I. Case History

- Patient demographics: 75 year old white male
- Chief complaint: Difficulty complying with drop regiment has very busy lifestyle. Does not appreciated any change in vision.
- Ocular, medical history
  - (+) Primary Open Angle Glaucoma OD
    - Prior to 2013 patient was treated with Latanoprost prophylactically (no glaucoma believed to be present) due to large VF defect from optic pit and monocular status
    - 5/2013 concern for progression – added timolol
  - (+) Optic Disc Pit OD
  - (+) Mild Age Related Macular Degeneration OD
  - (+) Mild Cataract OD
  - (+) Blind Eye OS – h/o penetrating injury
- Medications
  - Latanoprost QHS OD-reports good compliance, last dose last night
  - Timolol BID OD-reports poor compliance, last dose two days ago

II. Pertinent findings

- Clinical
  - VA: 20/30 OD, NLP OS
  - IOP 14 OD, 28 OS mmHg treated with latanoprost QHS (good compliance) and Timolol BID (poor compliance)
    - treated high on latanoprost: 17 mmHg OD
    - average IOP while on latanoprost: 12-13 mmHg
    - only one previous treated IOP on latanoprost and timolol: 10 mmHg OD
  - Clinical Examination of Optic Nerve: 0.85 C/D with minimal inferior rim
  - OCT RNFL and Optic Nerve (11 images available 2011-2015):
    - Segmented line raster shows optic nerve pit nasal and slightly inferior
    - RNFL shows very thin inferior nasal/ inferior temporal/temporal, still WNL superior nasal, questionably thin superior temporal
  - OCT Posterior Pole (3 images available 2013-2015): asymmetry analysis shows inferior pole to be thinner than superior (282 vs 262)
    - 5/2013 24-2: OD-absolute superior scotoma arcing to nasal, Mean Deviation = -14.40 DB
    - 8/2015 30-2: OD-subtotal superior altitudinal scotoma, Mean Deviation = -15.53 DB
• Gonioscopy: Open angles
• Pachymetry: 532 microns, possibly confounded by long term prostoglandin use

-Radiology studies
• h/o MRI 2014—no findings to explain visual field defect

III. Differential diagnosis
• Primary/leading
  • Optic Disc Pit OD - causing a stable superior temporal defect
  • Primary Open Angle Glaucoma OD - causing progressive visual field change

IV. Diagnosis and discussion
• Elaborate on the condition
  • Subtotal Superior Visual Field defect: originally limited to superior temporal defect, progressive change from glaucomatous damage now involves nasal portion of superior field and encroaching on fixation
    o OCT Optic Disc raster locates optic pit on nasal side of optic nerve, just inferior to horizontal midline
    o OCT RNFL: entire inferior rim tissue thin, thin temporally, possibly borderline thin superior temporal
      • geographic location of the optic pit can not account for thinning inferior temporal/temporal/superior temporal
    o OCT Posterior Pole: asymmetry analysis confirms loss within the pole region
      • geographic location of the optic pit can not account for thinning in the region of the posterior pole analysis
• Expound on unique features
  • All data analysis made increasingly difficult due to monocular status
    o While OCT analysis of right eye intraocular asymmetry between the superior and inferior pole and RNFLs significant, being able to compare interocular asymmetry would be useful
  • Optic disc pits on the nasal side of the nerve are uncommon and not well researched

V. Treatment, management
• Treatment and response to treatment
  • Continue Latanoprost QHS OD, begin Cosopt BID OD
    o concern for progression while on latanoprost with average IOP 12-13, need to maintain significant IOP decrease
  • May need to consider referral to glaucoma surgeon if progression and/or non-compliance continues
  • Return in 3 months for HVF 10-2 to assess involvement of the macular field
VI. Conclusion

This patient's optic nerve pit masked the detection of glaucomatous change on visual field. Close OCT examination of pit location reveals that it is predominately nasal, which cannot account for thinning inferior temporal and certainly not temporal or superior temporal on the OCT RNFL scans. Aggressive glaucoma treatment is necessary to preserve vision in this patient's only remaining seeing eye.