Optometry Town Hall Meeting

- Meeting with the Executive Director of the POA (Joe Ricci) as well as the POA lobbyists (Ted Mowatt, Mike and Amy Long).
- Will discuss the current legislation being introduced that will impact the Optometric field.
- Youngwood Fire Hall
  104 S 2nd St, Youngwood, PA 15697
  Sunday April 30th 9am to 11am
  About 2 miles from the New Stanton exit of the turnpike.
  Any questions, contact Ed Brajdic (724)989-8973 or myself (412-200-8588.)

Selective Laser Trabeculoplasty
Like Another Drop

Christopher N. Carver, OD
Sightline Ophthalmic Associates
carver@sightlinelaser.com

Setting stage for my presentation today

- Consider yourself, in the exam room, face to face with a patient.
- All of your testing and exam work has been completed.
- Determined that patient has glaucoma (new diagnosis) or a current glaucoma patient has progressive changes.
- Diagnosis.....Prognosis.....Treatment
- Mr./Mrs. Jones...I have determined through my exam and testing that you have glaucoma/your glaucoma is getting worse.....I believe we need to.......

Why is this important??

- Glaucoma is the second leading cause of blindness in the world according to the World Health Organization
  - 1. Cataracts
  - 2. Glaucoma
  - 3. Age Related Macular Degeneration

May I digress for a moment... Glaucoma Diagnosis

- Generally speaking, it is PROGRESSIVE optic atrophy
- Diagnosis based upon:
  - Case History (family history, medical history, age, race)
  - IOP
  - Slit lamp exam (angles, pigmentation, pseudoxfoliation, etc.)
  - Optic Nerve appearance (DFE as well as photos)
  - Pachymetry
  - Visual Field
  - OCT (Retinal Nerve Fiber Layer and Ganglion Cell Complex)
  - VEP/ERG

“Typical Optometric Training”

- Glaucoma Treatment Progression:
  1. Drops
  2. Laser
  3. Surgery

Due to ALT damage?
Goal of Treatment

- Lower IOP and MAINTAIN lowered pressure
  - Done to limit optic nerve damage
  - Goal is to prevent long term vision loss

Options to Lower IOP

- Drops - multiple categories
- Laser Treatment - SLT and ALT
- Ciliary Body Treatment (ie. cyclophotococagulation)
- Surgery - tubes, trabs, shunts, MIGS
- Homeopathic - diet, exercise, supplements, sleeping position

Benefits of Eyedrops for Glaucoma Treatment

- THEY WORK!!
  - Backed by years of use and numerous studies
  - We are comfortable in prescribing
- Low Risk
  - Allergies
  - Interactions
- Lots of choices

Issues with Eyedrops

- Side Effects
  - Prostaglandin Analogs - possible changes in eye color and eyelid skin, PAP, stinging, blurred vision, eye redness, itching, burning, inflammation, macular edema, reactivation of HSK, eyelash lengthening
  - Beta Blockers - low blood pressure, reduced pulse rate, fatigue, shortness of breath; rarely: reduced libido, depression
  - Alpha Agonists - burning or stinging, fatigue, headache, drowsiness, dry mouth and nose, relatively higher likelihood of allergic reaction

Typical Glaucoma Patient “Look”

- Carbonic Anhydrase Inhibitors - in eye drop form: stinging, burning, eye discomfort; in pill form: tingling hands and feet, fatigue, stomach upset, memory problems, frequent urination
- Cholinergics (miotics) – brow ache, headache, pupil constriction, poor night va

- Study of 4,017 patients showed 57% experienced at least one symptom after drop instillation
**Issues with Eyedrops**

- **Cost**
  - Drop prices and Copays increasing
  - Costs to your practice - phone calls (patient and pharmacy), authorizations, refills, etc

- **Administration**
  - Dexterity
  - Aim

**Issues with Eyedrops**

- **Refills**
  - Getting refill submitted and picking up

- **Perceived benefit vs lack of concern for vision loss**
  - with limited symptoms, patients have a hard time believing there is benefit from treatment

**Finally.....**

**The Elephant in the Room....**

---

**Adherence and Persistence**

- **Adherence** - patient's "willingness" to stick to treatment
- **Compliance** - patient's "comply" with doctor's orders
- **Persistence (Discontinuance)** - sustain use of medication
- **White Coat Adherence** - use of medication as directed around the time of an appointment

**My patients are lying to me!!!**

- Hard to measure Adherence and Persistence - survey vs. mechanical vs. pharmacy records
- In the Glaucoma Adherence and Persistence Study (GAPS), 89% of people reported taking their medication everyday, by pharmacy records, these patients only had 64% of the medication required to take every dose
- Over half of the 10,620 participants (55%) stopped and restarted their meds within a 12 month period
- Only 10% of participants filled their prescriptions continuously for 12 months
- In another study 25% of the participants (2,440) filled an initial prescription but never filled a second.
- Another study of 5,623 patients revealed that nearly half discontinued all medications by the end of 12 months

DROPS ONLY WORK WHEN TAKEN!!
Liar, Liar, Pants on Fire!

- Adherence to Glaucoma Medications Over 12 Months in Two US Community Pharmacy Chains
- As has been reported extensively in the literature, adherence was considered unsatisfactory if medications were not available at least 80% of the time.
- Overall, approximately 2/3 of patients did not possess enough medications to use as directed!

Travatan Dosing Aid Study

- CONCLUSIONS:
- Nearly 45% of patients using an electronic monitoring device who knew they were being monitored and were provided free medication were non-adherent!!

Pants are Still on Fire!!

- According to Schwartz and Quigley, research brings the “unwelcome conclusion that persistence with initial glaucoma medication is as low as 33%–39% at one year”.

My patients follow my instructions!

- Do you have patients who:
  - Say they use their drops
  - Have consistently good IOP’s
  - Attend most if not all of their post op visits
  - BUT THEY SHOW PROGRESSION IN FIELD LOSS OR NERVE FIBER LAYER LOSS........
  - MORE THAN 80% OF PATIENTS ADHERE TO THE PRESCRIPTION 5 DAYS BEFORE AND AFTER A SCHEDULED APPOINTMENT!!

My Patients Are Adherent...

- Most of the studies have concluded that physicians are poor at predicting the degree of patient compliance and patients consistently over represent their degree of adherence.

Ways to improve adherence to prescribed drops

- Ask patient questions in a non-judgmental or threatening manner
- What drop are you taking? Don't know = worse compliance
- Issues with taking the drops? Cost, running out/refills, forgetting, side effects, administration (ask them to demonstrate their technique)
- Ask when they last used their drop and how often they miss or skip a drop. Skipped drops is very specific for nonadherence
Ways to improve adherence

- Discuss dosing schedule and how it fits into the patient's schedule.
  - Leave drop at work if they forget in the morning
  - Leave drop near coffee pot or toothbrush
  - Set up cell phone reminder
- Poor attendance to follow up exams = poor adherence
  - Phone call reminder works best

Where do you go from here?

- Wouldn't it be nice to have a drop, with limited to no side effects, that continues to work after it was administered...
- **SLT** ... the “other drop”??

Alternative to drops

Laser Trabeculoplasty

- ALT approved 1979 and SLT approved 2001

ALT vs SLT

<table>
<thead>
<tr>
<th></th>
<th>ALT</th>
<th>SLT</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (mj)</td>
<td>40-70</td>
<td>0.8-1.4</td>
<td>100:1</td>
</tr>
<tr>
<td>Fluence (mj/mm²)</td>
<td>40,000</td>
<td>6</td>
<td>6000:1</td>
</tr>
<tr>
<td>Exposure Time</td>
<td>100,000,000 ns</td>
<td>3 ns</td>
<td>33,000,000:1</td>
</tr>
</tbody>
</table>

SLT Treatment Procedure

- Check IOP
- Determine angle is open and TM is accessible
- Anesthetic drop (both eyes) and drop of brimonidine at time of procedure
- Gonio lens place on eye and laser treatment starts.
- Approximately 100 shots around 360 degrees

SLT Treatment Procedure

- Patient feels no pain or irritation during treatment.
- Patients notice some initial blur due to gonio gel.
- Patients are asked to stay in the office or return in 45 to 60 minutes so we can check the post op IOP.
- Typically see maximum results at 4-6 weeks post op.
SLT Treatment Procedure

Large spot focused on trabecular meshwork
Note bubbles when laser activated

Benefits of SLT

Long Term Control - works 24 hrs/day independent of patient’s actions
  • Can eliminate the adherence issues discussed previously
  • Limits IOP fluctuations over time

Effective
  • Works in 80% of patients
  • As first line treatment, expect 20-30% reduction
  • Most effective when used as first line treatment

Issues with SLT

• Potential for IOP spike post treatment
  – Most likely in heavily pigmented angles
  – Less than 5% of patients treated
  – Almost always temporary, resolves in 24 hours
• May not have measurable effect on all patients (80% have effect)

SLT Treatment

Benefits of SLT

Repeatable
  • Since there is no thermal damage to TM, procedure can be repeated
  • First treatment is indicator for subsequent treatments
  • Second treatment shown to get IOP back to baseline of first treatment

Does not damage trabecular meshwork
  • Allow for retreatment
  • No effect on other treatment options (surgical or medical)

Issues with SLT

• Treatment is not permanent and may need repeated
• Not effective for all types of glaucoma
• Post op inflammation
  – This can be 50% or more of patients, believed to be some of the “effect”, usually not treated, if significant could treat with an NSAID or steroid
**Good Candidates for SLT**

- Newly diagnosed glaucoma
  - Open Angle, Pseudoexfoliative, Steroid response, Pigmentary
- Patients who have had SLT or ALT
- Pt’s not controlled with medications
  - Progression
  - Compliance

**Poor Candidates for SLT**

- Pigmentary Glaucoma with high IOP
- Normal Tension Glaucoma with low IOP
- Glaucomas that will not benefit
  - Neovascular and Angle Recession
- Uncontrolled IOP w/ need for immediate decrease
- Patient’s with very low target IOP or who may suffer from an IOP spike

**SLT Compared to Latanoprost**

*Selective Laser Trabeculoplasty as Initial and Adjunctive Treatment for Open-Angle Glaucoma*

- McIlraith, Ian MD*; Strasfeld, Maurice MD; Colev, George MD; Hutnik, Cindy M.L. MD, PhD*
- *Journal of Glaucoma:*
  - April 2006 - Volume 15 - Issue 2 - pp 124-130

- Conclusions: Selective laser trabeculoplasty was found to be equally efficacious as latanoprost in reducing intraocular pressure in newly diagnosed open-angle glaucoma and ocular hypertension over 12 months, independent of angle pigmentation.

**Ten reasons for you and your patient to consider SLT**

1. SLT works like another drop (80% effective).
2. SLT works while you are around the clock...even when sleeping.
3. SLT can decrease IOP fluctuations unlike drops.
4. Can not disrupt treatment like with drops. Once treated...continues to work.
5. SLT has been shown to be as effective as major surgery in some patients.
6. SLT may blunt peak IOP.
7. SLT provides long term eye safety and can be repeated.
8. SLT can help reduce or limit drops for many patients.
9. SLT does not damage drainage network - cold laser vs hot laser for ALT, less energy than supermarket scanner
10. SLT does not cause the side effects of eye drops.

*Nathan Ratcliffe, MD*
Things to say to patient

- Quick, in office procedure
- Lowers eye pressure in 80% of patients
- Risk of doing procedure is nearly the same as not doing the procedure
- Benefit is that we can limit need for drop or more drops
- Procedure is not painful
- Will need continued monitoring regardless if treated with drops or procedure

Public Service Announcement - PSA

- PA Act 2010-110 Photo Identification Badges
  - As of June 1, 2015, the photo identification badge requirements will apply to all employees that deliver direct care to a patient or consumer at a health care facility, as well as to those employees delivering direct care to a consumer outside of a health care facility or employment agency and to employees of the private practice of a physician.

First Line SLT

- "Despite having the best selection of medical IOP-lowering therapy ever available, some patients with glaucoma still go blind. Maybe the time for a paradigm shift is now. Maybe first-line SLT's time has come."
  - L. Jay Katz, MD August 2013 Eyeworld
  - Director Glaucoma Services
  - Wills Eye Hospital

Back to our patient encounter...

- When we recommend a treatment for glaucoma, we must consider:
  - Patient
  - Cost (actual, patient and practice)
  - Accessibility to recommended treatment (getting and using)
  - Benefits and side effects of recommended treatment

Think about putting SLT at the top of your "Drop List"....

Sightline Bowling League

High Score of the night:

169

Lou "Diamond" Phillips, OD

Quick Review of Last Year’s Presentation

- Medical Marijuana Act – Act 16 of 2016 (signed April 17, 2016)
- Makes PA the 24th state to legalize medical cannabis
- Projecting it will take 2 years to implement
- On January 17, 2017, PA Department of Health released permits for growers and dispensers
- Limits prescribing to MD’s and DO’s
Forms of Marijuana

▪ (2) Subject to regulations promulgated under this act, medical marijuana may only be dispensed to a patient or caregiver in the following forms:
  ▪ (i) pill;
  ▪ (ii) oil;
  ▪ (iii) topical forms, including gels, creams or ointments;
  ▪ (iv) a form medically appropriate for administration by vaporization or nebulization, excluding dry leaf or plant form until dry leaf or plant forms become acceptable under regulations adopted under section 1202;
  ▪ (v) tincture; or
  ▪ (vi) liquid.
  ▪ (7) Unless otherwise provided in regulations adopted by the department under section 1202, medical marijuana may not be dispensed to a patient or a caregiver in dry leaf or plant form.

“Serious Medical Conditions”

▪ (1) Cancer.
▪ (2) Positive status for human immunodeficiency virus or acquired immune deficiency syndrome.
▪ (3) Amyotrophic lateral sclerosis.
▪ (4) Parkinson’s disease.
▪ (5) Multiple sclerosis.
▪ (6) Damage to the nervous tissue of the spinal cord with objective neurological indication of intractable spasticity.
▪ (7) Epilepsy.

“Serious Medical Conditions”

▪ (8) Inflammatory bowel disease.
▪ (9) Neuropathies.
▪ (10) Huntington’s disease.
▪ (11) Crohn’s disease.
▪ (12) Post-traumatic stress disorder.
▪ (13) Intractable seizures.

“Serious Medical Conditions”

▪ (14) Glaucoma.
▪ (15) Sickle cell anemia.
▪ (16) Severe chronic or intractable pain of neuropathic origin or severe chronic or intractable pain in which conventional therapeutic intervention and opiate therapy is contraindicated or ineffective.
▪ (17) Autism.
▪ “Terminally ill.” A medical prognosis of life expectancy of approximately one year or less if the illness runs its normal course.

Rules for Employers

▪ Employment.—
  ▪ (1) No employer may discharge, threaten to discharge, refuse to hire or otherwise discriminate or retaliate against an employee regarding an employee’s compensation, terms, conditions, location or privileges solely on the basis of such employee’s status as an individual who is certified to use medical marijuana.
  ▪ (2) Nothing in this act shall require an employer to make any accommodation of the use of medical marijuana on the premises of any place of employment. This act shall in no way limit an employer’s ability to discipline an employee for being under the influence of medical marijuana in the workplace or for working while under the influence of medical marijuana when the employee’s conduct falls below the standard of care normally accepted for that position.
  ▪ (3) Nothing in this act shall require an employer to commit any act that would put the employer or any person acting on its behalf in violation of Federal law.