New Techniques in the Assessment of the Optic Nerve in Glaucoma: Flicker Animation

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Current tools

- Structure
  - Photo Comparison
  - HRT
  - OCT
  - GDx
- Function
  - Visual Fields
    - SAP (Standard Automated Perimetry)
    - FDT (Frequency Doubling Technology)
    - VEP (Visual Evoked Potential)

"Worthless and Weak"

- All of our current technologies have limitations. Many, many limitations...

Visual fields

- subjective
- time consuming
- reliability issues, technician dependent
- statistical progression under-utilized
- statistical progression is emerging

HRT Limitations

- Older technology
- Users declining
- Billing issues in conjunction with OCT

OCT Limitations

- Time domain - the list goes on forever
- Fourier domain
  - initial diagnosis is often made comparing vs a database
  - statistical progression - in its infancy
  - ganglion cell progression within macular area is still emerging
photography limitations

- time consuming
- subjective
- intra and inter-observer agreement among general ophthalmologists is poor
- under utilized
- diffuse defects are challenging

Animation

Can it help us???

animation in other fields

- astronomy
- weather forecasting
- national security

astronomy

Weather Forecasting

National Security
Case

- Case 2
  - 67 Y/O WF, Started to follow as a glaucoma suspect in 2001 based on optic nerve appearance, IOP OD Range 19-22, OS 15-20, Pach’s 624 OD, 661 OS, HRT’s from 2001 to 2008 stable between 15-18mmHg

Animation - HRT
- Baseline to most recent
- Analysis of Every Scan

Animation - Serial Photography

Billing/Coding

Case Presentations

References

Concordance of Flicker Comparison Versus Side-by-Side Comparison in Glaucoma.
Cases

• Case 3
  – 69 Y/O WF, Followed since 2002 as a glaucoma suspect b/o large cupping, IOP OD range 11-18, OS range 12-20, Ochx: macular hole spring 2005 with repair, cataract surgery fall 2005, Pach’s 553 OD, 554 OS

• Case 4
  – 56YO/WF, daughter forced her to come, Pt doesn’t like eye doctors, hates VF’s, has glaucoma x 6 years, Was on Timoptic bid OU for “many years”, Had “that laser”, was on “pressure pills” (diamox) for 1 yr, Has not taken meds in over a year, Has Amblyopia OS Refraction -0.75-0.75x125 20/20 OD, +3.00-1.00x55 20/70 OS, 15 diopter L const XT Peripheral PI, Ta 32mmHg OU at 11AM, DFE