

# Glaucoma Grand Rounds

- Anthony B. Litwak, OD, FAAO
- VA Medical Center
- Baltimore, Maryland

## Case RS

- 62 yobm
- No family history of glaucoma
- BVA 20/20 OU
- There is no APD
- SLE nl
- TA 21 OU
- Gonio reveals open angles OU
- See optic nerve, NFL, Visual fields.

## How Strongly Do You Feel That This Patient Has Glaucoma?

- 1. 0-20 %
- 2. 20-40 %
- 3. 40-60 %
- 4. 60-80 %
- 5. 80-100 %

How Strongly Do You Feel This Patient is at Risk for Becoming Visually Impaired from Glaucoma?

- 1. No risk
- 2. Very little risk
- 3. Low risk
- 4. Moderate risk
- 5. High risk

You obtain three IOP readings: 21, 19, 25 OD and 21, 18, 24 OS. What is your management plan?

- 1. Treat right eye only

- 2. Treat left eye only
- 3. Treat both eyes
- 4. Order MRI of head and orbits
- 5. Follow without treatment with serial visual fields

What is your target IOP for the right eye?

- 1. < 25
- 2. <22
- 3. < 20
- 4. < 18
- 5. < 16
- 6. < 14

What is your target IOP for the left eye?

- 1. < 25
- 2. <22
- 3. < 20
- 4. < 18
- 5. < 16
- 6. < 14

## **Setting Target Pressures**

- “Estimated IOP where the risk of future visual impairment is balanced against the side effects of treatment”
- Based on the Baseline IOP Readings (use the highest IOP reading)
- Based on the Amount of Optic Nerve Damage
- Based on the Rate of Glaucoma Progression

## **Other Factors to Consider**

- Age of the Patient
- Race of the Patient
- FOH of Severe Visual Loss from Glaucoma
- Status of the Fellow Eye
- Compliance Factors

## **Guidelines For IOP Target Values**

- No Damage – 20% Reduction Of Baseline IOP based on OHTS
- Mild Damage - 20-30% Reduction Of Baseline IOP
- Moderate Damage - 30-40% Reduction Of Baseline IOP
- Severe Damage - 40-50% Reduction Of Baseline IOP

## **Visual Field Quantification (Mild, Moderate, Severe)**

- Mean Deviation (MD)
- Number of Abnormal Points on the Pattern Deviation Plots
- Decibel Value of the Four Points Just Off Fixation

### **Mild Visual Field Defect**

- The Mean Deviation Index (MD) Is Better Than -6 dB
- On the Pattern Deviation Plot, Fewer Than 18 of the Points Are Depressed Below the 5% Level and Fewer Than 10 Points Are Depressed Below the 1% Level
- No Point in the Central 5 Degrees Has a Sensitivity < 25 dB

### **Moderate Visual Field Defect**

- The Mean Deviation Is Better Than -12 dB
- On the Pattern Deviation Plot, Fewer Than 36 of the Points Are Depressed Below the 5% Level and Fewer Than 20 Points Are Depressed Below the 1% Level
- No Point in the Central 5 Degrees Has a Sensitivity < 15 dB

### **Severe Visual Field Defect**

- The Mean Deviation Is Worse Than -12 dB
- On the Pattern Deviation Plot, More Than 36 of the Points Are Depressed Below the 5% Level or More Than 20 Points Are Depressed Below the 1% Level

- Any Point in the Central 5 Degrees Has a Sensitivity <15
- There Are Points Within the Central 5 Degrees With Sensitivity <25 dB in Both Hemifields

What is it going to take to achieve this target pressure?

- 1. One med
- 2. Two meds
- 3. Three meds
- 4. Two meds and ALT/SLT
- 5. Three meds and ALT/SLT
- 6. Filter

What's It Going to Take?

- 20-30% reduction - 1 or 2 meds
- 30-40% reduction - 2 meds +/- ALT/SLT
- 40-50% reduction - 2-3 meds + ALT/SLT +/- filter

The patient reports a history of mild SOB but is not taking any breathing medicines, which medication would you start for this patient?

- 1. Timoptic XE
- 2. Betoptic
- 3. Xalatan
- 4. Travatan
- 5. Alphagan
- 6. Lumigan
- 7. Rescula
- 8. Trusopt
- 9. ALT

When Would You Have the Patient Come Back For An IOP Check?

- 1. One Day
- 2. Three Days
- 3. One Week
- 4. Two Weeks

- 5. One Month
- 6. Three Months
- 7. Six Months

The patient's IOP goes from 25 to 19 while taking Travatan QHS. You have set a target IOP of 15. Which medication would you add next?

- 1. Betoptic BID
- 2. Alphagan BID
- 3. Trusopt BID
- 4. Pilocarpine QID
- 5. Rescula BID
- 6. Azopt BID
- 7. Cosopt BID
- 8. Lumigan QHS
- 9. ALT

The patient is taking Travatan qhs and Alphagan bid with an IOP reading of 15, however the patient has developed redness and itching. What is your next step?

- 1. Continue present meds and Rx Patanolol
- 2. D/C Travatan and start Trusopt
- 3. D/C Alphagan and start Trusopt

Alphagan is D/C and the redness and itching improve. IOP is 17 on Travatan and Trusopt. What is your next step?

- 1. Re-set TP < 18
- 2. Add Combigan
- 3. Add Timolol
- 4. Add Betoptic
- 5. Do ALT
- 6. Do SLT
- 7. Filter

## Glaucoma Management

- Start with a prostaglandin
- Add Beta-blocker as second line
- Change beta-blocker to Cosopt or Combigan
- Add Alphagan or CAI as third drug

- OR consider ALT/SLT
- Filtering surgery
  - Only if the benefits outweigh the risks

ALT is performed 180 degrees OD only. Six weeks later the IOP is 14 OD and 18 OS. When would you repeat the visual field?

- 1. One week
- 2. One Month
- 3. Three Months
- 4. Six Months
- 5. One Year

## When Would Repeat the DFE?

- 1. One week
- 2. One Month
- 3. Three Months
- 4. Six Months
- 5. One Year

## CASE CR

- 35 yohf
- Neg PMH
- +FOH mother and grandmother with glaucoma
- VA 20/20 OD, 20/20 OS
- SL unremarkable
- TA 19-26 OD, 18-26 OS
- CCT 554/561
- Gonio: 4+ open OU, s PAS or angle recess

## How Strongly Do You Feel That This Patient Has Glaucoma?

- 1. 0-20 %
- 2. 20-40 %
- 3. 40-60 %
- 4. 60-80 %
- 5. 80-100 %

How Strongly Do You Feel This Patient is at Risk for Becoming Visually Impaired from Glaucoma?

- 1. No risk
- 2. Very little risk
- 3. Low risk
- 4. Moderate risk
- 5. High risk

## Should we treat or observe?

- 1. Does the patient have nerve damage?
  - If yes then in most cases – TREAT
  - If no, then assess risk factors to determine the benefits of treatment vs observation
    - Level of IOP
    - CCT
    - Age
    - FOH
    - Race

POAG Endpoints by Central Corneal Thickness and Baseline IOP (mmHg) in Observation Group\*

## Decided to treat

- Based on elevated IOP
- Strong family history
- Hispanic race
- Young age

## Guidelines For IOP Target Values

- No Damage – OHTS recommended 20% Reduction Of Baseline IOP
- Mild Damage - 20-30% Reduction Of Baseline IOP
- Moderate Damage - 30-40% Reduction Of Baseline IOP
- Severe Damage - 40-50% Reduction Of Baseline IOP

## Follow up

- Pt started on timolol .5% bid ou
- IOP range 14-19 OD 16-20 OS
- What should you do?

How Strongly Now Do You Feel This Patient is at Risk for Becoming Visually Impaired from Glaucoma?

- 1. No risk
- 2. Very little risk
- 3. Low risk
- 4. Moderate risk
- 5. High risk

What should you do now?

- Reset TP < 15 OU
- Added travatan qhs ou
- Changed timolol to cosopt bid ou
- IOP 12, 15, 17 OD 13, 14, 17 OS
- What should we do?
  - Add Alphagan?
  - ALT/SLT?
  - Would you filter?