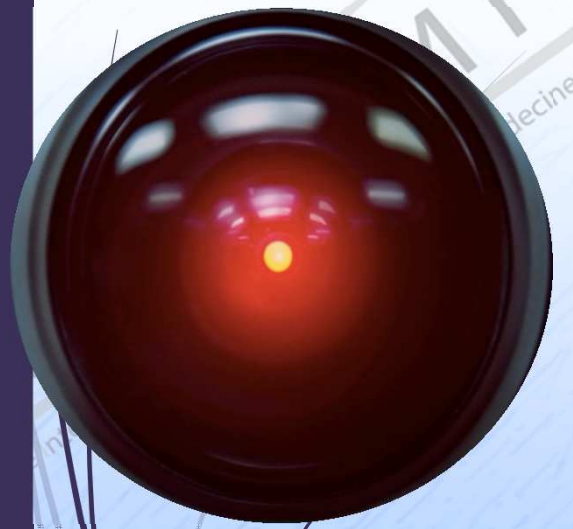


# Cas clinique n°4

## FMC du 13 octobre 2017


**Déborah CELA**

**Service du Pr LE HOANG**

**Hôpital Pitié Salpêtrière**

**Université paris VI**


UPMC SORBONNE UNIVERSITÉS

MIO Club de Médecine Interne et Oeil

Hôpitaux Universitaires Pitié Salpêtrière - Charles Foix

# HDM

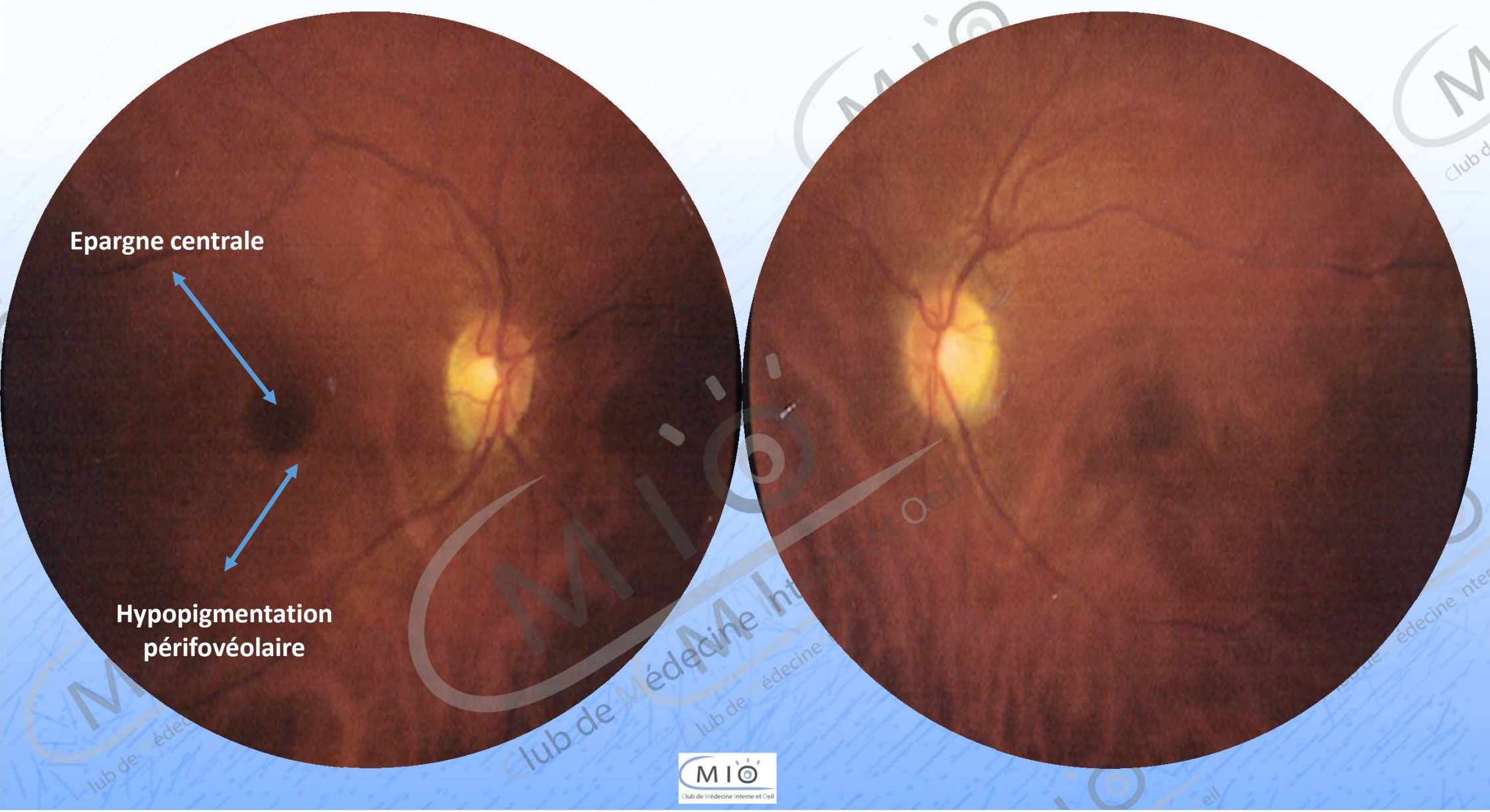
- Femme, 40 ans
- **ATCD** : LED dg en 2006
- **TTT** :
  - Plaquenil 2 cp/jour de 2006 à 2007
  - Nivaquine 200 mg/jour de 2007 à 2012

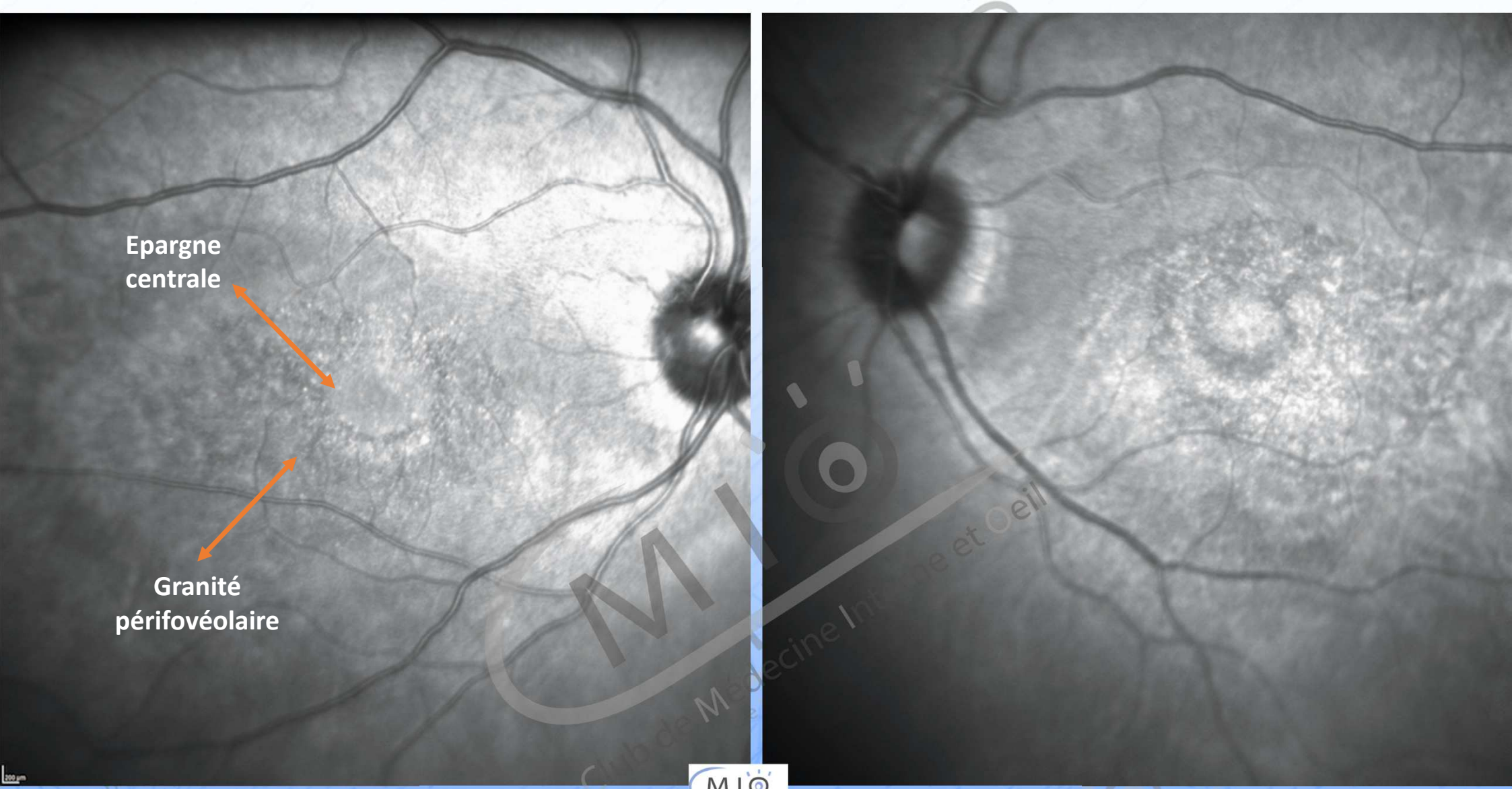
# HDM

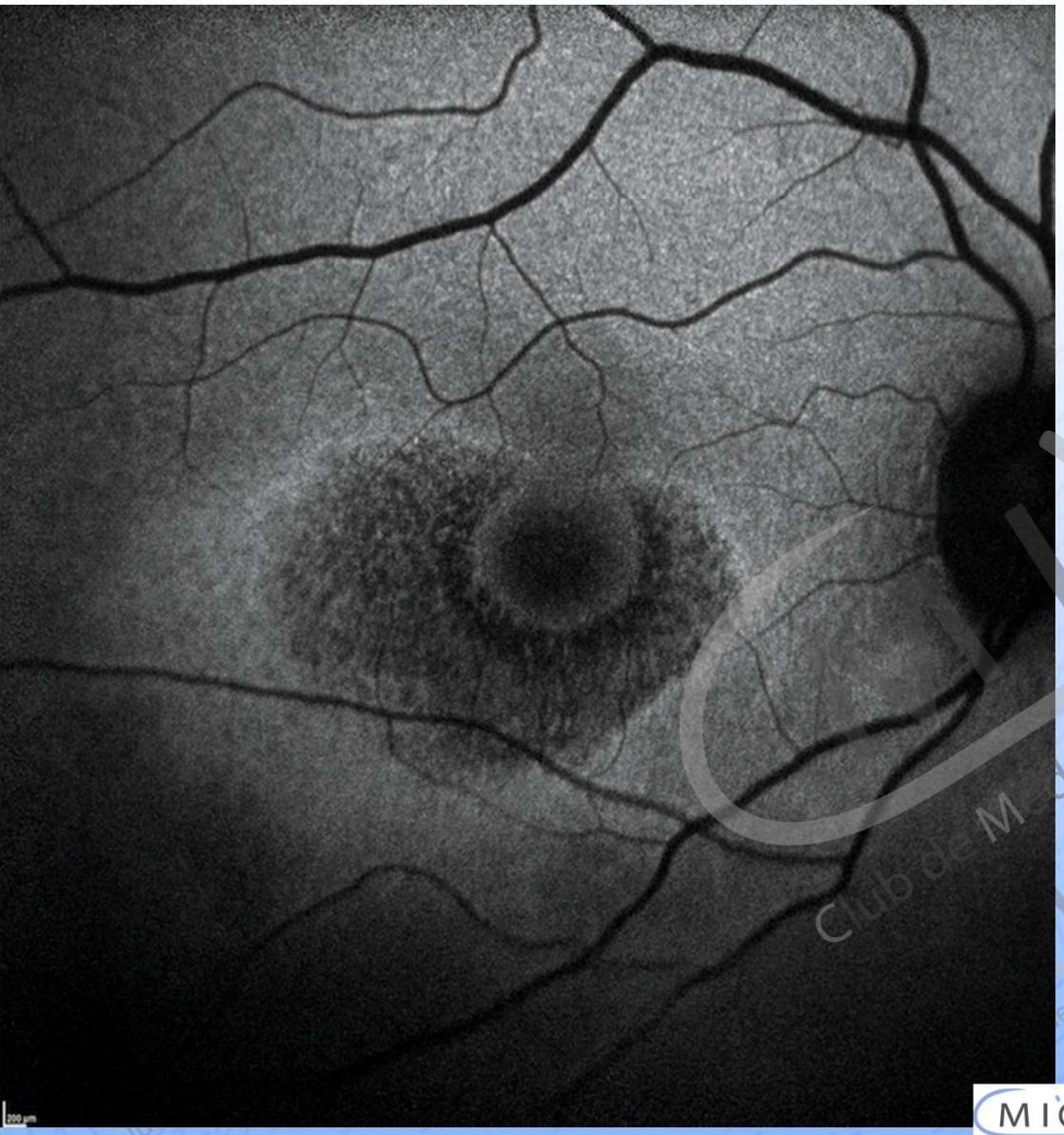
- **SFO :**
  - BAV + scotome ODG depuis début 2012
- **Examens :**
  - 2010 : AV, OCT et CVH normaux ODG
  - 2012 : anomalies FO, OCT, CV
- Arrêt NIVAQUINE en juillet 2012
- Cs fin 2012 à la Pitié Salpêtrière

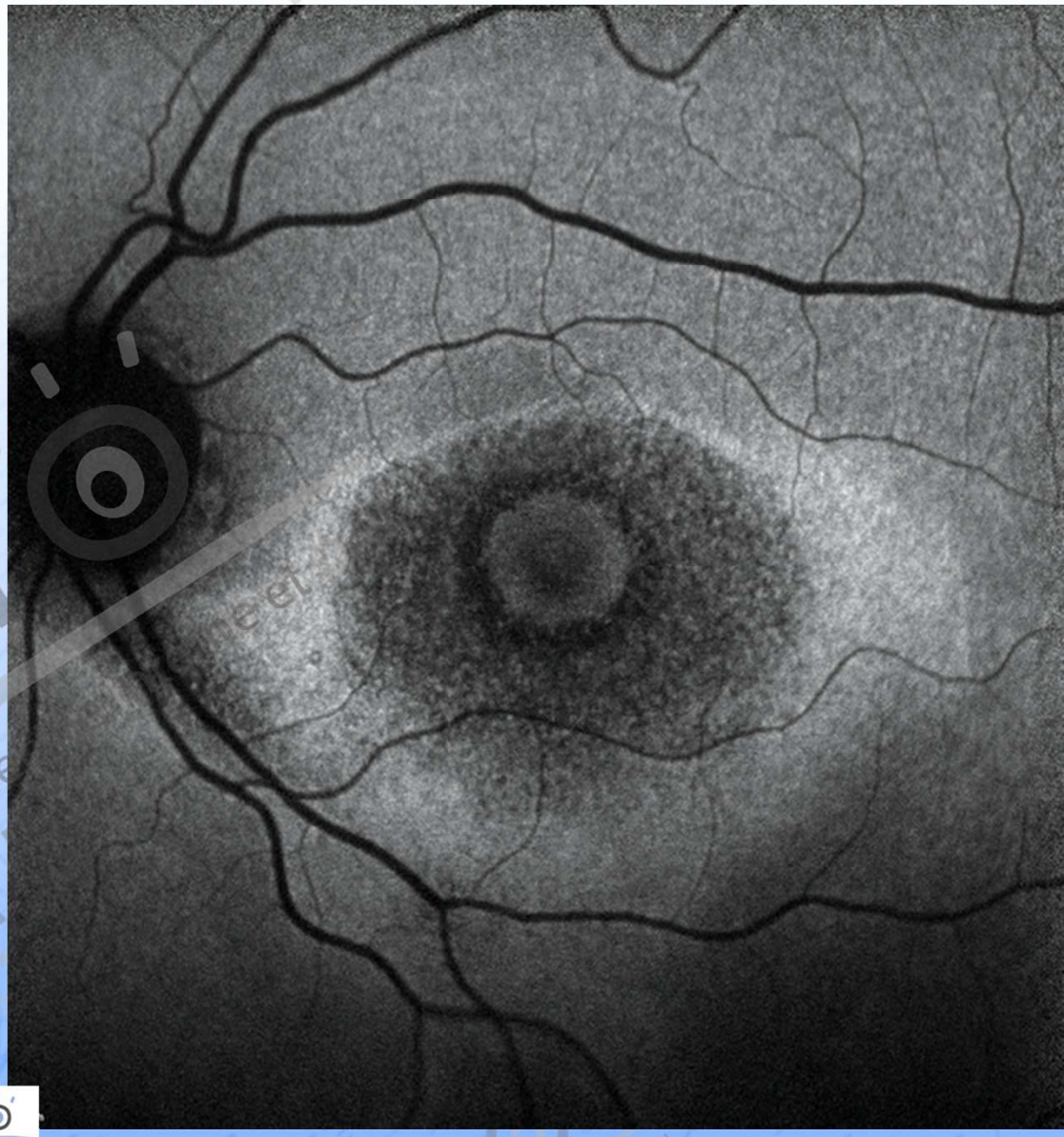
# Ex clinique

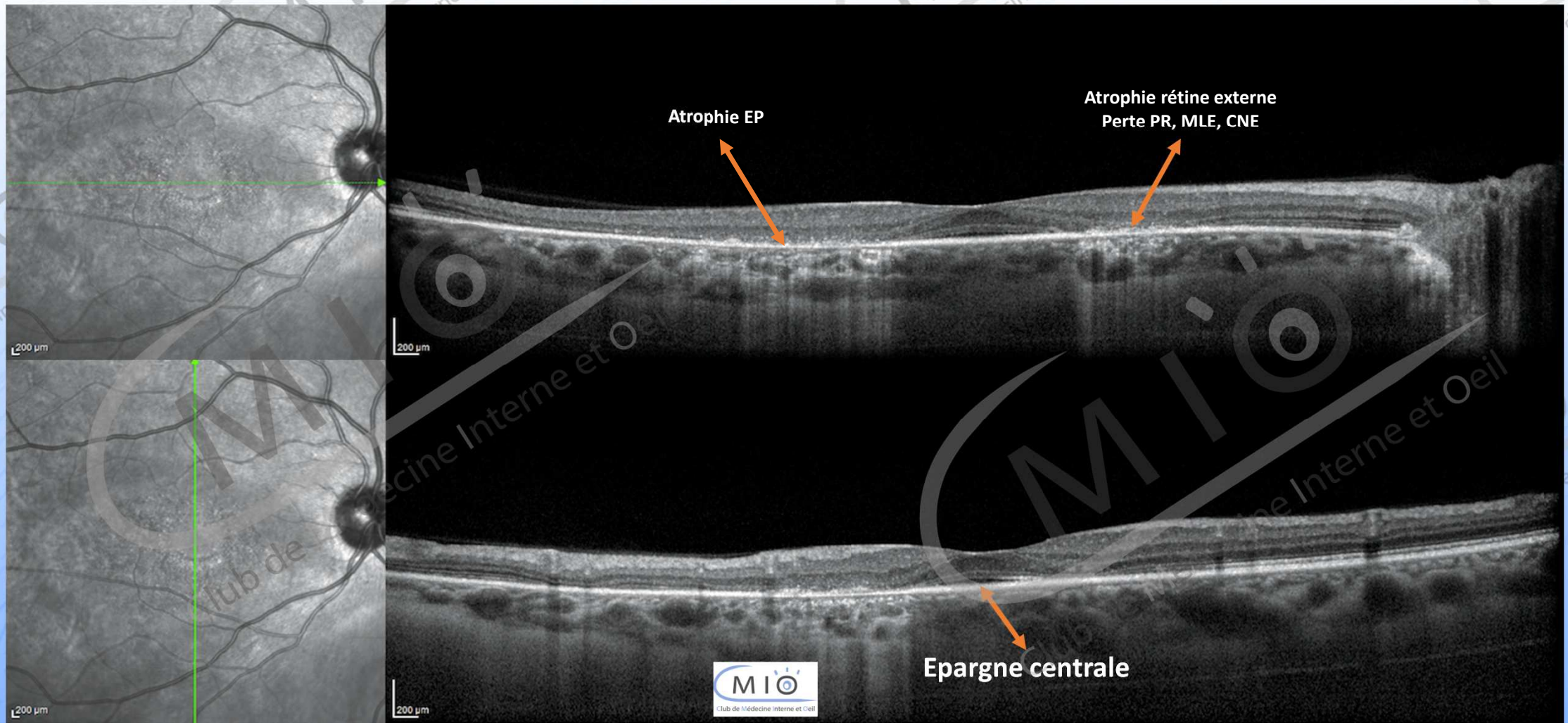
| | OD | OG |
|---|---|---|
| **AV** | 8/10, P2 | 8/10, P2 |
| **PIO** | N | N |
| **LAF** | SA calme<br>Cristallin clair<br>Pas de DPAR | Idem |
| **FO** | Maculopathie en cocarde<br>c/d 0,2 | Idem |

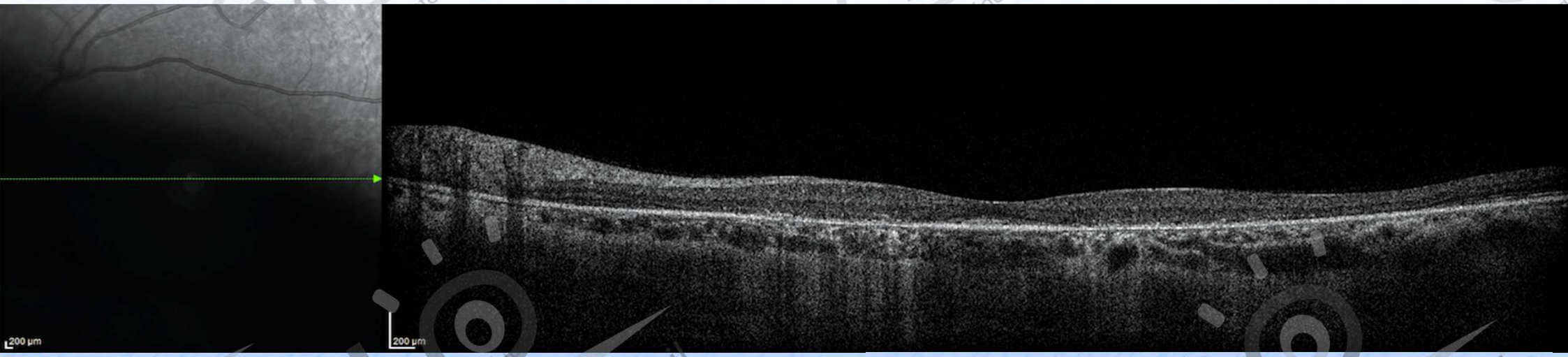

Epargne centrale
Hypopigmentation
périfovéolaire

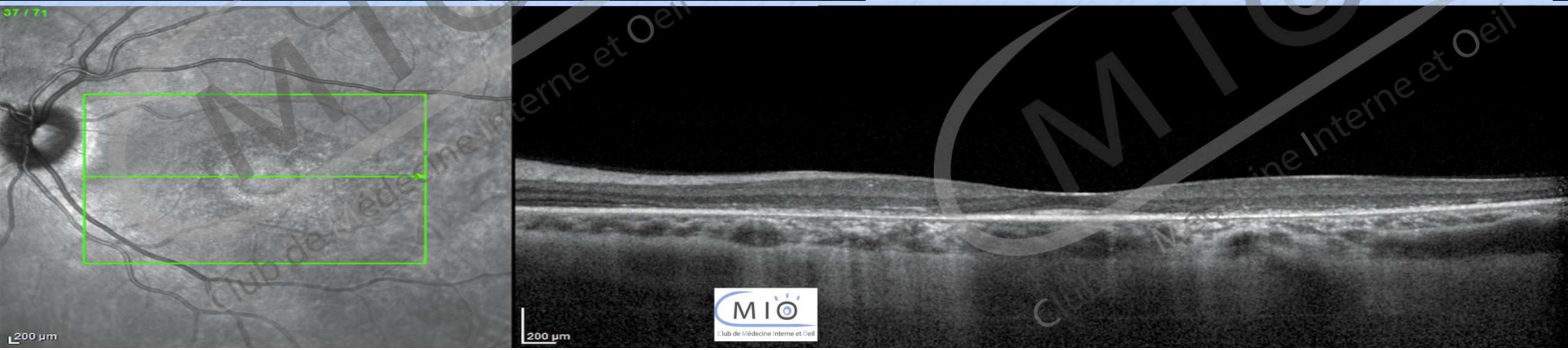

Epargne centrale
Granité périfovéolaire






Atrophie EP
Atrophie rétine externe
Perte PR, MLE, CNE
Epargne centrale
200 µm
200 µm
200 µm
200 µm


200 µm
200 µm


37 / 71
200 µm
200 µm
MIO
Club de Médecine Interne et Oeil

Analyse de champ unique — Oeil: Droit

Nom: MARTENOT TAMARA — DDN: 07-03-1969

ID: 1969.0307.3EC5.7E4B.D010.C5F0

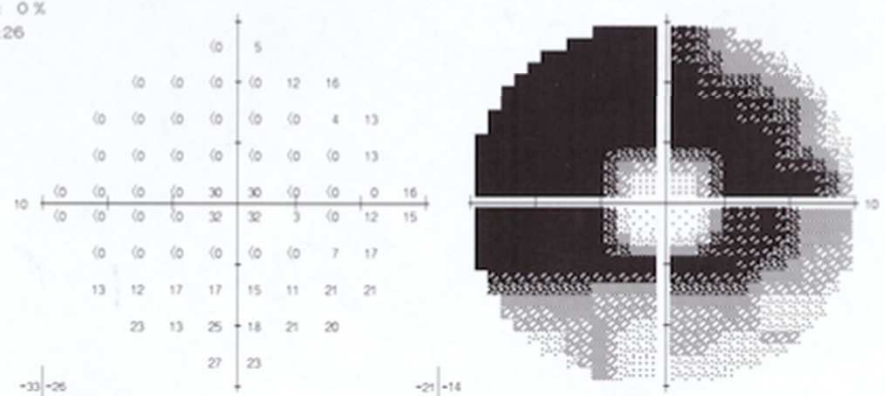
Test de seuil central 10-2

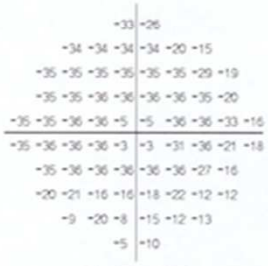
Contrôle de fixation: Suivi regard/T.A.
Cible de fixation: Central
Pertes de fixation: 2/19
Erreurs faux pos.: 0 %
Erreurs faux nég.: 0 %
Durée du test: 09:26
Fovéa: 35 dB

Stimulus: III, Blanc
Fond: 31.5 ASB
Stratégie: SITA-Standard

Diamètre de la pupille:
Acuité visuelle:
RX: DS DC X

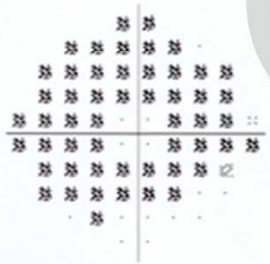
Date: 15-04-2014
Heure: 08:51
L'âge: 45





Déviation Totale

Déviation individuelle



MD -26.58 dB P < 1%
PSD 10.96 dB P < 1%

:: < 5%
▨ < 2%
▩ < 1%

Service du Prof Le Hoang
47/83 bd de l'hopital
75651 PARIS CEDEX 13
TEL 01 42 16 32 44

Analyse de champ unique — Oeil: Gauche

Nom: MARTENOT TAMARA — DDN: 07-03-1969

ID: 1969.0307.3EC5.7E4B.D010.C5F0

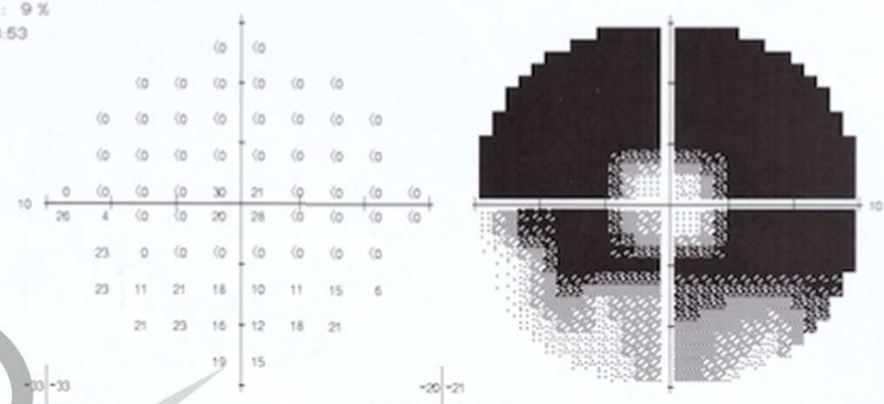
Test de seuil central 10-2

Contrôle de fixation: Suivi regard/T.A.
Cible de fixation: Central
Pertes de fixation: 0/19
Erreurs faux pos.: 0 %
Erreurs faux nég.: 9 %
Durée du test: 08:53
Fovéa: 33 dB ::

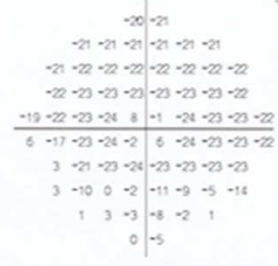
Stimulus: III, Blanc
Fond: 31.5 ASB
Stratégie: SITA-Standard

Diamètre de la pupille:
Acuité visuelle:
RX: -0.25 DS DC X

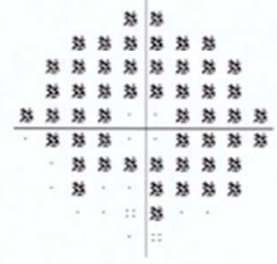
Date: 15-04-2014
Heure: 09:04
L'âge: 45



Déviation Totale



Déviation individuelle



MD -28.63 dB P < 1%
PSD 10.11 dB P < 1%

:: < 5%
▨ < 2%
▩ < 1%

Hopital de la Salpétrière
Service du Prof Le Hoang
47/83 bd de l'hopital
75651 PARIS CEDEX 13
TEL 01 42 16 32 44

# Scotome central bilatéral

# EXAMEN D'ELECTROPHYSIOLOGIE VISUELLE

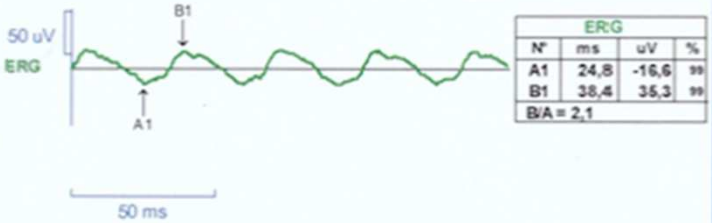
ERG des cônes: flash blanc — 0mn 18s — Val= 5 — Rej= 0
OD stimulé — ARRET APS


| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 30,1 | -9,7 | 99 |
| B1 | 39,8 | 33,7 | 99 |
| B/A = 3,6 | | | |

ERG des cônes: flash rouge — 0mn 38s — Val= 4 — Rej= 0
OD stimulé — ARRET APS


| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 23,9 | -6,6 | 98 |
| B1 | 43,4 | 14,4 | 98 |
| B/A = 2,2 | | | |

ERG des cônes: flicker 30Hz — 0mn 45s — Val= 9 — Rej= 0
OD stimulé — ARRET APS




| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 24,8 | -16,6 | 99 |
| B1 | 38,4 | 35,3 | 99 |
| B/A = 2,1 | | | |

ERG des cônes: flash blanc — 0mn 21s — Val= 6 — Rej= 0
OG stimulé — ARRET APS


| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 20,4 | -7,0 | 99 |
| B1 | 38,1 | 33,3 | 99 |
| B/A = 4,7 | | | |

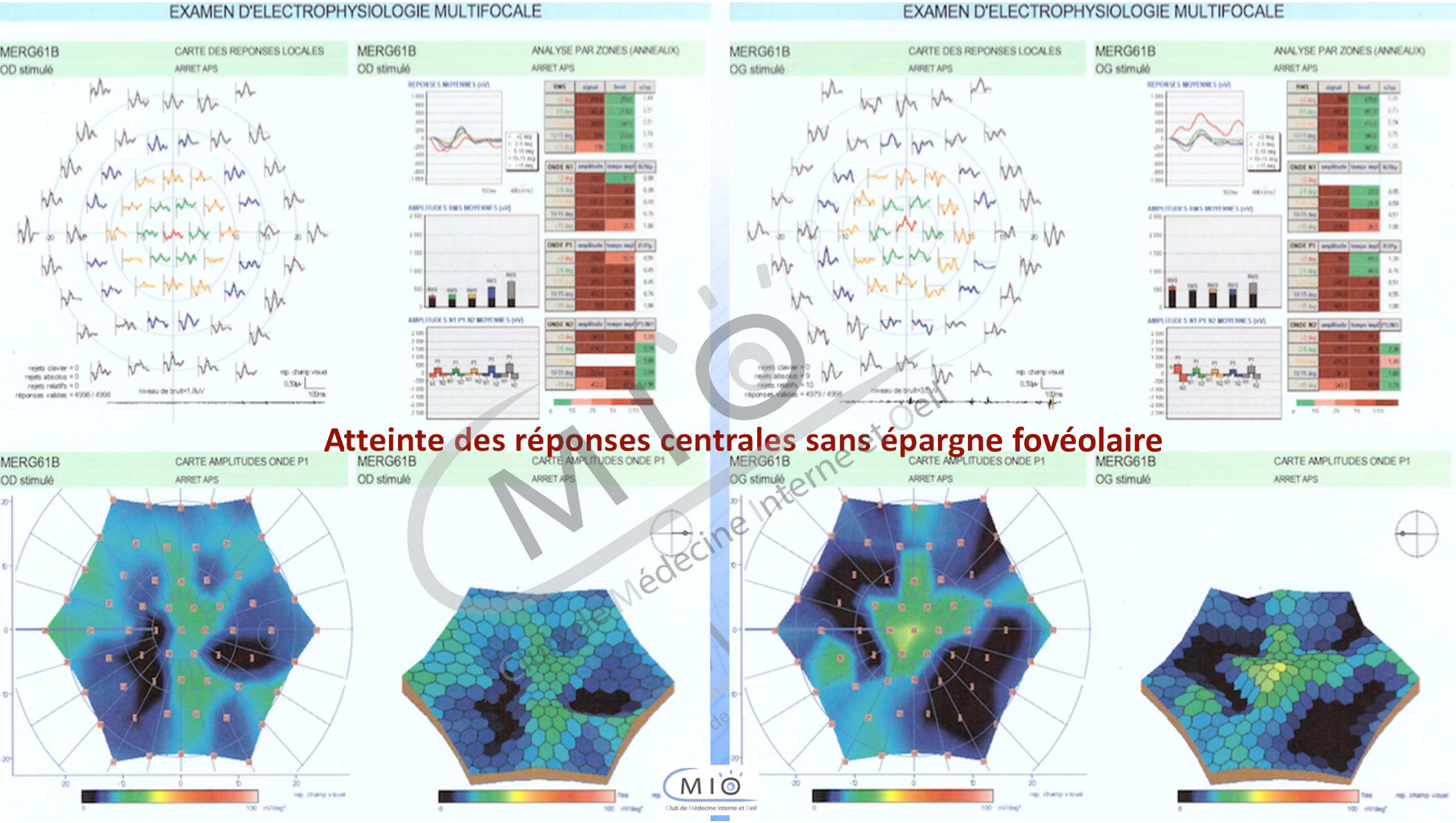
ERG des cônes: flash rouge — 0mn 59s — Val= 10 — Rej= 0
OG stimulé — ARRET APS


| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 29,2 | -6,1 | 77 |
| B1 | 39,0 | 14,3 | 77 |
| B/A = 2,4 | | | |

ERG des cônes: flicker 30Hz — 1mn 56s — Val= 11 — Rej= 0
OG stimulé — ARRET APS


| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 27,7 | -13,6 | 99 |
| B1 | 39,0 | 26,0 | 99 |
| B/A = 1,9 | | | |

**ERG total → atteinte rétinienne photopique sévère ODG**


EXAMEN D'ELECTROPHYSIOLOGIE MULTIFOCALE
MERG61B
OD stimulé
CARTE DES REPONSES LOCALES
ARRET APS
MERG61B
OD stimulé
ANALYSE PAR ZONES (ANNEAUX)
ARRET APS
EXAMEN D'ELECTROPHYSIOLOGIE MULTIFOCALE
MERG61B
OG stimulé
CARTE DES REPONSES LOCALES
ARRET APS
MERG61B
OG stimulé
ANALYSE PAR ZONES (ANNEAUX)
ARRET APS
Atteinte des réponses centrales sans épargne fovéolaire
MERG61B
OD stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS
MERG61B
OD stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS
MERG61B
OG stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS
MERG61B
OG stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS

*DIAGNOSTIC ?*

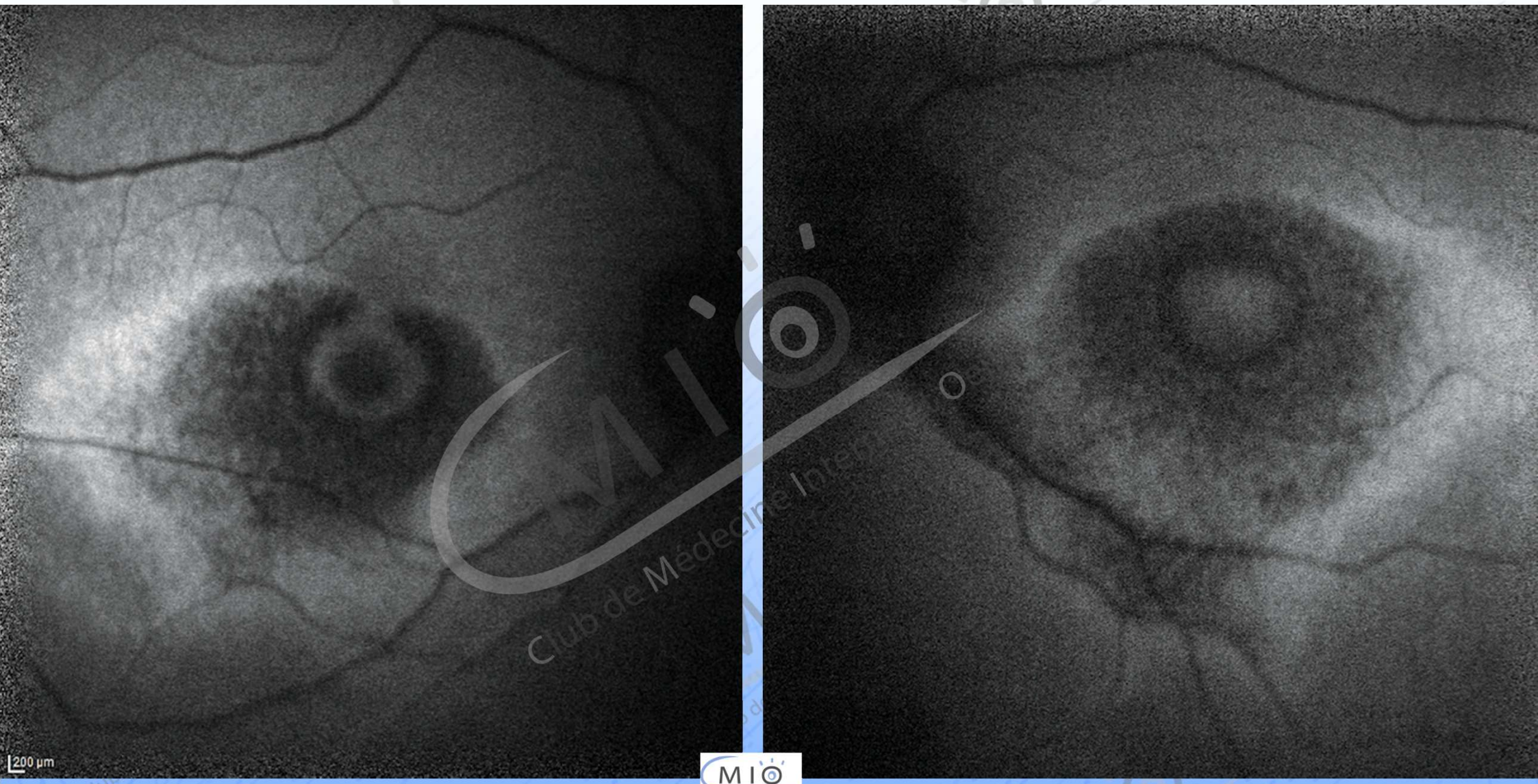
# MACULOPATHIE AUX APS

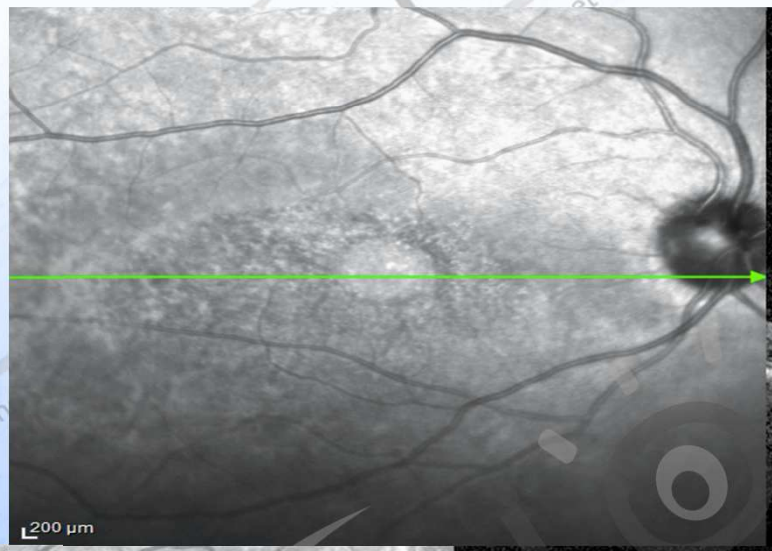


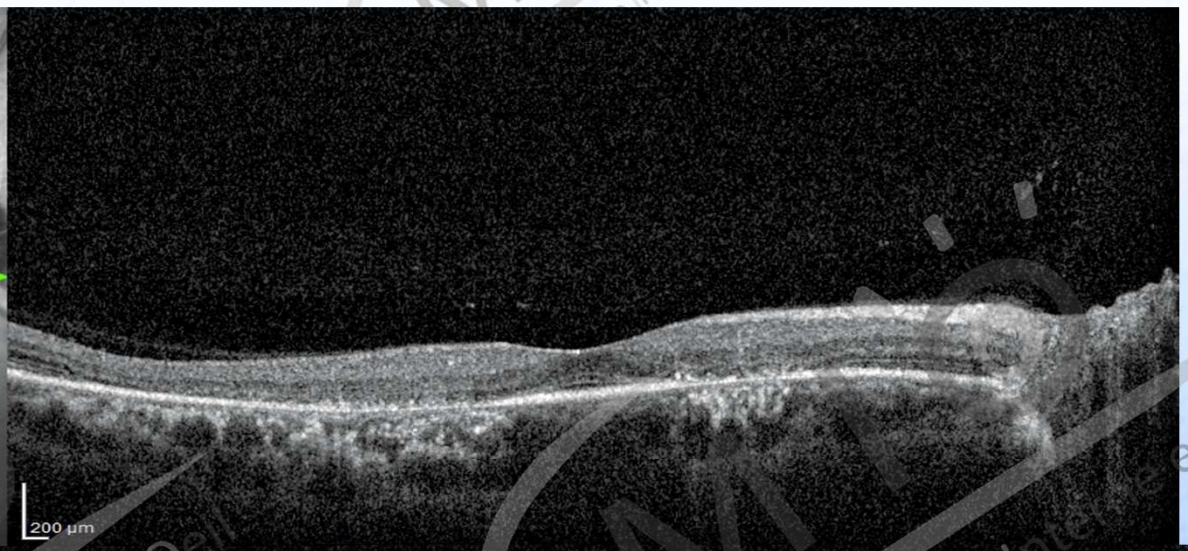
Hôpitaux Universitaires
Pitié Salpêtrière - Charles Foix

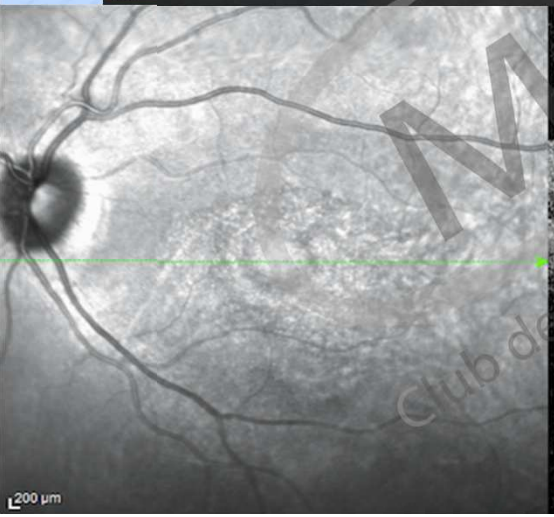
# Evolution

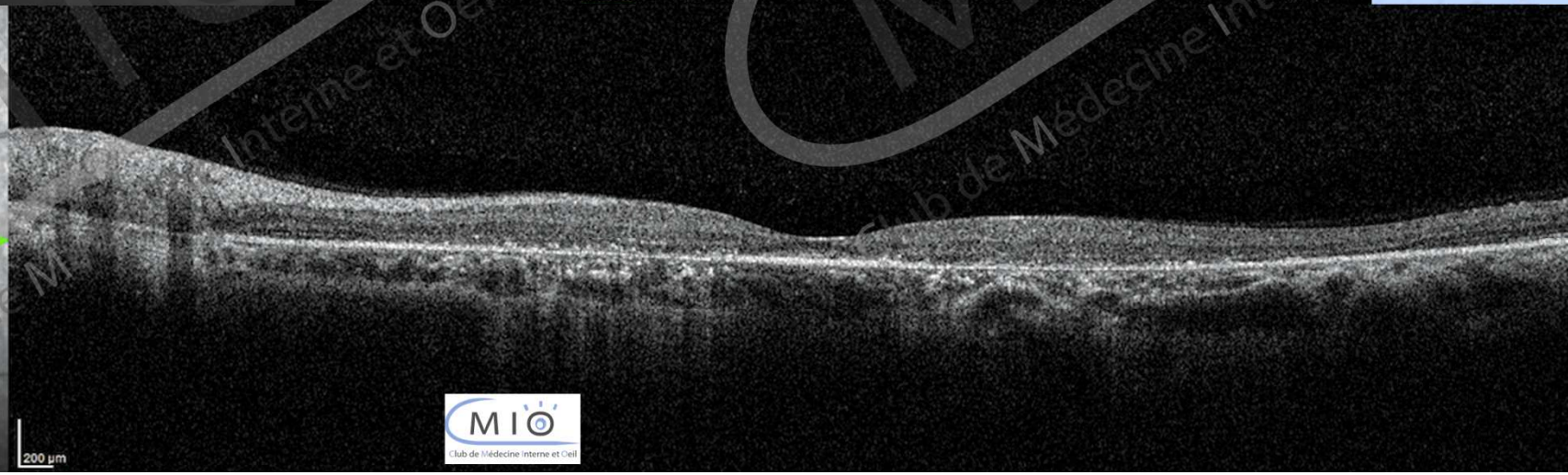
- Perdue de vue pendant 3 ans
- SFO : BAV ODG, scotome ++
- AV OD : 6/10, P2
- AV OG : 4/10 P2


200 µm



Analyse de champ unique

Oeil: Droit

Nom: MARTENOT TAMARA

DDN: 07-03-1969

ID: 1969.0307.3EC5.7E4B.D010.C5F0

Test de seuil central 10-2

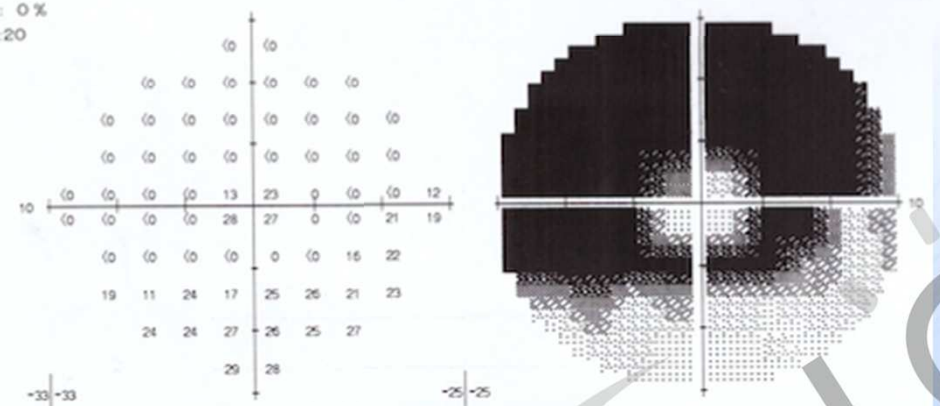
Contrôle de fixation: Suivi regard/T.A.
Cible de fixation: Central
Pertes de fixation: 0/19
Erreurs faux pos.: 7 %
Erreurs faux nég.: 0 %
Durée du test: 08:20

Stimulus: III, Blanc
Fond: 31.5 ASB
Stratégie: SITA-Standard

Diamètre de la pupille:
Acuité visuelle:
RX: DS DC X

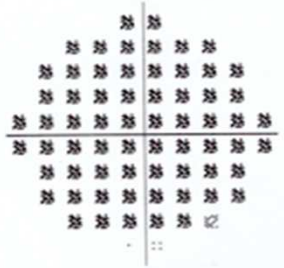
Date: 26-09-2017
Heure: 15:54
L'âge: 48

Fovéa: 36 dB



MD -26.08 dB P < 1%
PSD 12.34 dB P < 1%

Déviation Totale



Déviation individuelle

:: < 5%
⊠ < 2%
▩ < 1%

Hopital de la Salpétrière
Service du Prof Le Hoang
47/83 bd de l'hopital
75651 PARIS CEDEX
TEL 01 42 16 32 44

Analyse de champ unique

Oeil: Gauche

Nom: MARTENOT TAMARA

DDN: 07-03-1969

ID: 1969.0307.3EC5.7E4B.D010.C5F0

Test de seuil central 10-2

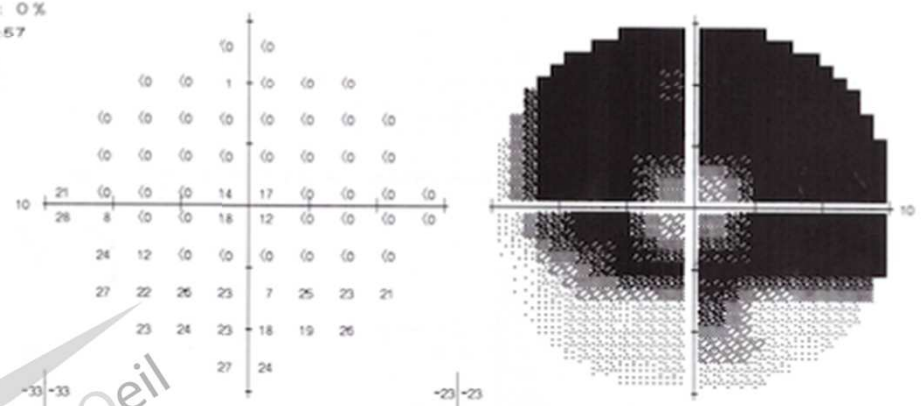
Contrôle de fixation: Suivi regard/T.A.
Cible de fixation: Central
Pertes de fixation: 0/18
Erreurs faux pos.: 0 %
Erreurs faux nég.: 0 %
Durée du test: 07:57

Stimulus: III, Blanc
Fond: 31.5 ASB
Stratégie: SITA-Standard

Diamètre de la pupille:
Acuité visuelle:
RX: -0.75 DS DC X

Date: 26-09-2017
Heure: 16:04
L'âge: 48

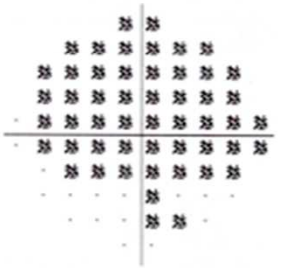
Fovéa: 28 dB



MD -26.83 dB P < 1%
PSD 11.66 dB P < 1%

Déviation Totale

Déviation individuelle

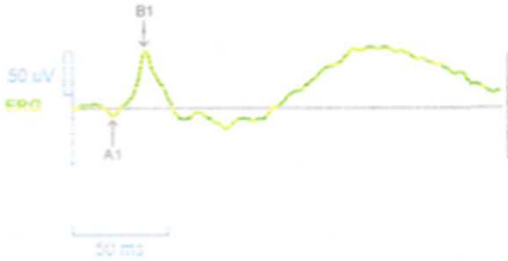


:: < 5%
⊠ < 2%
▩ < 1%

Hopital de la Salpétrière
Service du Prof Le Hoang
47/83 bd de l'hopital
75651 PARIS CEDEX 13
TEL 01 42 16 32 44

# EXAMEN D'ELECTROPHYSIOLOGIE VISUELLE

ERG des cônes: flash blanc 0mn 24s Val= 7 Rej= 0
OD stimulé ARRET APS

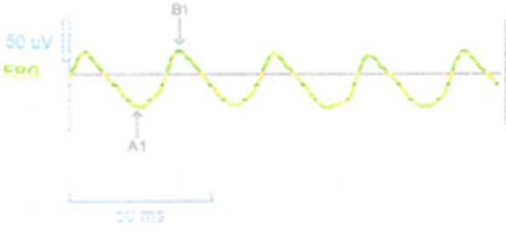



| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 20,4 | -8,2 | 99 |
| B1 | 37,2 | 70,4 | 99 |
| B/A = 8,6 | | | |

ERG des cônes: flash rouge 0mn 57s Val= 8 Rej= 0
OD stimulé ARRET APS

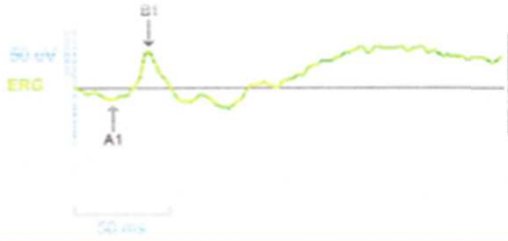

| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 23,9 | 1,1 | 92 |
| B1 | 39,8 | 19,6 | 92 |
| B/A = 18,2 | | | |

ERG des cônes: flicker 30Hz 1mn 8s Val= 11 Rej= 0
OD stimulé ARRET APS



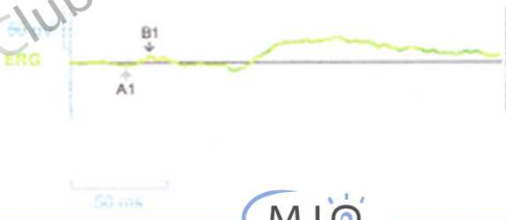

| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 23,0 | -35,7 | 99 |
| B1 | 38,4 | 62,4 | 99 |
| B/A = 1,7 | | | |

ERG des cônes: flash blanc 0mn 21s Val= 6 Rej= 0
OG stimulé ARRET APS



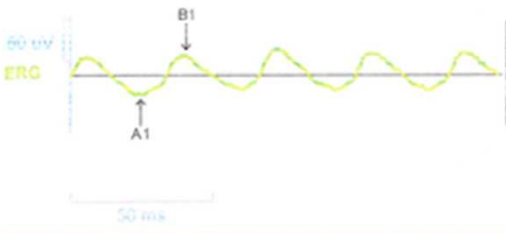

| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 19,6 | -14,1 | 99 |
| B1 | 36,1 | 64,1 | 99 |
| B/A = 3,8 | | | |

ERG des cônes: flash rouge 1mn 9s Val= 11 Rej= 0
OG stimulé ARRET APS




| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 28,3 | -3,9 | 91 |
| B1 | 40,7 | 10,3 | 91 |
| B/A = 2,6 | | | |

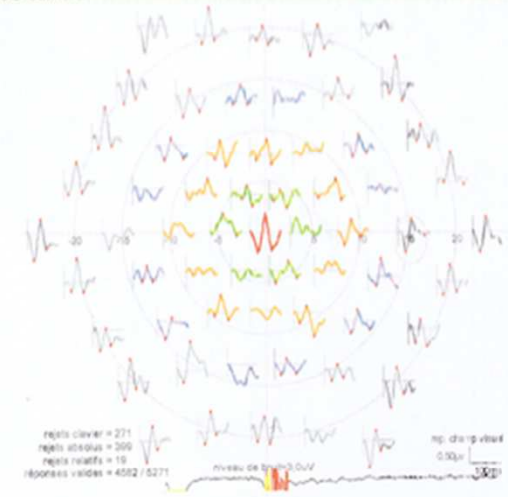
ERG des cônes: flicker 30Hz 1mn 16s Val= 11 Rej= 0
OG stimulé ARRET APS




| ERG | | | |
|---|---|---|---|
| N° | ms | uV | % |
| A1 | 24,2 | -22,1 | 99 |
| B1 | 40,1 | 43,7 | 99 |
| B/A = 2,0 | | | |

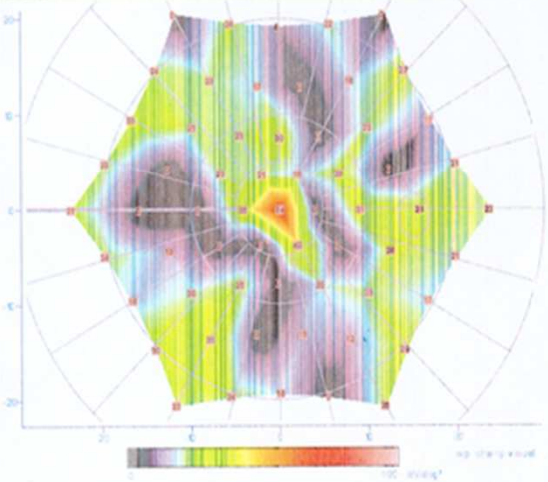
## EXAMEN D'ELECTROPHYSIOLOGIE MULTIFOCALE

MERG61BF
OD stimulé
CARTE DES REPONSES LOCALES
ARRET APS

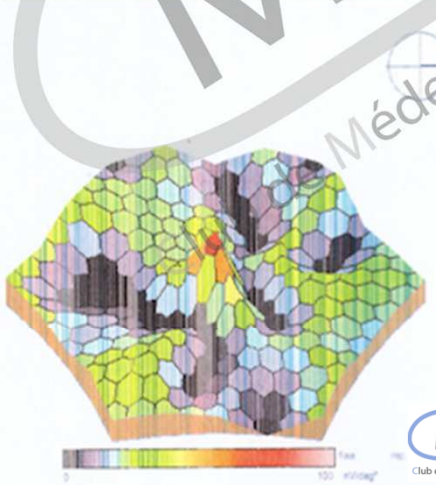


MERG61BF
OD stimulé
ANALYSE PAR ZONES (ANNEAUX)
ARRET APS

MERG61BF
OD stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS

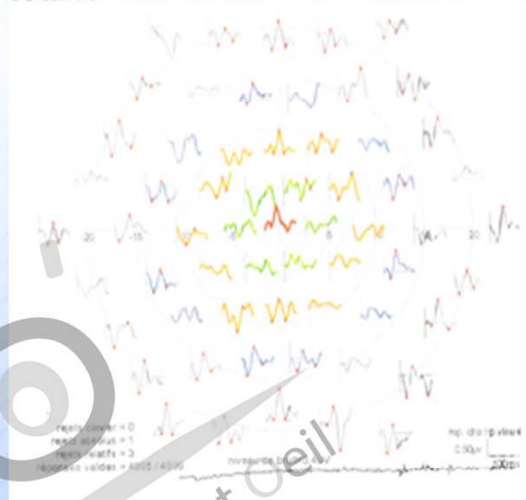


MERG61BF
OD stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS



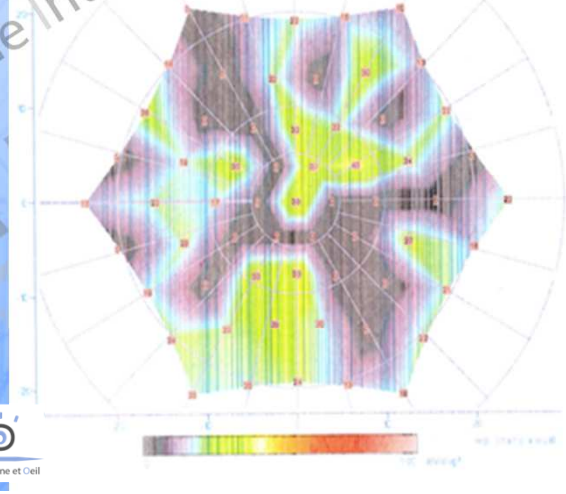
## EXAMEN D'ELECTROPHYSIOLOGIE MULTIFOCALE

MERG61BF
OG stimulé
CARTE DES REPONSES LOCALES
ARRET APS

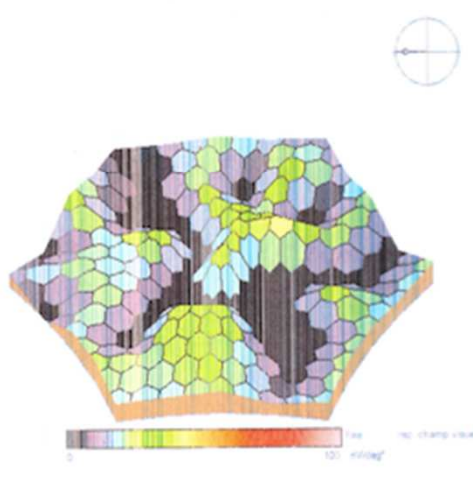


MERG61BF
OG stimulé
ANALYSE PAR ZONES (ANNEAUX)
ARRET APS

MERG61BF
OG stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS



MERG61BF
OG stimulé
CARTE AMPLITUDES ONDE P1
ARRET APS



Ophthalmology

Ophthalmology. 2016 Jun;123(6):1386-94. doi: 10.1016/j.ophtha.2016.01.058. Epub 2016 Mar 16.

# Recommendations on Screening for Chloroquine and Hydroxychloroquine Retinopathy (2016 Revision).

Marmor MF[1], Kellner U[2], Lai TY[3], Melles RB[4], Mieler WF[5]; American Academy of Ophthalmology.

Author information

## Abstract

**BACKGROUND:** The American Academy of Ophthalmology recommendations on screening for chloroquine (CQ) and hydroxychloroquine (HCQ) retinopathy are revised in light of new information about the prevalence of toxicity, risk factors, fundus distribution, and effectiveness of screening tools.

**PATTERN OF RETINOPATHY:** Although the locus of toxic damage is parafoveal in many eyes, Asian patients often show an extramacular pattern of damage. DOSE: We recommend a maximum daily HCQ use of ≤5.0 mg/kg real weight, which correlates better with risk than ideal weight. There are no similar demographic data for CQ, but dose comparisons in older literature suggest using ≤2.3 mg/kg real weight.

**RISK OF TOXICITY:** The risk of toxicity is dependent on daily dose and duration of use. At recommended doses, the risk of toxicity up to 5 years is under 1% and up to 10 years is under 2%, but it rises to almost 20% after 20 years. However, even after 20 years, a patient without toxicity has only a 4% risk of converting in the subsequent year.

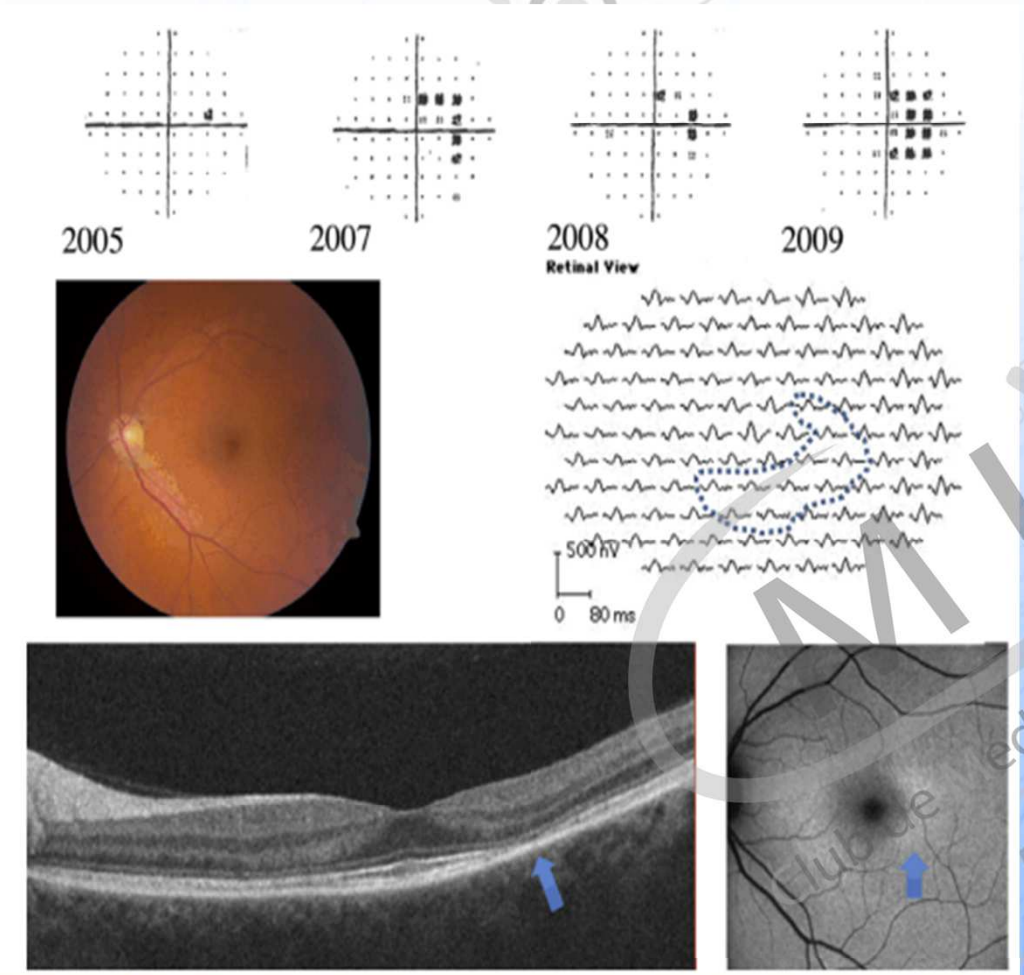
**MAJOR RISK FACTORS:** High dose and long duration of use are the most significant risks. Other major factors are concomitant renal disease, or use of tamoxifen.

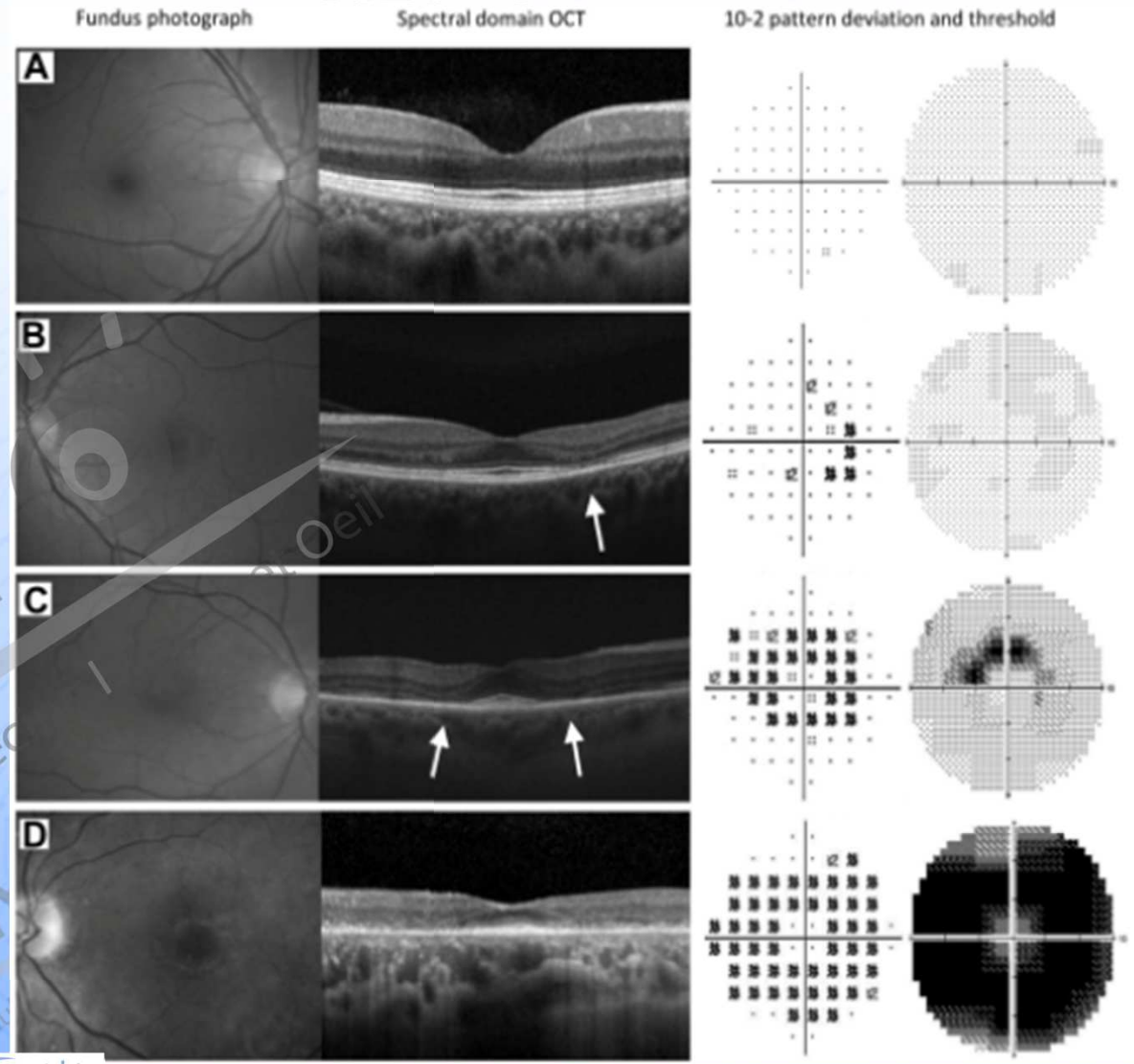
**SCREENING SCHEDULE:** A baseline fundus examination should be performed to rule out preexisting maculopathy. Begin annual screening after 5 years for patients on acceptable doses and without major risk factors.

**SCREENING TESTS:** The primary screening tests are automated visual fields plus spectral-domain optical coherence tomography (SD OCT). These should look beyond the central macula in Asian patients. The multifocal electroretinogram (mfERG) can provide objective corroboration for visual fields, and fundus autofluorescence (FAF) can show damage topographically. Modern screening should detect retinopathy before it is visible in the fundus.

**TOXICITY:** Retinopathy is not reversible, and there is no present therapy. Recognition at an early stage (before any RPE loss) is important to prevent central visual loss. However, questionable test results should be repeated or validated with additional procedures to avoid unnecessary cessation of valuable medication.

**COUNSELING:** Patients (and prescribing physicians) should be informed about risk of toxicity, proper dose levels, and the importance of regular annual screening.


2005
2007
2008
2009
Retinal View
500 nV
0
80 ms


Fundus photograph
Spectral domain OCT
10-2 pattern deviation and threshold
A
B
C
D

# Maculopathie aux APS

- Parafovéolaire ++ (Asie : extramaculaire)
- FDR toxicité : posologie élevée, ttt prolongé
- Risque toxicité à 5 ans < 1%, à 10 ans < 2%

  Mais presque 20% après 20 ans
- Posologie journalière recommandée :
  - HQ < 5mg/kg
  - CQ < 2,3 mg/kg

# Chronologie toxicité

- Premier signe OCT : **interruption ligne des segments externes PR ++**
- Puis perte ISOS, MLE, CNE

- Stades avancés : **maculopathie en œil de bœuf**
  - **Altérations et atrophie EP** : anneau parafovéal de dépigmentation de l'EP avec épargne fovéolaire centrale
  - Puis atteinte du centre de la fovea et perte vision centrale

# Dépistage

- FO dans la 1e année de ttt
- Dépistage annuel après 5 ans si doses acceptables sans FDR majeurs :
  - CVH 10-2 automatisé + SD-OCT
  - +/- ERGm, AF
  - → Détection pré-clinique de la toxicité ++

# PEC

- Toxicité **non réversible**, **pas de ttt** actuel

  → dépistage à un stade précoce avant altérations EP et perte vision centrale ++

- Progression possible même après arrêt du ttt :
  - Détection précoce : progression minime et limitée après arrêt du ttt, sans menace fovéolaire
  - Détection tardive au stade bull's eye : progression des lésions pendant des années avec risque significatif de perte de vision centrale

# MERCI POUR VOTRE ATTENTION