

المؤتمر السنوي الدولي للجمعية المصرية
INTERNATIONAL CONGRESS OF THE
EGYPTIAN OPHTHALMOLOGICAL SOCIETY
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Glaucomatous field changes

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Glaucomatous Field defects

- Glaucoma is group of diseases leading to potentially progressing optic neuropathy (of certain morphology) that is associated with visual field loss as damage progresses and in which IOP is the key modifiable factor



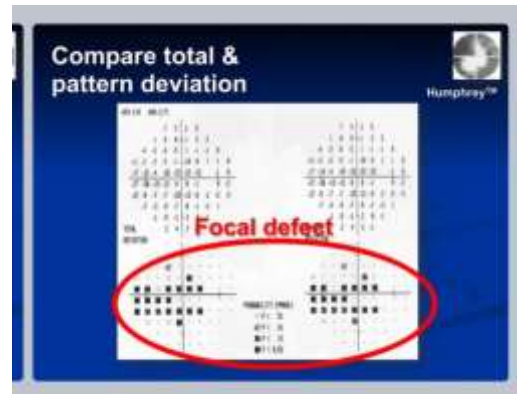
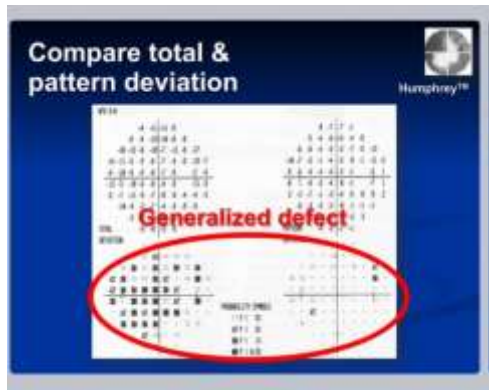
Visual field of Left Eye



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Q1: Is the defect focal or diffuse ?



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Q2: Is the 'focal defect' glaucomatous ?

Glaucomatous field defects are:

- - Asymmetrical across the horizontal meridian
- - Located mid-peripheral (5 – 25°) from fixation
- - Reproducible
- - Clustered in neighboring points
- - Not attributable to other pathology
- - Correlate with optic disc and RNFL thickness changes

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Q3: Are these changes real ?

- Present on repeated testing
- Fulfilling the **3 minimal criteria** for GLAUCOMA defects
 - On PD plot: 3 non edge points $p < 5\%$, 1 point $p < 1\%$, cluster in Bjerrum's area
 - Depressed PSD/CPSD $P < 5\%$
 - GHT below normal limits



Glaucomatous field defects

- **IC BB wings SAD steps**
- Paracentral scotoma
- Central nasal step (Rhoenne)
- Blind spot enlargement (baring)
- Seidel scotoma
- Arcuate scotoma (altitudinal/ temporal breakthrough)
- Ring scotoma (may progress to tunnel vision)
- Absolute field contraction



Visual field of Left Eye

- Nasal step
- Paracentral scotoma
- Seidel scotoma
- Arcuate scotoma
- Biarcuate scotoma



Early defects

Criteria for **Early** Glaucoma Defect

- MD < -6 dB
- On PD plot, < 25% (18 pts) below 5% level and < 15% (10 pts) below 1% level
- No pt w/in central 5° : sensitivity < 15 dB

PROBABILITY SYMBOLS

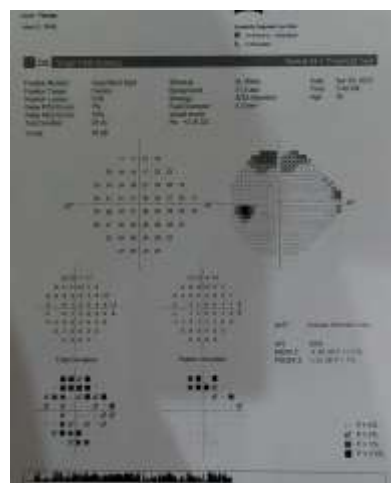
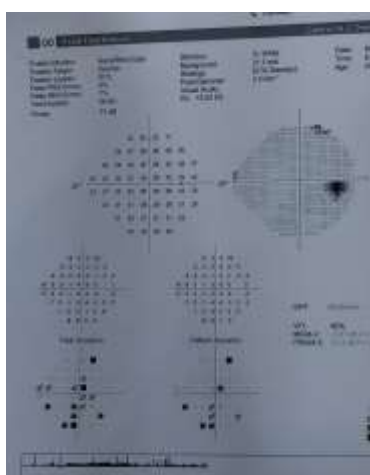
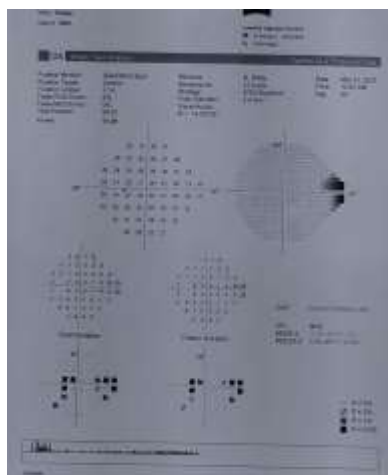
∴ P < 5%

∴ P < 2%

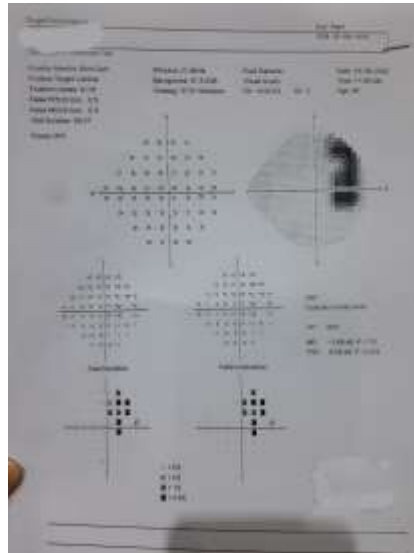
∴ P < 1%

■ P < 0.5%

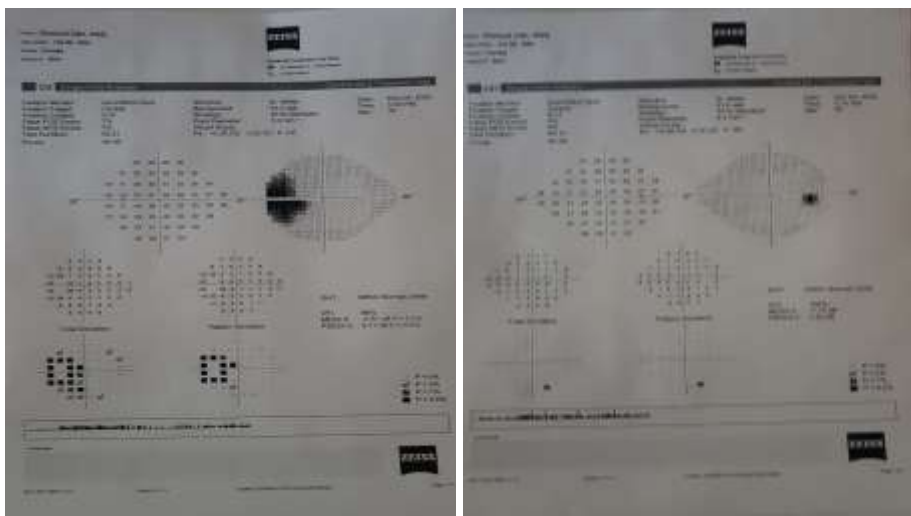
Hodapp E, Parrish RK, Anderson DR. Clinical decisions in glaucoma. St Louis: Mosby



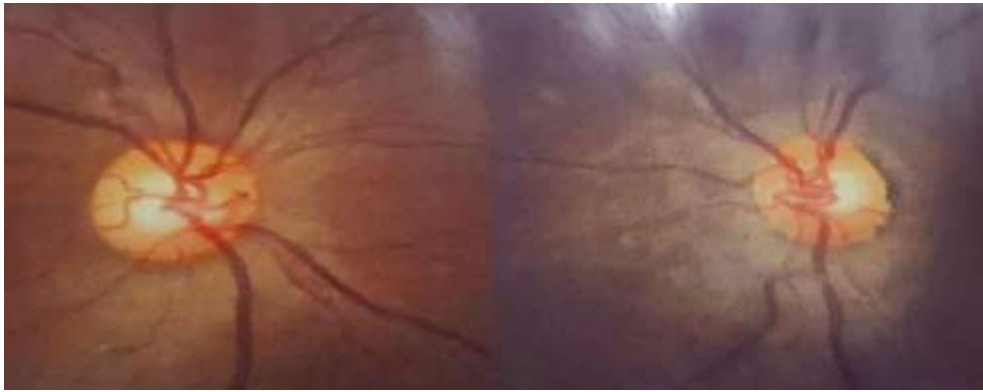
Early defects



Atypical Blind spot enlargement



Opto-ciliary shunt vessels



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Moderate defects

Criteria for *Moderate* Glaucoma Defect

- MD > -6 dB but < -12 dB
- PD plot, < 50% (37 pts) < 5% level and < 25% (20 pts) < 1% level
- No absolute deficit (0 dB) in the central 5°
- Only 1 hemi-field has point w/ sensitivity < 15 dB in the central 5°

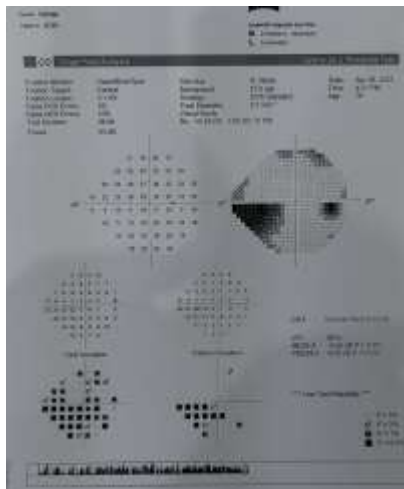
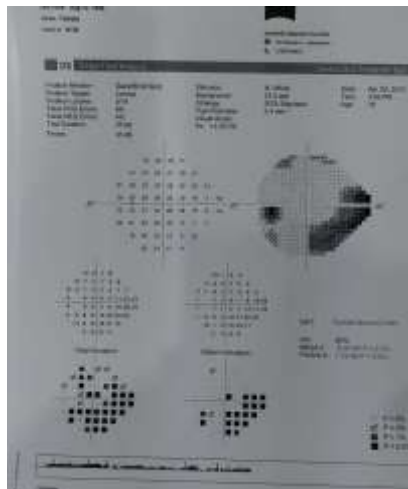
PROBABILITY SYMBOLS	
⊘	P < 5%
⊚	P < 2%
⊛	P < 1%
⊜	P < 0.5%

Hodapp E, Parrish RK, Anderson DR. Clinical decisions in glaucoma. St Louis: Mosby

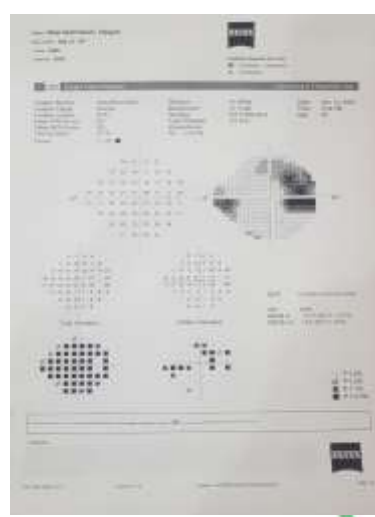
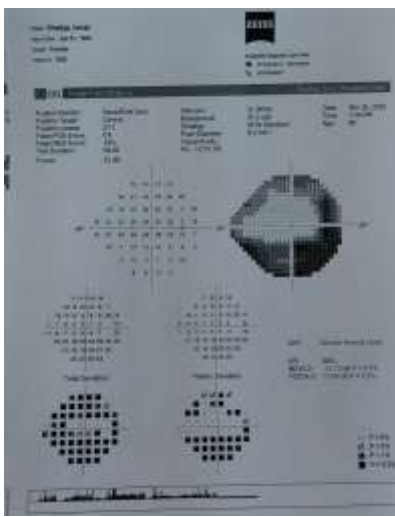
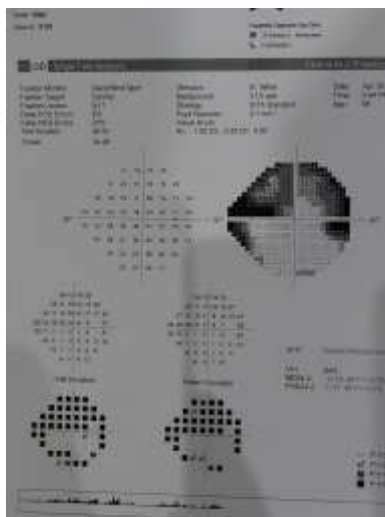
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Moderate defects



Moderate defects



Late defects

Criteria for **Severe** Glaucoma Defect

- MD > -12 dB
- On PD plot
 - >> 50% of pts < 5% level
 - >> 25% of pts < 1% level
- Absolute deficit (0 dB) in the central 5°
- Both hemi-fields w/ pt(s) w/ sensitivity < 15 dB w/in th central 5°

PROBABILITY SYMBOLS

☐ P < 5%

☐ P < 1%

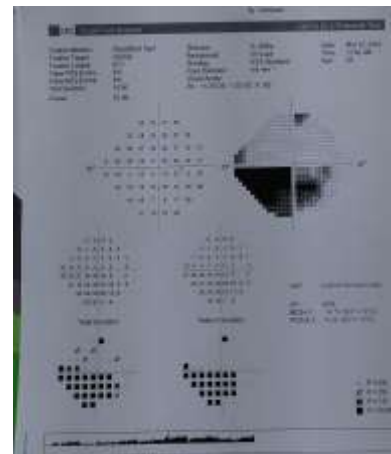
☐ P < 0.5%

☐ P < 0.1%

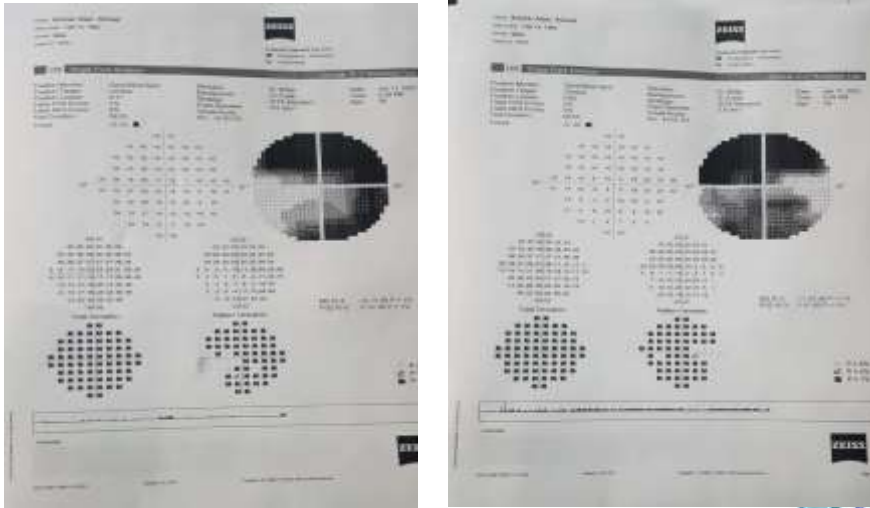
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Advanced glaucoma (24-2)



Tubular field (10-2)



In conclusion

- Glaucomatous field changes must be **specific reproducible and real** changes to the field of vision
- Beware of **artifacts , leaning effects** and reliability indices before pinpointing a field defect
- Beware of **overlapping conditions** and always **correlate** with other tests

*Thank
You*

