

Is it always an POAG?

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Adults' chronic and progressive optic neuropathy, which is characterized by an acquired atrophy of the optic nerve and a loss of GCs and their axons, is associated with an open angle by gonioscopy

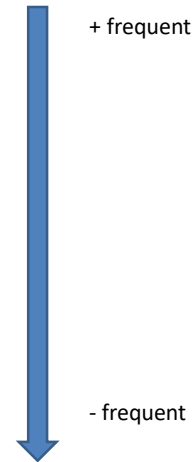
- An accurate definition of glaucoma is important to prevent and to treat the cause of irreversible blindness worldwide
- Easy diagnosis in typical forms
- Many atypies and many traps:
→ **make the diagnosis remain a real challenge**

Is it always a POAG?

- Is it a primitive glaucoma?
- Is it an open angle?
- Is it a glaucomatous neuropathy?

Is it a primitive glaucoma?

- Glucocorticoid- induced glaucoma
- Traumatic glaucoma
- uveitic glaucoma
- Pseudophakic and phakic glaucoma
- Uveo-scleral glaucoma
 - Vein obstruction
 - arteriovenous malformations
 - Superior vena cava syndrome



Is it a primitive glaucoma?

- Exfoliative glaucoma

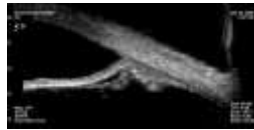


- make diagnostic is very important through research The classic appearance of an XFS
- About 25% who has XFS have elevated IOP and of these one- third have glaucoma. Unfortunately much of this remains undiagnosed and unsuspected
- The prognosis of exfoliative glaucoma is worse than that of POAG

Is it a primitive glaucoma?

- Pigmentary glaucoma :

Clinical form is not always easy to highlight when evocative signs are missing



- Think about : young adult / Male / myopic
- Thinking about making a UBM at the slightest doubt

Take home message 1

PAOG is a diagnostic of elimination; secondary glaucomas should be mentioned as a prerequisite in order to adjust its treatment

Is it always an POAG?

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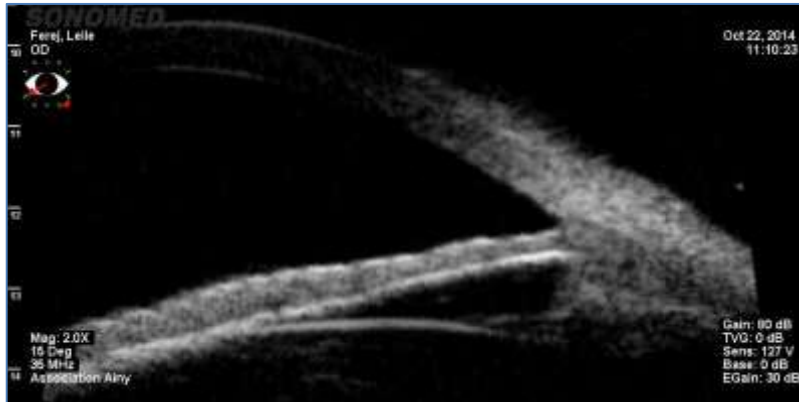
Is it in open angle?

- **Gonioscopic:**



- **UBM : Evaluation of the angle**

→ To ensure that the angle does not close in the dark



Is it always a POAG?

- Is it a primitive glaucoma?
- Is it in open angle?
- Is it a glaucomatous neuropathy?

case report n°1?

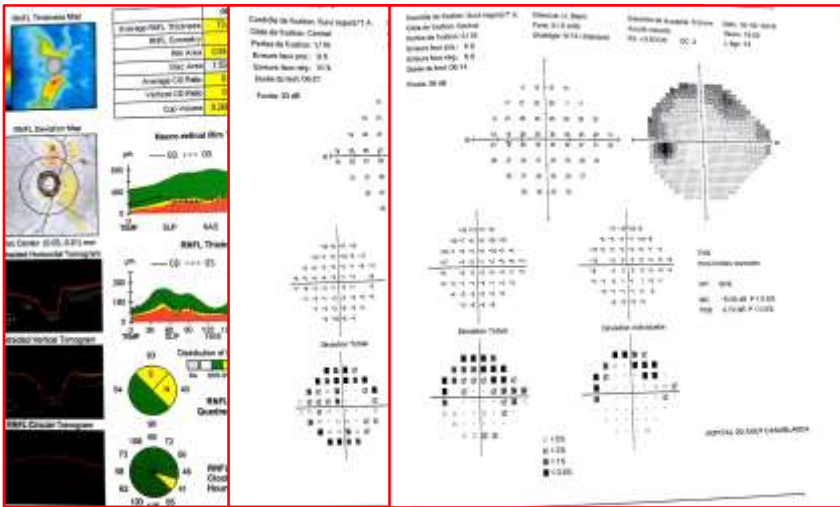
- 62 years
- **history** : family history of glaucoma (father and brother)
- Reason: she came for optical correction
- **Exam** :

	right eye	left eye
Visual acuity:	8/10	10/10
Anterior segment:		early cataract
CCT :	533	535
Ocular pressure :	26 mmhg	26 mmhg



- size and color of optic disc were normal
- Excavations : 6/10 RE and 5/10 LE
- Optic Disc Notch in the inferior segment
- exclusion of a circumlinear vessel
- Large areas of atrophy
- Nasal rejection of vessels

glaucomatous optic disc



Is it a glaucomatous neuropathy?

Yes

elderly person
 familial history of glaucoma
 No particular signs
 high ocular pressure
 typical glaucomatous optic disc
 damage to both eyes
 Typical OCT defect
 Typical visual field deficit correlated with OCT

Is it a glaucomatous neuropathy?

- elderly or young person
- Without Factors risk of glaucoma
- With or without ophthalmological signs
- High ocular pressure
- Typical glaucomatous optic disc
- Symmetrical damage
- Typical OCT deficit
- Typical visual field deficit correlated with OCT
- Optic disc with excavation



Clinical case 2

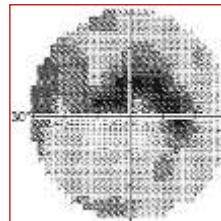
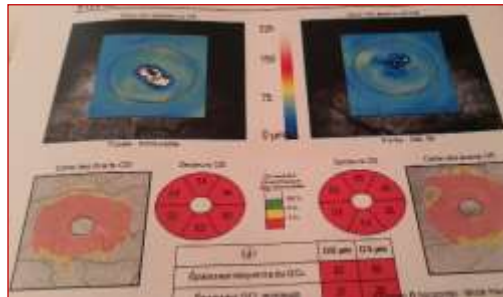
- age : 70 years old
- no particular pathological history
- Progressive decrease in bilateral visual acuity
- Cataract surgery without improvement of visual acuity
- Exam

- | | right eye | left eye |
|---------|------------------|-----------------|
| • VA: | 4/10 | 4/10 |
| • IOP : | 12 mmhg | |

- Fundus :



-



- **Arteritic anterior ischemic optic neuropathy**
: Horton's disease has been suspected
 - erythrocyte sedimentation rate (ESR) : 25 mm first hour (normal / ESR = 10+ âge /2)
 - Biopsy of temporal artery : negative (no giant cell arteritis)

CCT : RE : 380 LE : 370

→ Corrected pressure = 25 mmhg

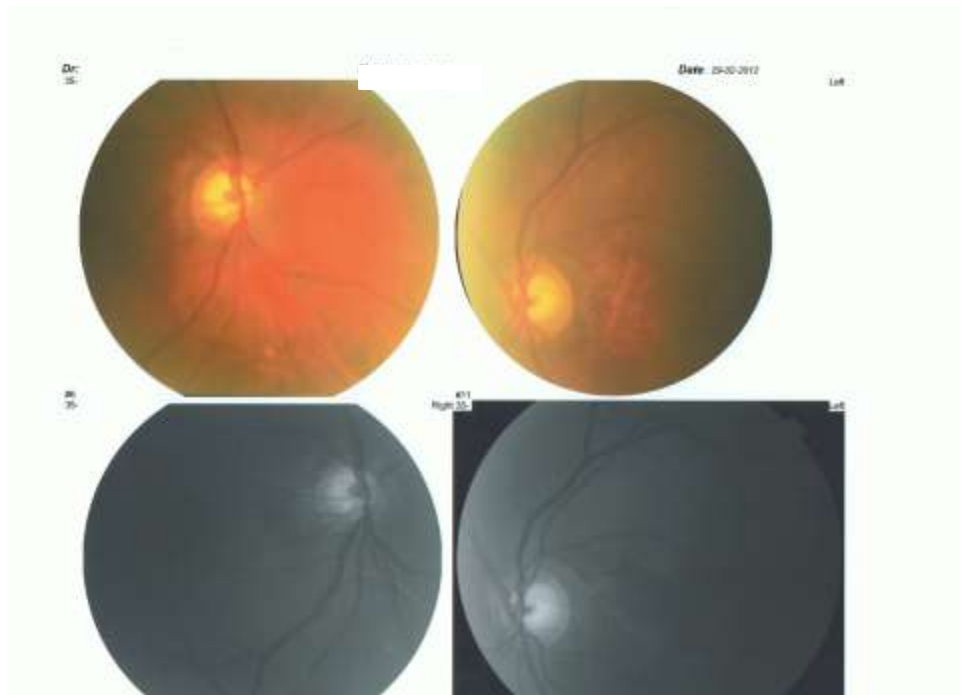
traps:

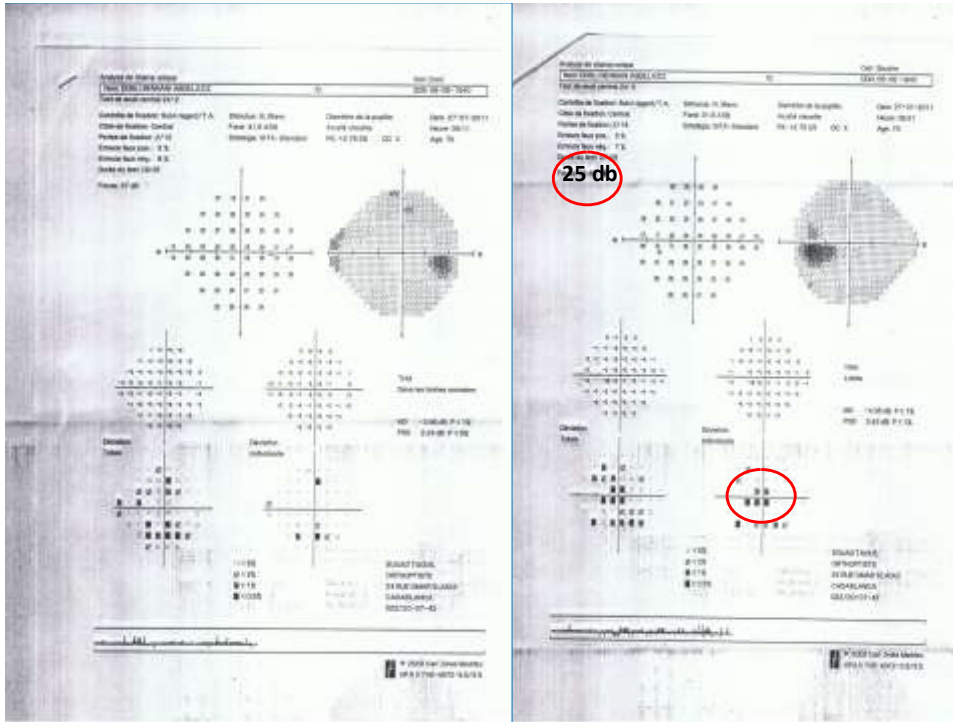
- parafoveal scotoma
- No measurement of CCT

Clinical case n° 3

- 70 years old
- high blood pressure with 3 drops including one **Beta-blocker**
- familial myopia
- Fortuitous discovery of a papillary excavation in both eyes
- Exam :

	Right eye	left eye
• VA :	8/10	5/10
	Early cortico-nuclear cataract	
• IOP	18 mmhg	20mmhg
• CCT	560	560
• Gonioscopy :	open angle	





- Doppler ultrasonographic evaluation of cervical vessels.

→ high-grade stenoses of the internal left carotid artery: **80%**



Non- Arteritic anterior ischemic optic neuropathy : NOIA-NA

Take home message 2

- Always correlate the IOP with CCT
- Central visual field impairment with a decrease in the foveal threshold is not glaucoma

Case report n°4

- 65 years old
- Addressed with «glaucoma that worsens despite treatment and normal IOP »
- History
 - Cataract surgery without improvement of visual acuity
 - Anti-glaucoma treatment for 7 years
 - glaucoma in her daughter

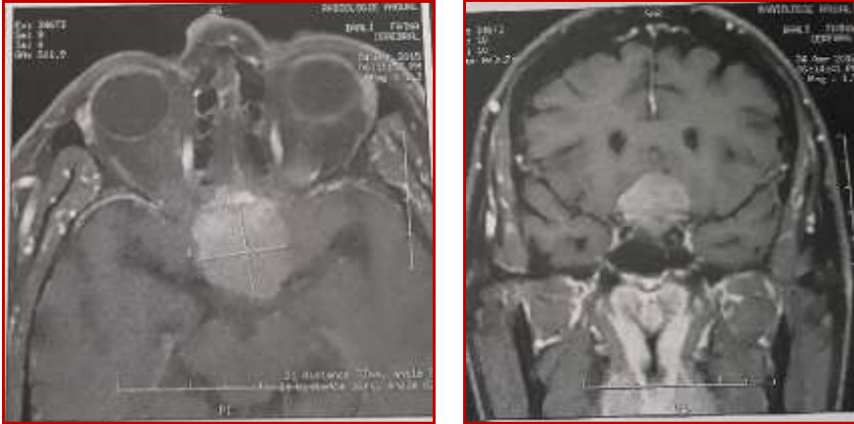
balance sheet

- A lot of optic –disc OCT
- UBM = normal
- Cardiovascular exam = normal
- No visual field despite 7 years of treatment

- | | | | |
|-------------------|--------------------------|-----------------|----------------------------|
| | right eye | | left eye |
| • VA : | counts the fingers to 1m | | counts the fingers to 20cm |
| • IOp : | 14 mmHg | | 14 mmHg |
| | | with 4 drops | |
| • CCT : | 508 | | 511 μ |
| • Pupil reaction: | | very low | |



Cerebral MRI



hypophysary adenoma

Take home message 3

- **Rapidly progressive decrease in visual acuity**
- **Optic nerves paler than excavated**

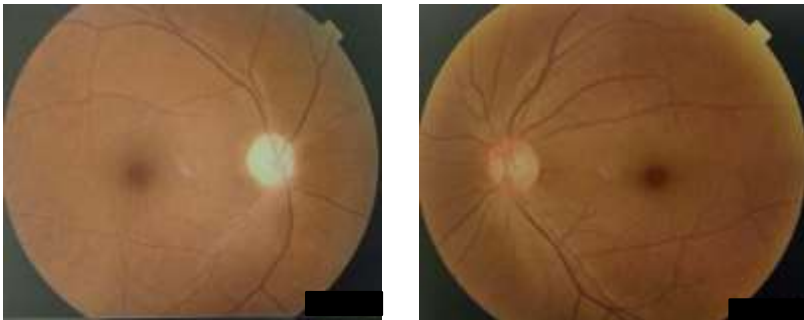


~~Glaucomatous Neuropathy~~

Clinical case n° 5

- 40 years old
- **History** : cardiopathy
- **Rapidly progressive decrease in visual acuity in the right eye**
- **Exam** : nov/2017

	Right eye	left eye
VA:	6/10	10/10
AS:	normal	
IOP:	14 mmhg	14 mmhg
Fundus :	optic disc pale excavation = 5/10	normal



Optic disc pale in the right eye

Suspicion of compressive neuropathy????



Cerebral and orbital RMI = NORMAL

**The diagnosis of normal pressure glaucoma has been retained →
treatment of glaucoma**

- Evolution → worsening of the decrease in visual acuity
- Examen : 2/2018

	right eye	left eye
VA:	Hand movement	6/10
SA:	normal	
IOP :	10 mmhg	10mmhg
Pupil response :	RAPD (relative afferent pupillary defect)	

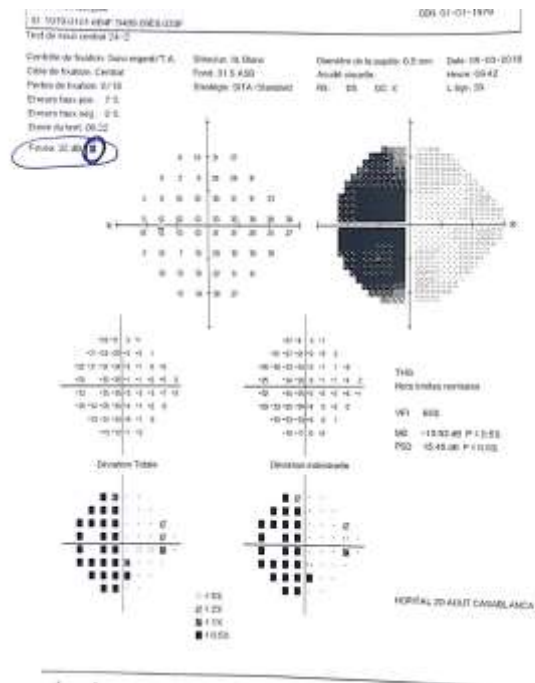
Suspicion of Non- Arteritic anterior ischemic optic neuropathy
????

- cardio- vascular exam : normal
- Doppler ultrasonographic evaluation of cervical vessels : normal



Suspicion of Arteritic anterior ischemic optic neuropathy ?????

HEMATO-CYTOLOGIE		
VITESSE DE SEDIMENTATION		
VS 1ère heure (Méthode de Westergren)	35 mm	(=7)
Valeur de référence VS 1ère heure: Homme (VS < âge/2), Femme (VS < (âge+10)/2)		
BIOCHIMIE SANGUINE		
Protéine C-réactive (CRP) (immunoturbidimétrie N° - Roche)	0,67 mg/L	(=5,00)



→ NOIA-A is highly suspected

→ Emergency systemic corticosteroids



CONCLUSION

Aspect évocateur d'une maladie de HORTN sur l'artère temporale droite.
 Doppler des TSA ne révélant pas d'anomalies par ailleurs.

- First Biopsy of temporal artery → negative
- → second one is planned

Take home message 4

- Young age
- decrease in visual acuity
- Pupillary response : abnormal
- Papillary paleness
- alteration of the visual field with respect to the vertical line



~~Glaucomatous Neuropathy~~

Neurophthalmological conditions
mimicking glaucomatous optic neuropathy:
analysis of the most common causes of
misdiagnosis



Diego Torres Dias^{1,2}, Michele Ushida¹, Roberto Battistella³, Synil Dorairaj^{4*} and Tiago Santos Prata^{1,2}

Eye Movements, Strabismus, Amblyopia, and Neuro-Ophthalmology

**Optic Disc Morphology in Open-Angle Glaucoma
Compared with Anterior Ischemic Optic Neuropathies**

Helen V. Danesh-Meyer,¹ Michael V. Boland,² Peter J. Savino,³ Neil R. Miller,²
Prem S. Subramanian,² Christopher A. Girkin,⁴ and Harry A. Quigley³

RELATOS DE CASOS | CASE REPORTS

Bilateral nonarteritic anterior ischemic neuropathy following acute angle-closure glaucoma in a patient with iridoschisis: case report

Neuropatia óptica isquêmica anterior não arterítica bilateral após crise de fechamento angular num paciente com iridoschisis: relato de caso.

Azemi Turkerli¹, Alexandre Soares Castro Reis¹, Julio Zori Abucham¹, Ricardo Suzuki², Roberto Faria Sarmiento Malta³, Maria Lúcia R. Monteiro⁴

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Original Article

Differences between Non-arteritic Anterior Ischemic Optic Neuropathy and Open Angle Glaucoma with Altitudinal Visual Field Defect

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Take home message 4

	GLAUCOMA	NO glaucoma
Reason for consultation	Fortuitous discovery moderate and delayed visual acuity loss	visual loss rapidly progressive General signs
Visual acuity	Preserved	low
RAPD	Negative	Positive
optic disc	with excavation +++	Pale ++ / œdema Late excavation
RNFL (OCT)	superior and / or inferior defect	diffuse or temporal defect
Visual field	No respect for the vertical meridian Saving the foveal threshold	Respect for the vertical meridian Lowered foveal threshold
Structure / fonction	Agreement	Inconsistency

Conclusion

PAOG is a diagnosis of elimination

- Eliminate a secondary cause:
 - Pseudoexfoliation and pigment dispersion should be carefully researched
- Eliminate ACG
- Eliminate compressive or ischemic neuropathy +++

