headache, nausea/vomiting, and pulsatile tinnitus. The diagnosis comes with normal neuro-imaging and increased intra-cranial pressure. Abnormal is anything over 25 if obese and anything over 20 if thin. IIH is primarily a disease of women and is not understood completely as to why. Obesity does probably account for 99% of cases in the U.S. Other risk factors include medications. Antibiotics for acne are likely the leading cause in teenagers. Tetracyclines, sulfa, vitamin A, and oral contraceptives are also considered as possible triggers.

Treatment is given to patients with visual loss and/or headaches. Current treatment is given with Diamox 0.5-4 grams per day. Clinically, 1-2 grams usually works. For patients that Diamox does not work for, Topamax is given as a secondary alternative. Lasix is a really poor third choice. Surgical intervention is a final resort. 99% of patients do great on some combination of meds and do not need surgical intervention.

Coming back to our original case of the 13 year old female who underwent an MRI and LP that ended up being both normal. The actual diagnosis was actually that of drusen, a form of Pseudo-papilledema. This is Dr. Chung’s toughest case.

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NEWSLETTER ON-LINE ONLY
Please make sure you have added the e-mail address: news@stlouisoptometricsociety.org to your list of approved senders in your e-mail program.
www.stlouisoptometricsociety.org.
# # # # #

MEMBERSHIP RENEWAL ON WEBSITE
The SLOS dues renewal forms are going out via the e-mail and are also posted on the website. Dues are due by June 1.
# # # # #

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IN MEMORY OF DR. ROBERT MACK
Long time SLOS member, Dr. Robert Mack, passed away. He was a faithful attendee until recent years. A Memorial service was held on April 27. 

FOR SALE: Complete trial lens set, Call Mrs. Isadore Charles Barrale, 636 227-6952.

Bhumika Patel and Emily Pike, UMSL Student Liaisons to SLOS

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MOA TRUSTEE REPORT
Drs. Tom Cullinane & Robert Goerss

Keyperson System: Please contact Tom Cullinane to be sure that you are signed up to be a keyperson for your legislator. Many districts have changed and, therefore, you may have a different legislator than previously. It is critical that all SLOS members participate in the keyperson system as there are many new State Representatives and Senators with whom to build relationships.

Legislation: The eye drop prescription bill passed out of both the Senate and the House and now awaits signing at the Governor’s desk. This bill was supported by both optometry and ophthalmology and would allow patients to renew their prescriptions for glaucoma medications, for example, before the current 30 day restriction.

The no cap fees bill was supposed to go to hearing early in April.

Leadership Retreat: The Leadership Retreat will be held at Stoney Creek Inn in Columbia, MO on Friday, May 30 through Saturday, June 1. Visit www.moeyscare.org for more details.

# # # # #
**CALENDAR**

May 13  Coding Update 2013  
  John McGreal, O.D.  
  UMSL Penney Conference Center  
  4 hours COPE C.E.  
  [http://www.umsl.edu/divisions/optometry/Continuing%20Education/Coding%202013.html](http://www.umsl.edu/divisions/optometry/Continuing%20Education/Coding%202013.html)

May 14  SLOS Meeting  
  Navin Tekwani, M.D.

May 30 – June 1  MOA Leadership Retreat  
  Stoney Creek Inn  
  Columbia, MO  
  www.moeyecare.org

June 11  Installation Banquet  
  Kemp Auto Museum  
  Invitations to be mailed in May

July 9  SLOS Meeting  
  Alcon hosts

Aug. 11  Annual Optometry Academe  
  UMSL-College of Optometry  
  8 hours. CEE

Aug. 13  SLOS Meeting  
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