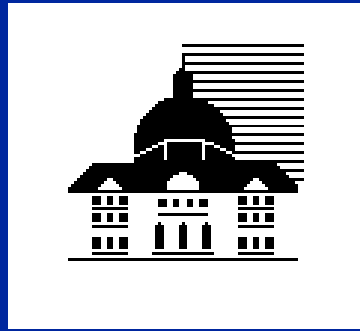


Bilan étiologique des uvéïtes postérieures

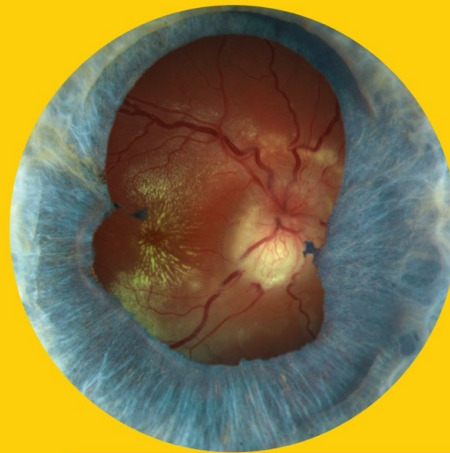


B. Bodaghi

**Service d' Ophtalmologie du
Hôpital Pitié-Salpêtrière**

Atlas
en ophtalmologie

Uvéite



Bahram Bodaghi
Phuc LeHoang

Préfaces de
Alain Gaudric
Narsing A. Rao
Robert B. Nussenblatt †
Carl P. Herbort
Moncef Khairallah

ELSEVIER

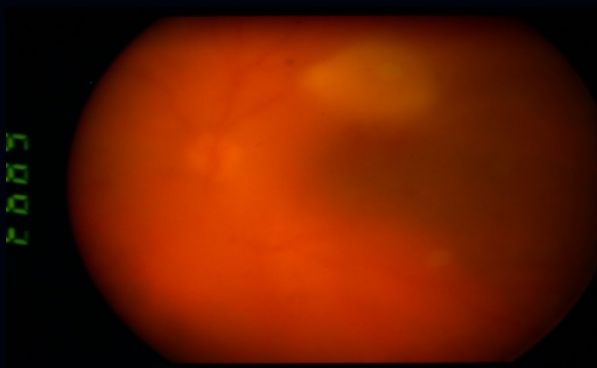
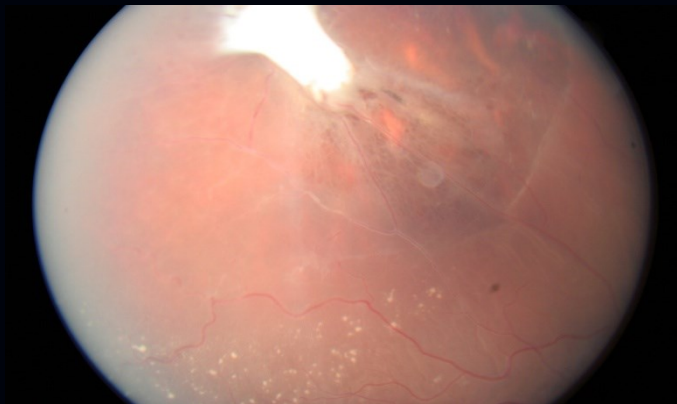
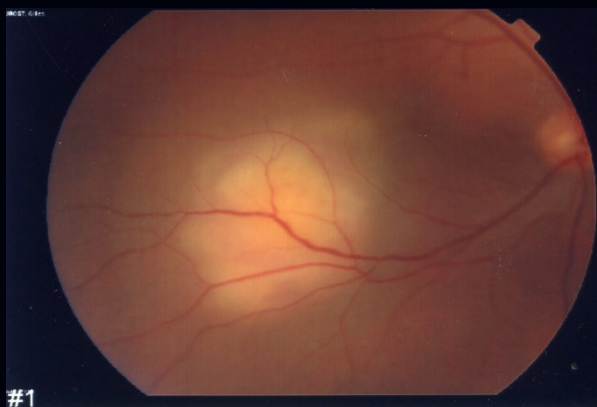
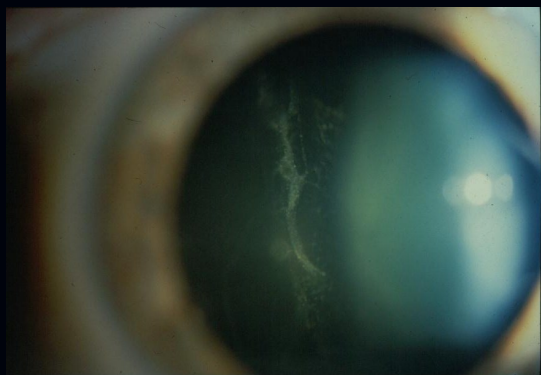
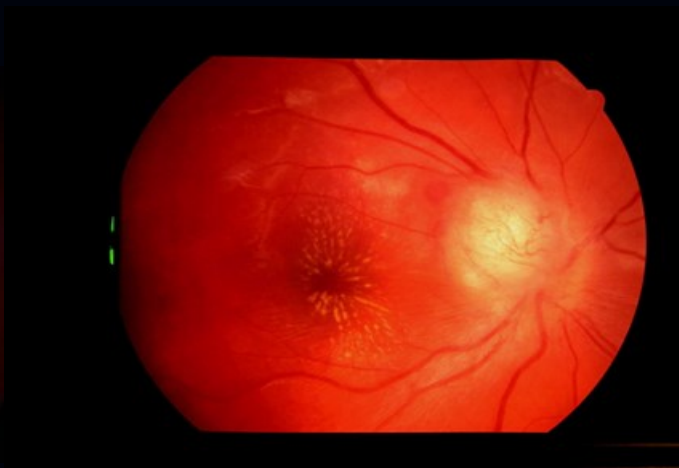
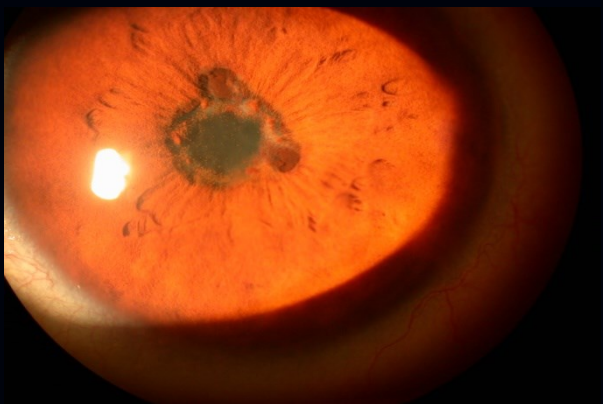
Elsevier Masson

Introduction

- Uvéites idiopathiques (33-45% des cas)
- Importance des cas chroniques et sévères
- Nouvelles modalités thérapeutiques
- Indications non standardisées
- Effets indésirables inconnus
- Prélèvements intraoculaires : dernier recours

Introduction

- Bilan souvent complexe
- Rendement variable (UI:25%, UP: 84%, UT: 63%)
- Prise en charge au cabinet et/ou à l'hôpital
- Réaliser dès le premier épisode
- Ne pas hésiter à répéter le bilan si rechutes



Classifications

Démographie

Anatomique (IUSG)

Uni ou bilatérale

Hypertensives
/ NH

S. immunitaire

Granulomat / NG

Etiologique

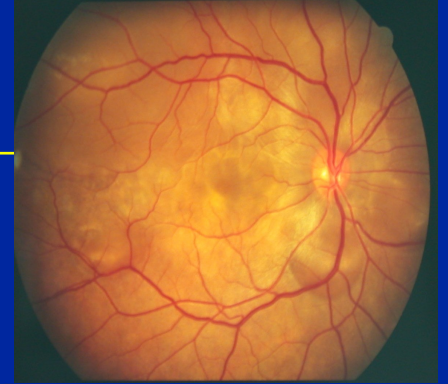
Effet du Tt

Infectieuses / NI

Aiguë/Chronique

Hypopion

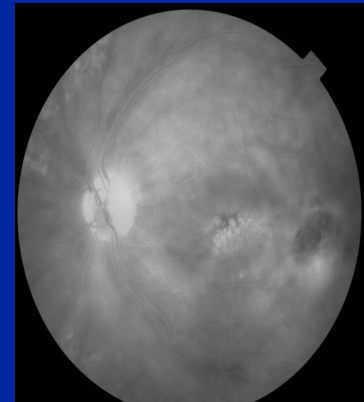
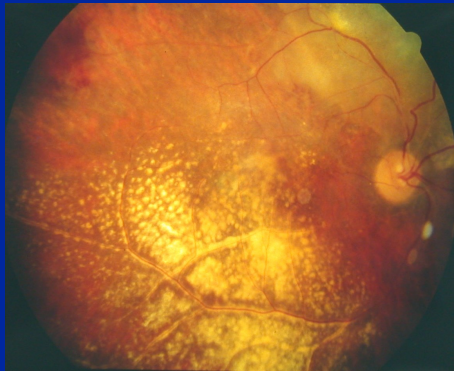
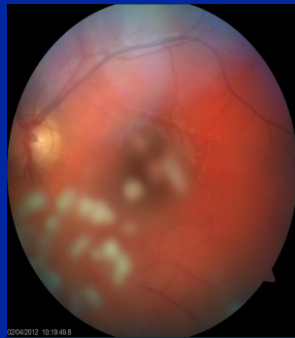
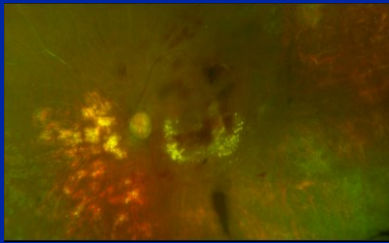
Posterior Uveitis



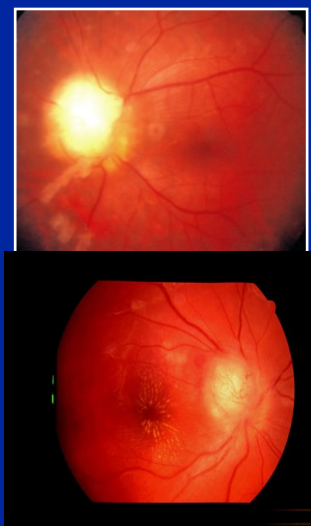
Infectious

Masquerade

Non infectious

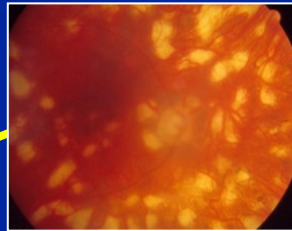


Posterior uveitis



Focal retinitis
Toxoplasmosis
Viral retinitis
Cat scratch D

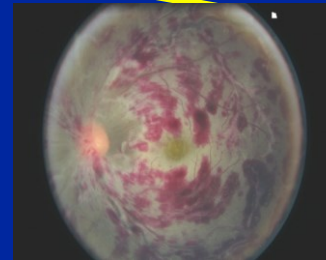
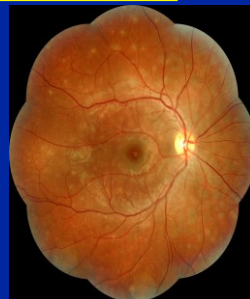
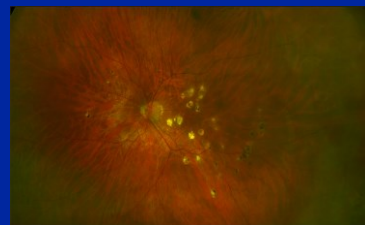
Behçet's disease



Multifocal retinitis

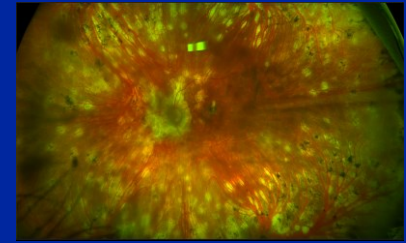
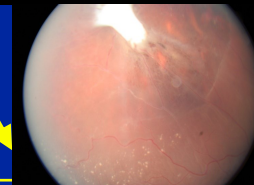
Syphilis
Viral retinitis
Candidiasis
DUSN

Sarcoidosis
Behçet's disease
WDS



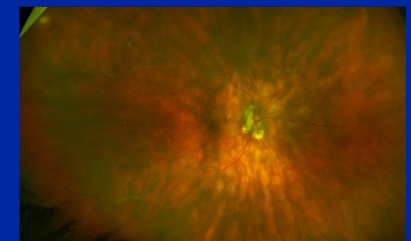
Focal choroiditis

Toxocariasis
Tuberculosis
Nocardiosis



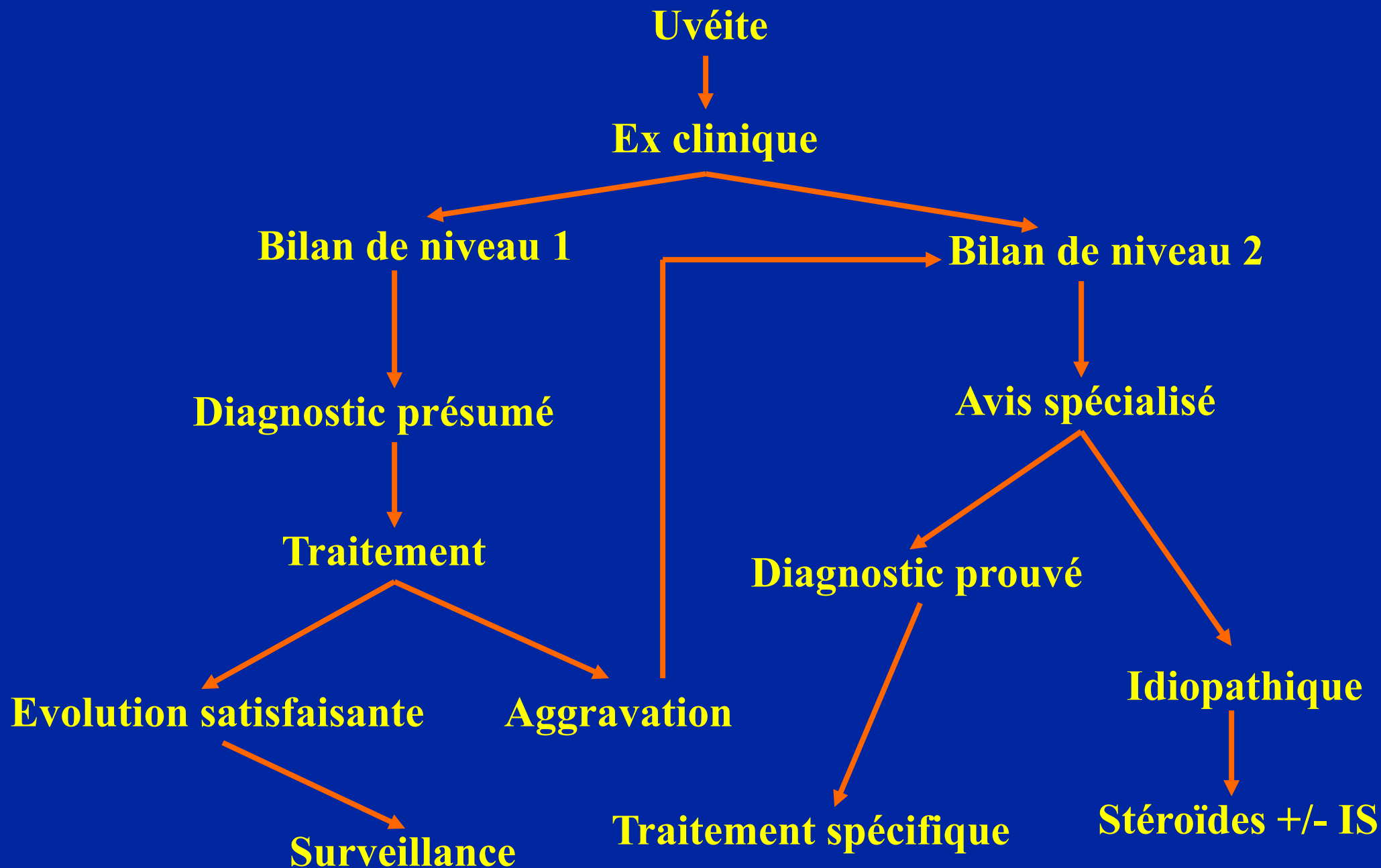
Multifocal choroiditis
Histoplasmosis

Sarcoidosis
SO
VKH
Serpiginous
BRC
WDS



Conduite pratique

- Interrogatoire, caractère évolutif
- Aspect biomicroscopique
- Diagnostic anatomique
- Avis multidisciplinaire dans les cas complexes (généraliste et spécialiste)
- ! aux examens invasifs
- Problème des dépenses de santé

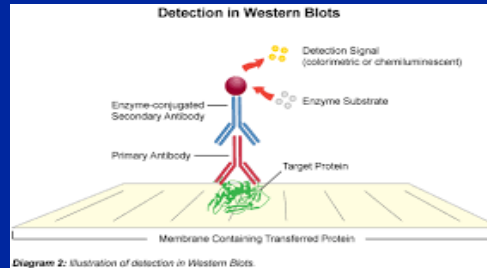


Bilan de niveau 1

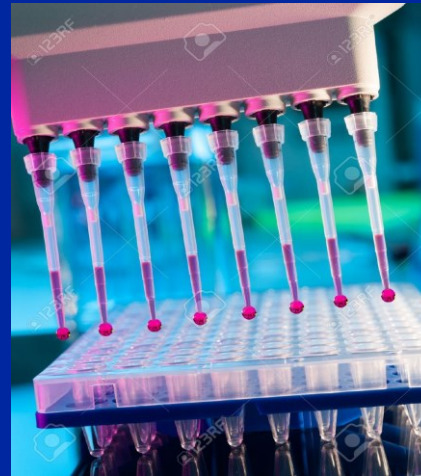
- NFS-VS, ionogramme sanguin
- IDR à la tuberculine
- Radiographie du thorax
- Typage HLA
- TPHA-VDRL
- Imagerie : Angiographie F+/- ICG / OCT

Diagnostic orientation

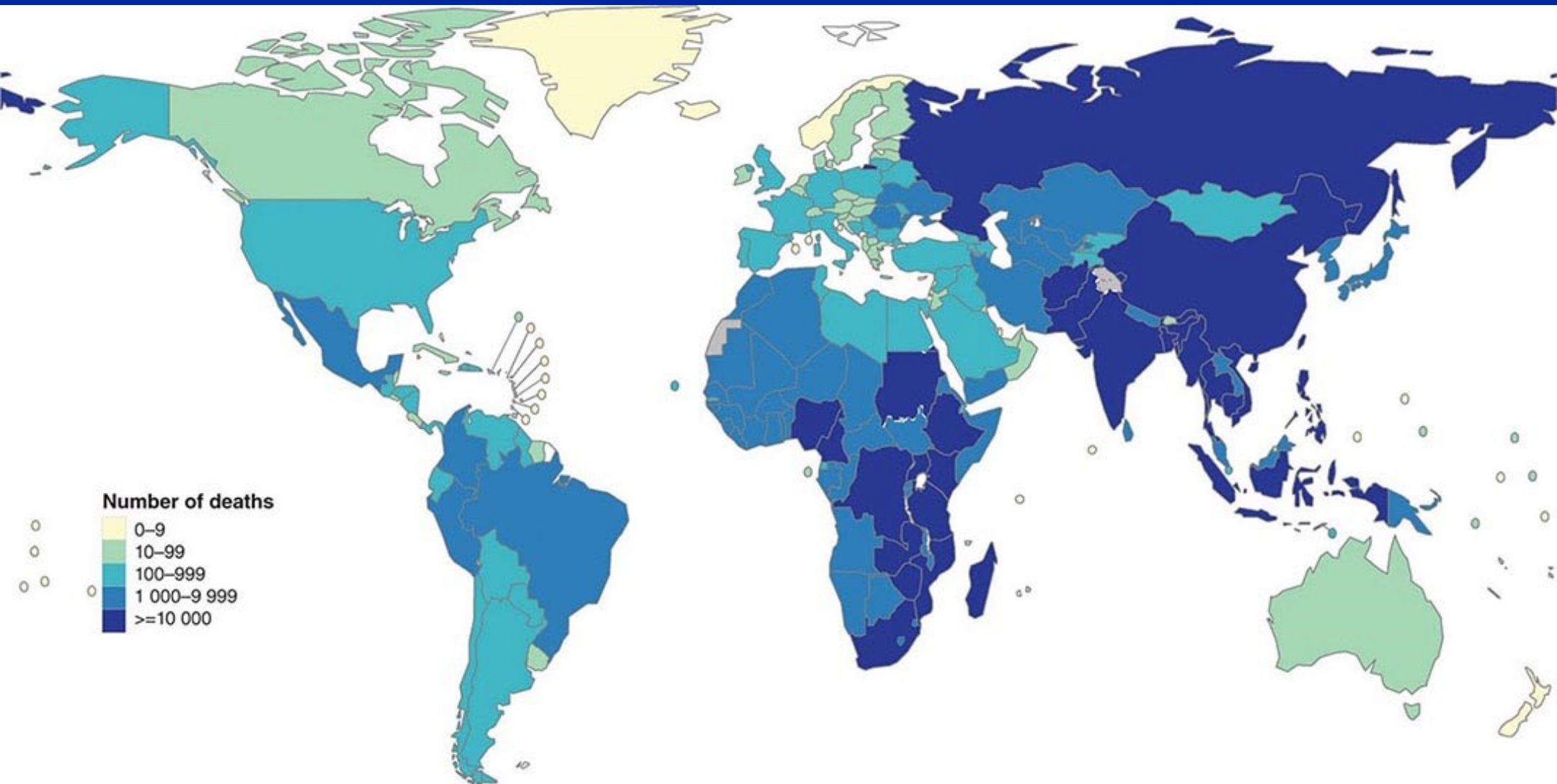
- Direct evidence
- ~~Culture~~
- Indirect evidence
- CBCC
- Serology, GWC
- Western blot
- PCR technology
- IGRAs



- Specimens
- - Blood
- - Lymph nodes
- Peripheral biopsies
- - AH
- - Vitreous
- - Retina



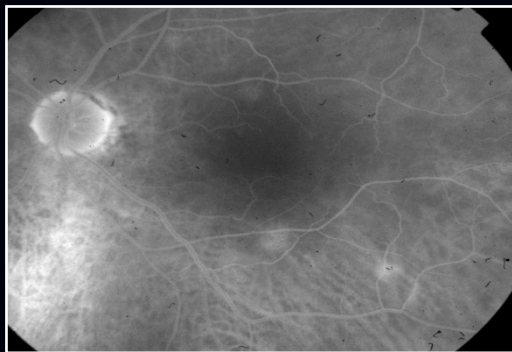
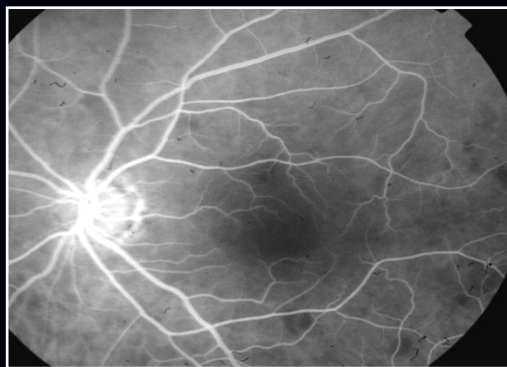
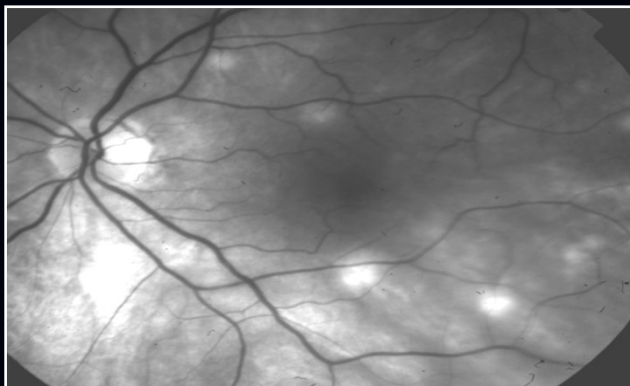
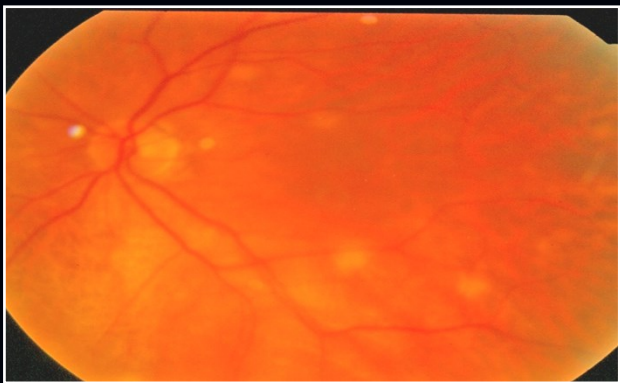
TB mortality in 2013



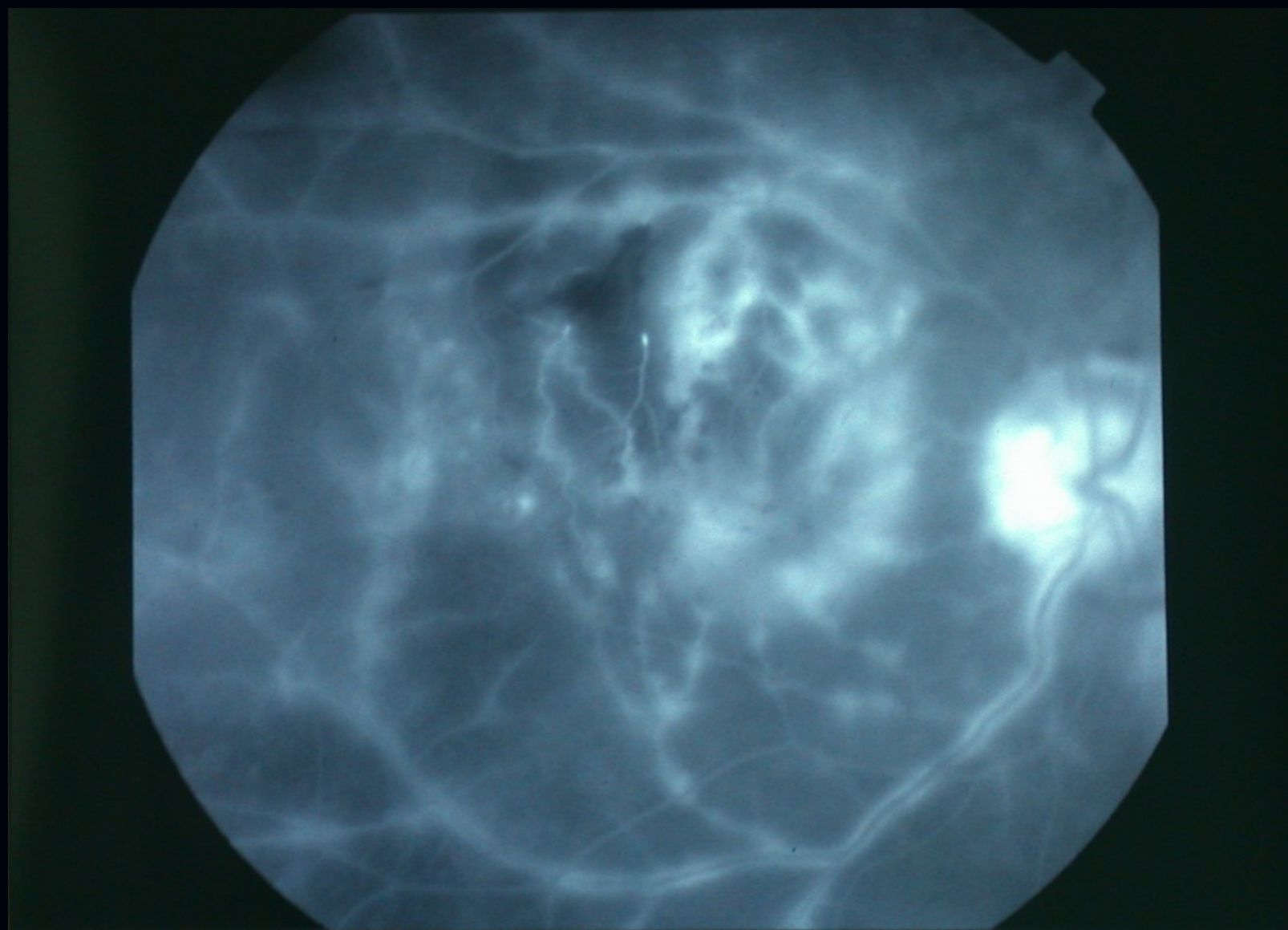


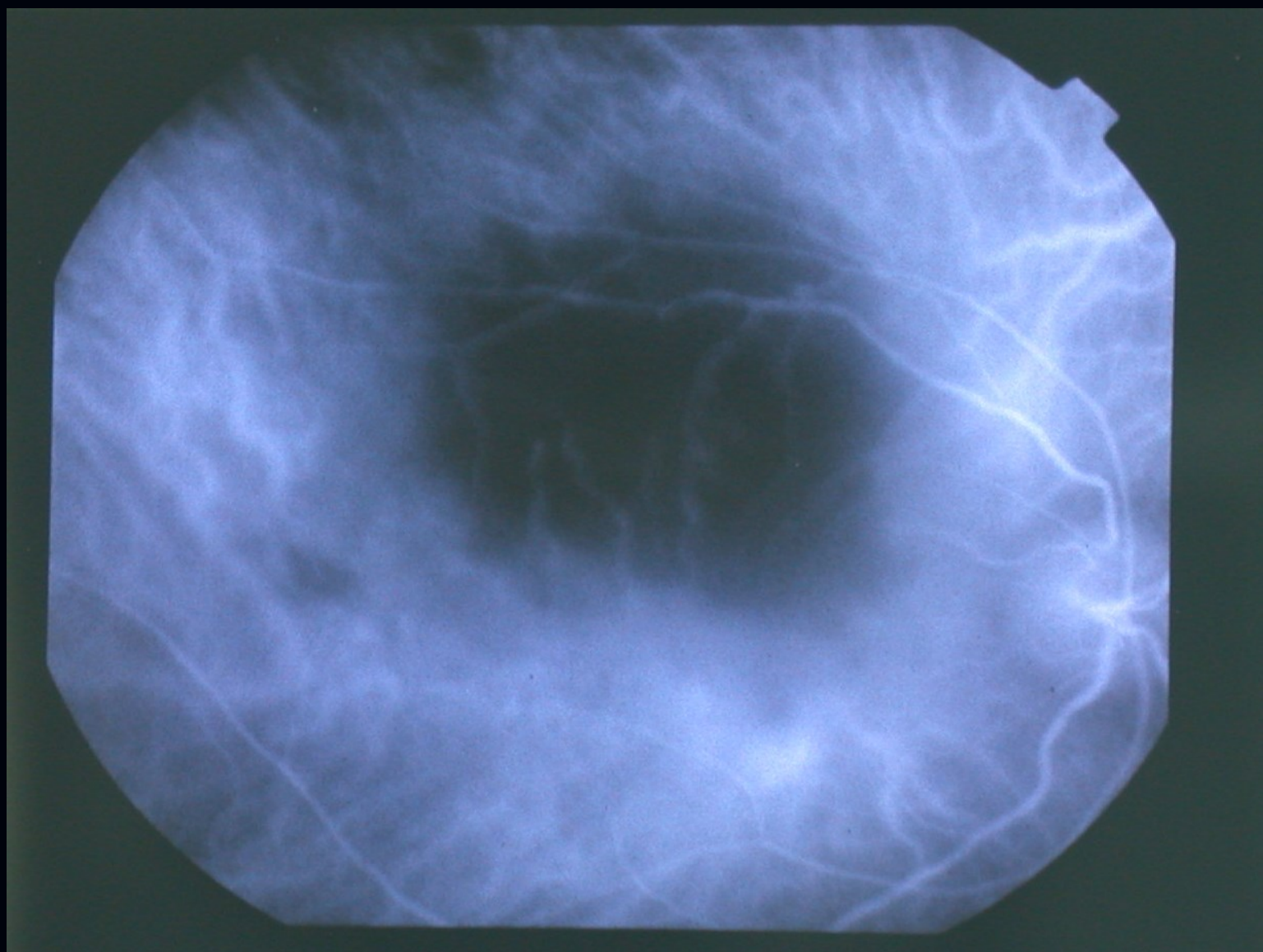
IDR

- Lecture à 72h
- Argument pour la tuberculose ou la sarcoïdose
- Importance d'une modification récente
- Attention aux fausses anergies
- Ne pas répéter l'examen de façon rapprochée









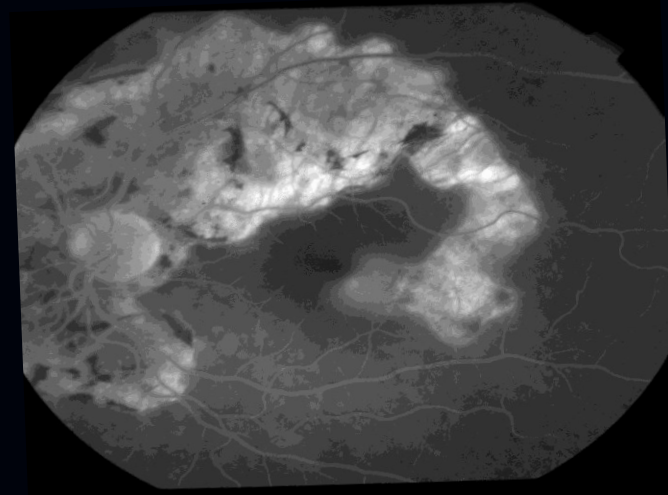
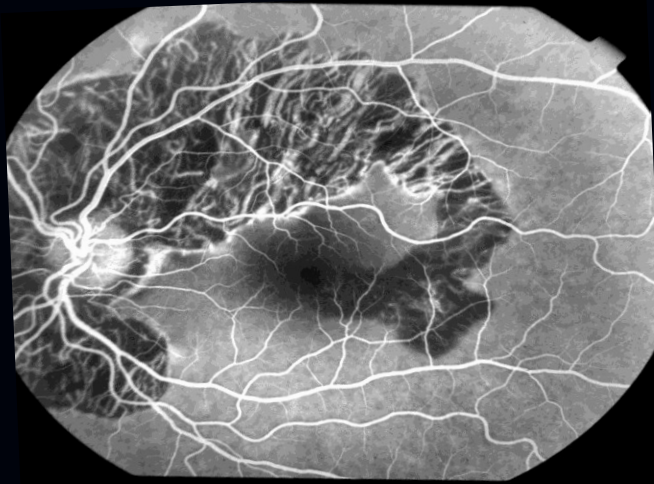


Ou

IGRA (QFN / TB-spot)

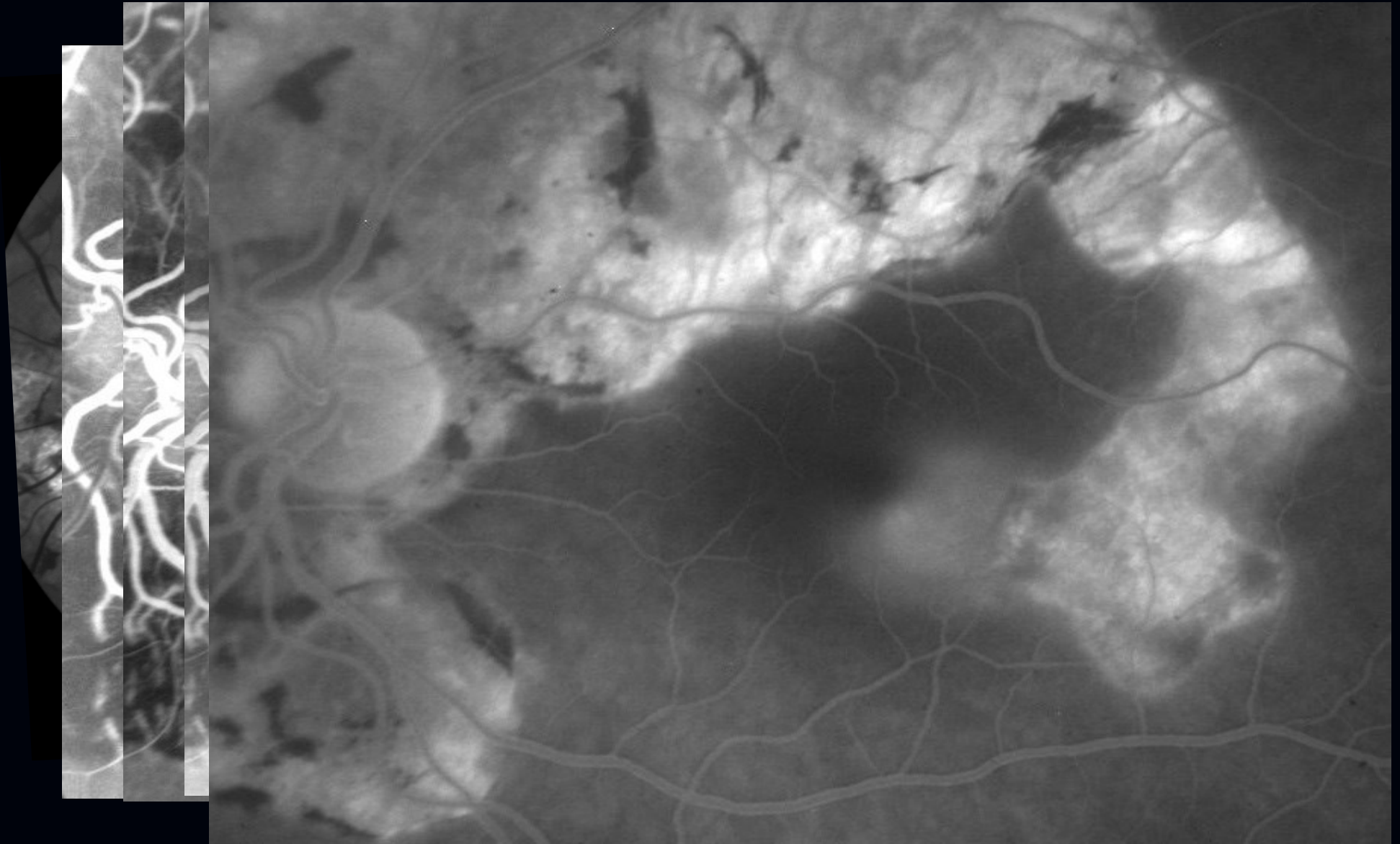
Presumed tubercular serpiginous-like choroiditis

Gupta et al. Ophthalmology 2003

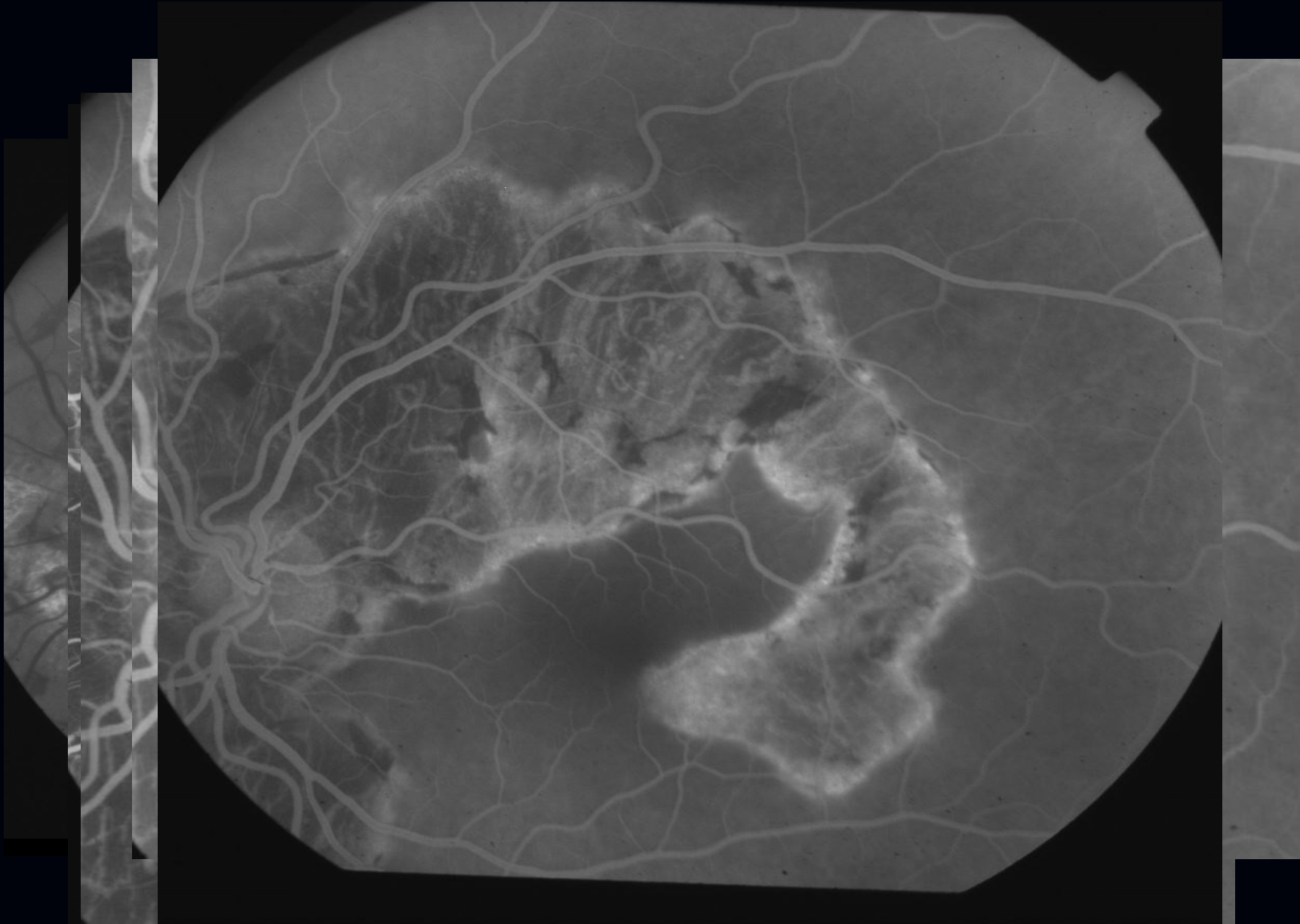


**Serpiginous choroiditis relapsing despite corticosteroids and CyA.
Highly positive PPD. No more relapse after anti-TB therapy.
Follow-up : 3 y and without Rx**

Avril 2001



September 2001



**Tuberculous Uveitis:
Distribution of
Mycobacterium tuberculosis
in the Retinal
Pigment Epithelium**

The diagnosis of intraocular tuberculosis has been a challenge until the introduction of polymerase chain reaction (PCR) to detect the mycobacterial-specific DNA sequence in the intraocular fluids. Such investigations have confirmed diverse mani-

festations of intraocular tuberculosis including retinal vasculitis and serpiginouslike choroiditis.^{1,2} The latter may manifest with multifocal lesions involving the inner choroid, which coalesce to form a geographic pattern simulating serpiginous choroiditis. Although, clinically, the choroiditis appears to involve primarily the inner choroid and retinal pigment epithelium (RPE), the presence of mycobacterium at these anatomic sites has not been documented. Herein, we describe a case of panuveitis that was clinically of unknown

cause but for which histopathologic examination of the globe disclosed selective distribution of acid-fast organisms in the RPE. These were confirmed to be *Mycobacterium tuberculosis* by microdissection of the RPE, followed by real-time PCR.

Report of a Case. The enucleated left eye of a 48-year-old woman was submitted to the Doheny Eye Pathology Laboratory with a brief clinical history, revealing a progressively worsening intraocular inflammation in the left eye despite treatment with topi-

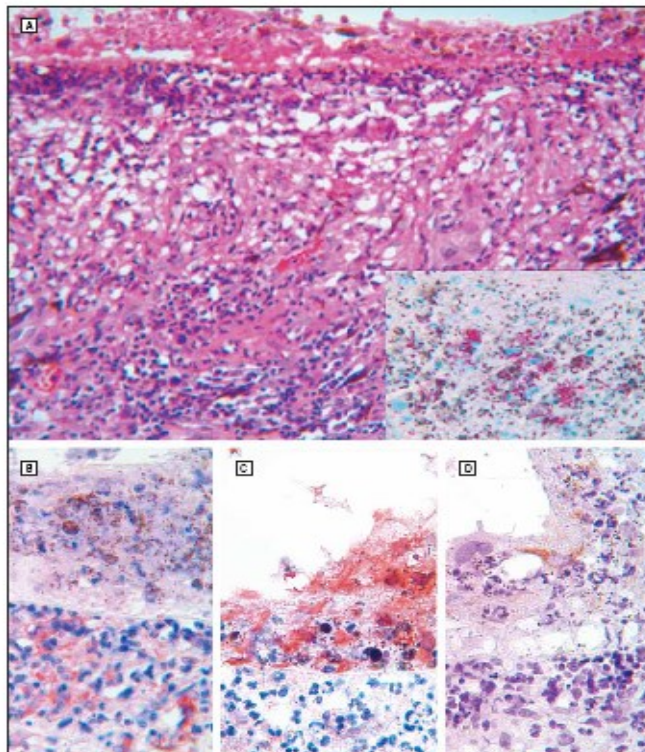
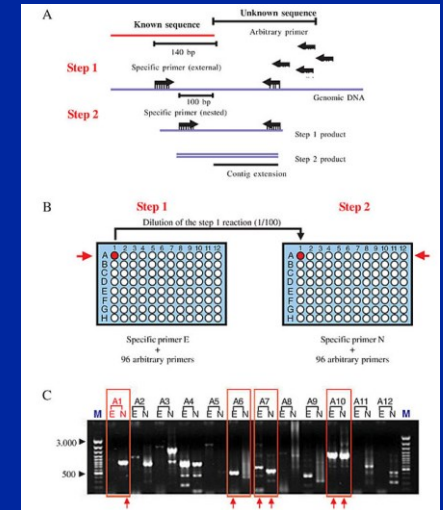


Figure 1. Histologic examination of the globe. A, Necrotic retinal pigment epithelium (RPE) with granulomatous inflammation involving the choroid (hematoxylin-eosin). The insert reveals several acid-fast bacteria in the RPE (Ziehl-Neelsen). B-D, The immunohistochemistry of the necrotic RPE cells. The cells are negative for CD68 (B) and positive for neuronal-specific enolase (C) and cytokeratin (D).

Molecular Dx

- Nested PCR
- ERM of patients with Eales' disease
- 23 patients
- nPCR + in 47.8% of cases (11.1% of controls)
- Positive PCR does not mean bacterial replication



Madhavan et al. 2000

Diagnosis of TB

- Poor specificity of TB skin test in vaccinated patients
- Low sensitivity in IS patients
- T-SPOT *TB* and quantiFERON-TB Gold : 2 blood tests based on detection of IFN- γ released by T-cells in response to *M. tuberculosis* Ag
- Validation is challenging due to the lack of a diagnostic gold standard
- Results available by the next day, no boosting after repeated tests

Dx

•TST

- Mixture of more than 200 proteins derived from Mt
- Limited specificity
- + result : exposure to nonTB mycobacteria
- Significant cross-reactivity between PPD and BCG vaccine
- Limited sensitivity (75-90%)

•IGRAs

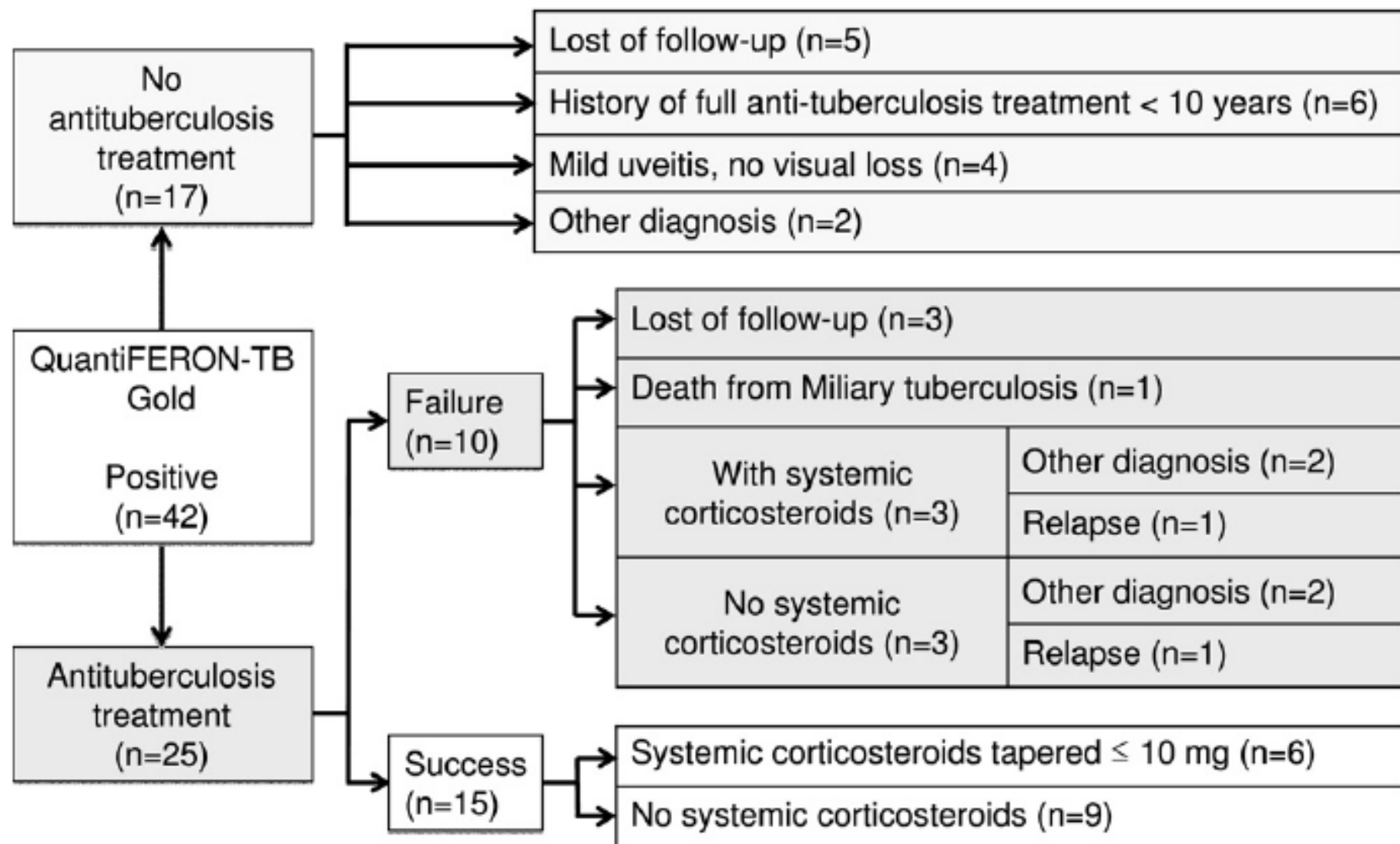
- ELImmunosorbentA / ELImmunospotA
- More specific than TST
- More sensitive than TST
- Limitation : do not distinguish between latent and active TB
- Increased posttest probability
- Higher cost
- Specialized lab
- Result altered by a recent TST!

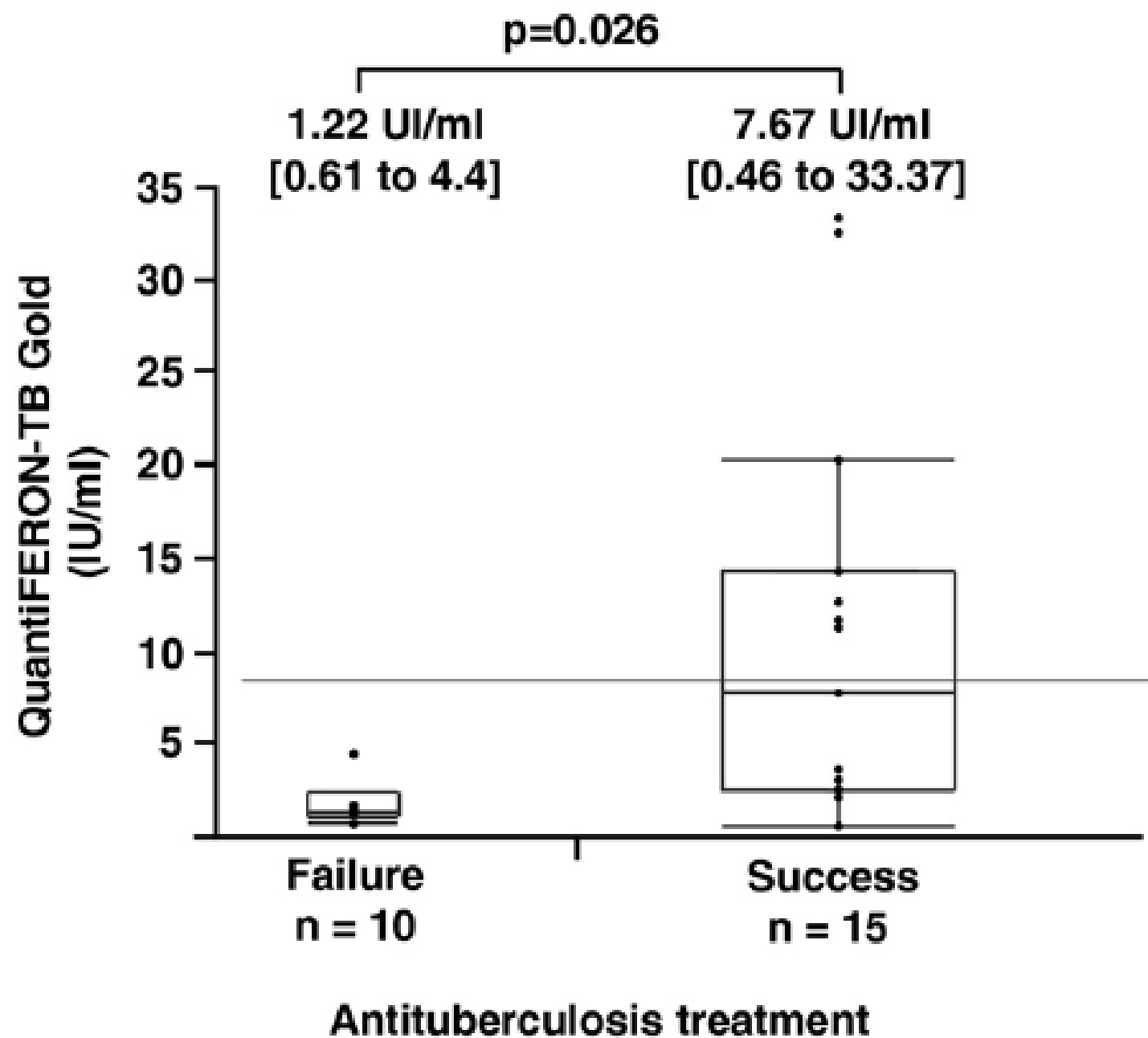
QuantiFERON-TB Gold Cut-off Value: Implications for the Management of Tuberculosis-Related Ocular Inflammation

RAQUEL GINEYS, BAHRAM BODAGHI, GHISLAINE CARCELAIN, NATHALIE CASSOUX,
LE THI HUONG BOUTIN, ZAHIR AMOURA, PHUC LEHOANG, AND SALIM TRAD

Am J Ophthalmol, 2011

	QuantiFERON-TB Gold Positive n = 42	QuantiFERON-TB Gold Negative n = 54	<i>p</i> ^a
Epidemiology			
Mean age, years (SD)	55.9 ($\pm$ 16.7)	48.2 ($\pm$ 17.9)	<.05
Sex, female (%)	22 (52)	36 (67)	.21
First episode	18 (43)	21 (39)	.76
Median duration of ocular symptoms, years (extremes)	3.31 (0–11)	3.28 (0–12)	.76
From endemic tuberculosis area (%)	22 ^b (52)	17 (31)	.09
History of BCG vaccination (%)	10 (24)	23 (43)	.08
Reported exposure to tuberculosis (%)	18 (43)	17 (31)	.29
History of anti-tuberculosis treatment (%)	10 (24)	4 (7)	.04
Extraocular signs			
Evocative of tuberculosis (%) ^c	2 (5)	3 (5)	1.00
Evocative of another etiology (%) ^d	8 (19)	11 (20)	1.00
Ancillary			
Prednisone (%)	12 (29)	14 (26)	.82
Tuberculin skin test (82 available results) positive ratio (%)	26/38 (68)	9/44 (20)	<.0001





IGRAs/TST

- ‘Equivocal’ *T-SPOT TB* result associated with patients aged >55y Such patients are likely to have a negative QuantiFERON-TB Gold In-tube result *Ang et al. Br J Ophthalmol 2012*
- Based on statistical decision theory, head-to-head study suggests that QuantiFERON-TB Gold In-Tube is the first-line test that should be performed in preference to T-SPOT.TB (and the tuberculin skin test) for diagnosing tuberculous uveitis *Ang et al. Am J Ophthalmol 2014*
- TST/IGRA discordance : age (>55), Indian ethnicity, less likely with panuveitis *Ang et al. Br J Ophthalmol, 2014*

Typage HLA

- **HLA A29 : birdshot RC (+/95%)
Très bonne liaison (>B27 et SPA)**
- **HLA B27 : principalement UA**
- **HLA B51 : Behçet (intérêt limité)**
- **HLA B53 : VKH (intérêt limité)**

Geographic distribution

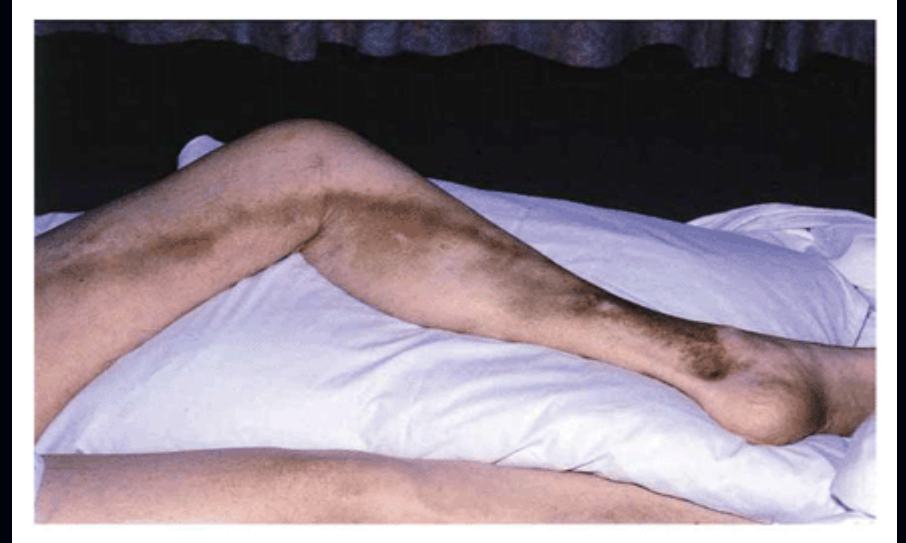


Diagnosis

- International Study Group for BD (1990)
 - - Recurring oral ulcerations (aphthous herpetiform) at least 3 times in one year
 - In addition, patient must also meet two of the following :
 - - Recurring genital ulcerations
 - - Eye lesions (uveitis, retinal vasculitis) observed by a physician (ophthalmologist)
 - - Skin lesions (erythema nodosum, pseudofolliculitis, papulopustular lesions, acneiform nodules) in adult patient not on corticosteroids
 - positive “pathergy test” read by a physician within 24-48 hours testing
 - Sensitivity 0.95 / Specificity 1

~~HLA-B51~~

Systemic manifestations

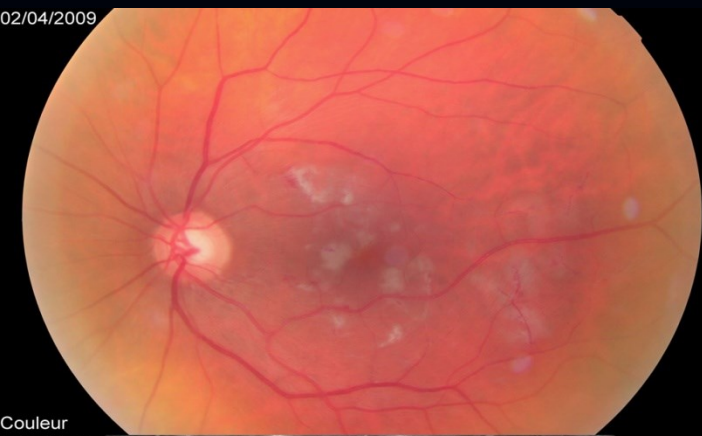


Clinical features of ocular BD

- Retrospective study of 880 consecutive patients managed between 1980 and 1998 at Istanbul faculty of medicine
- Male : 68% Female : 32%
- Mean age at onset of uveitis : 28.5-30 y
- Bilateral : 78.1% and always nongranulomatous
- Recurrent oral ulcers : 100%
- Panuveitis : the most common form of uveitis
- Macular edema : the most common complication (44.5%)
- Disease more severe in males but the risk has decreased after 1990
- Risk of low vision at 5 and 10 y (M/F) : 21% / 10% - 30% / 17%

Tugal-Tutkun et al. Am J Ophthalmol 2004

02/04/2009



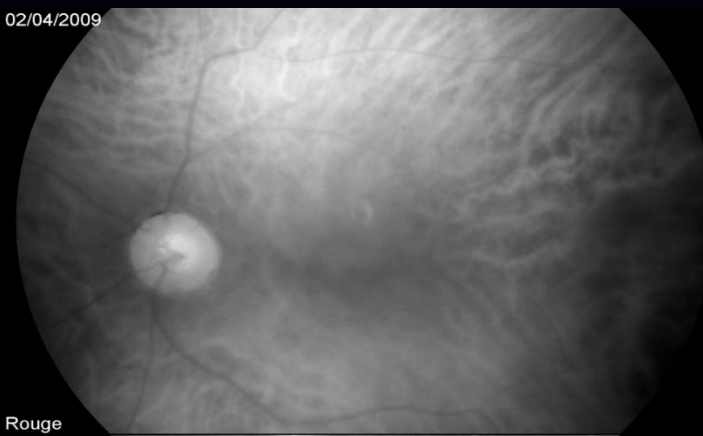
Couleur

02/04/2009

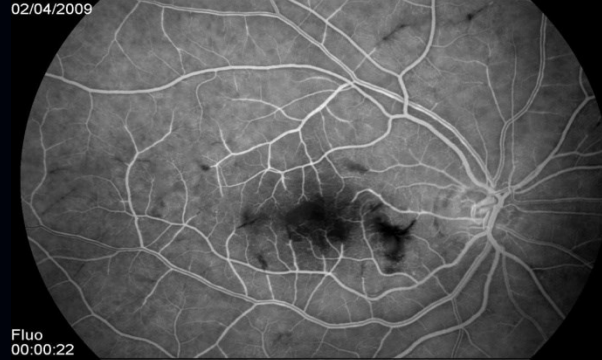


Vert

02/04/2009



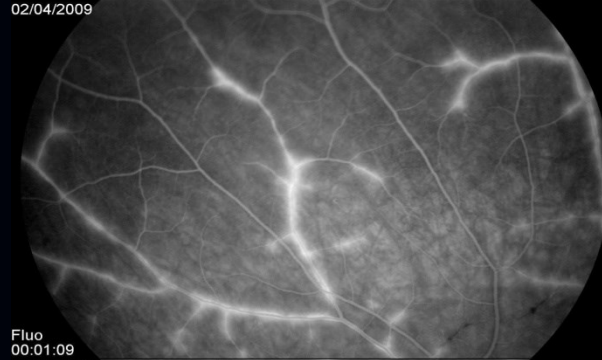
Rouge



Fluo
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02/04/2009



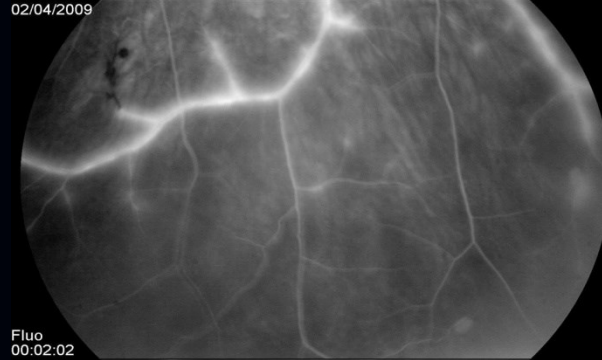
Fluo
00:00:41
02/04/2009



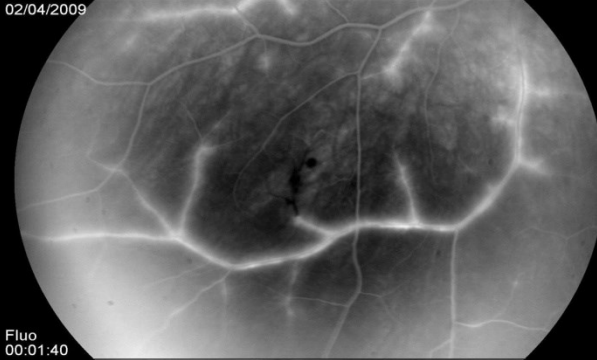
Fluo
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02/04/2009



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02/04/2009



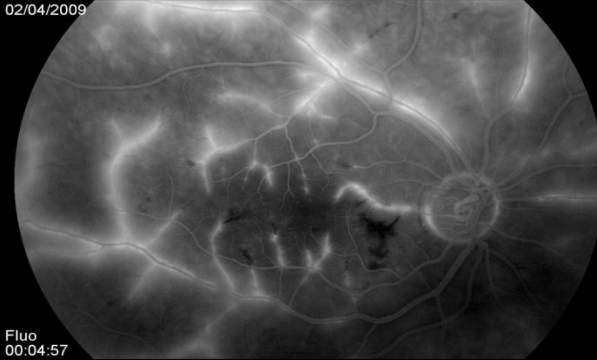
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02/04/2009



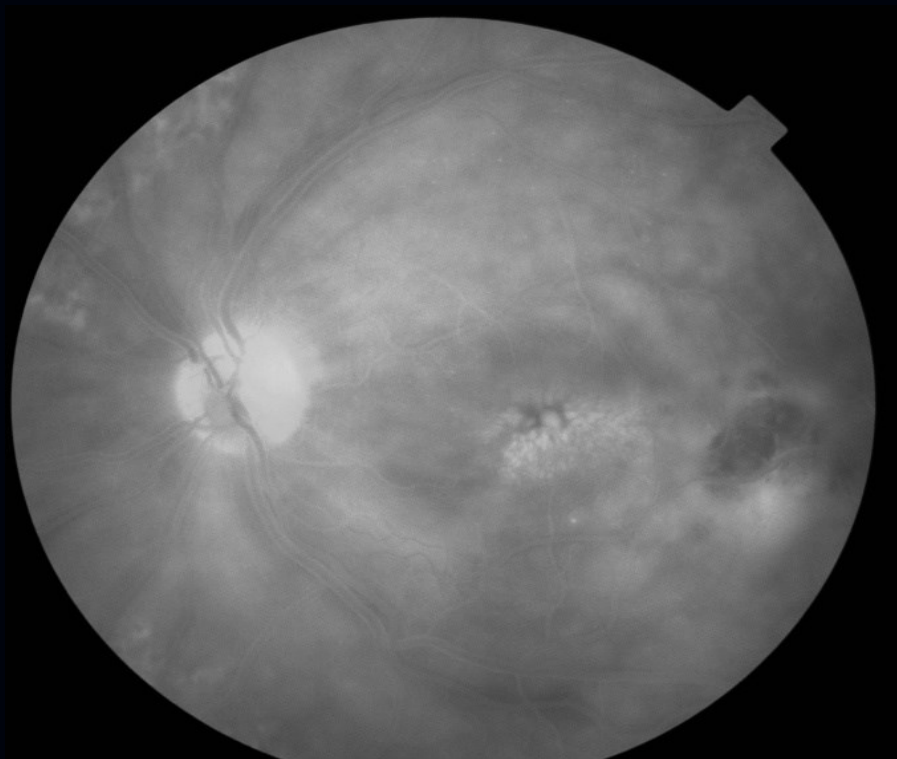
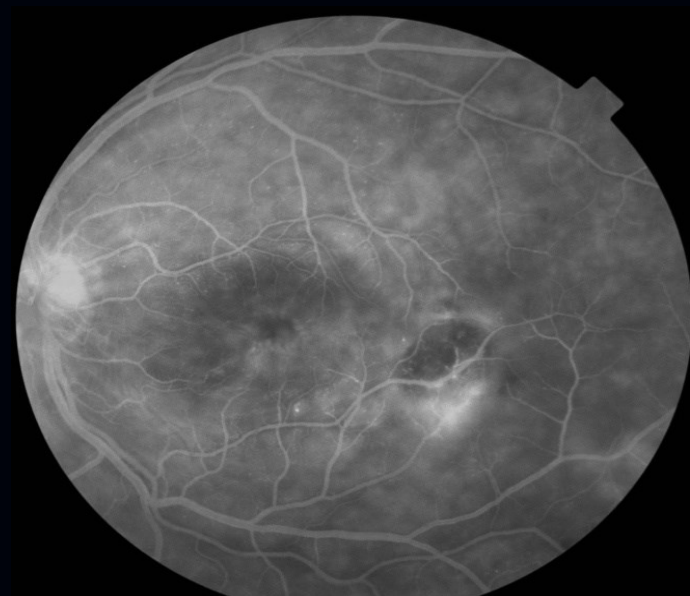
Fluo
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02/04/2009



Fluo
00:02:13
02/04/2009



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00:04:57
02/04/2009



Attention

- Positivité des sérologies
- Importance des laboratoires de référence
- Faux positifs de l' ECA
- Faux + ou – de l' IDR
- Diagnostics de TB portés par excès

First International Workshop on Ocular Sarcoidosis (IWOS)

Tokyo, October 27 – 29, 2006

Organized by :

Narsing A Rao (Los Angeles, USA)

Manabu Mochizuki (Tokyo, Japan)

Carl P. Herbort (Lausanne, Switzerland)

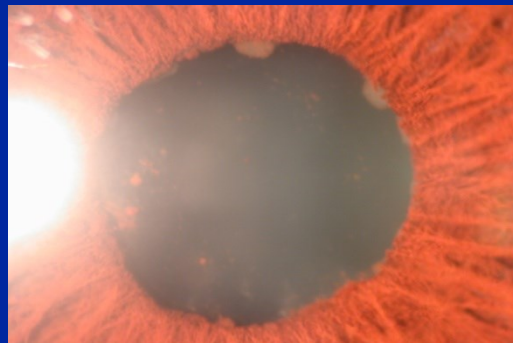
26 official delegates from 11 countries (4 continents)

**USA, Japan, Turkey, Tunisia, France, Germany, Netherlands, U.K., Singapore,
Taiwan, Switzerland**

Clinical findings

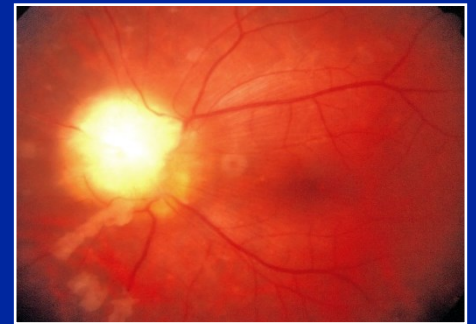
Anterior segment

- KP : 66.1%
(Small : 37.8% / MF : 62.2%)
- PS : 34%
- Iris Nodules : 22.5%
- Secondary glaucoma : 15.8%



Intermediate / Post

- Vitritis : 79.6%
- Papillitis : 46.5%
- RVasculitis : 44.2%
- Choroidal granuloma : 56.3%



Abnormal lab findings

- Negative PPD : 72.7%
- Serum lysozyme : 81%
- Serum ACE : 73.3%
- Chest X-rays : 75%
- Chest CT-scan : 87%
- BAL : 76.2%
- Gallium scan : 64.3%

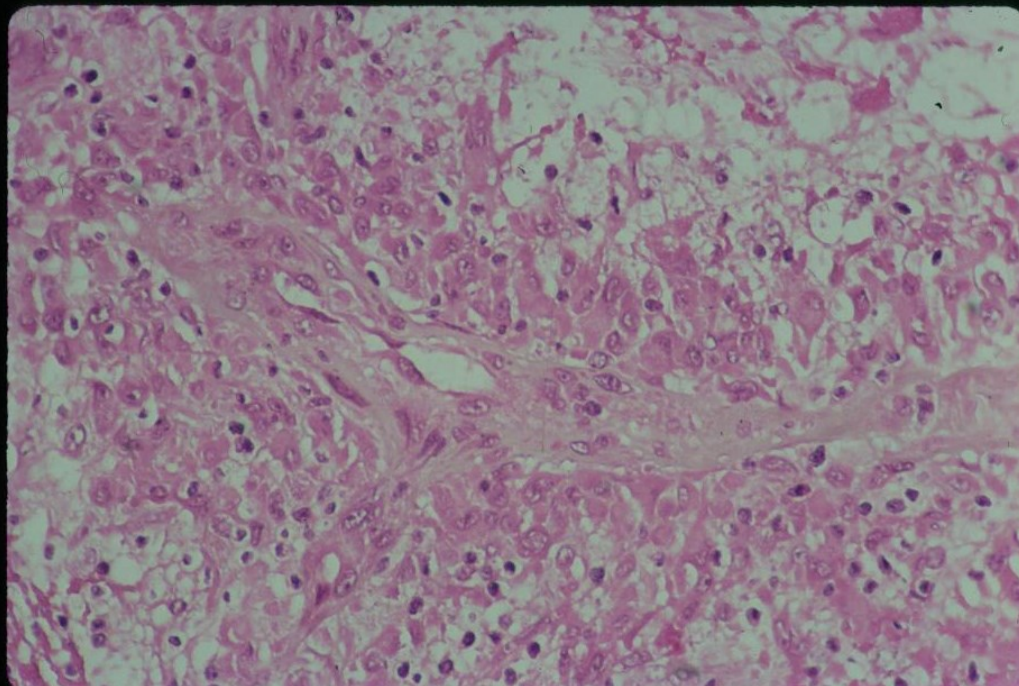
Results

Extraocular manifestations : 84.2%

- Lung : 56.3%
- CNS : 17.2%
- Skin : 10.9%
- Heart : 10.3
- GI : 6.3%

Histology

- BA biopsy : 39.4%
- Salivary gland biopsy : 24.2%
- Lacrymal gland biopsy : 12.1%
- Skin biopsy : 9.1%
- Retina, Conjunctiva, orbit, pancreas : 9%
- CNS : 6.2%



Aim

To possibly establish more universal rules to categorize cases suggestive of the diagnosis of ocular sarcoidosis but lacking histological proof.

First International Workshop on Ocular Sarcoidosis (IWOS)

Tokyo, October 27 – 29, 2006

1. Clinical signs suggestive of ocular sarcoidosis

1. Granulomatous/mutton-fat KPs and/or iris nodules (Koeppe/Bussacca)
2. Nodules in the AC irido-corneal angle and/or tent-shaped PAS
3. Snowballs/string of pearls vitreous opacities
- 4 . Multiple chorioretinal peripheral lesions (active & atrophic)
5. Segmental and/or nodular periphlebitis ($\pm$ candle-wax drippings)
and/or macroaneurism in an inflamed eye
6. Optic disc nodule(s)/granuloma(s)
7. Bilaterality

First International Workshop on Ocular Sarcoidosis (IWOS)

Tokyo, October 27 – 29, 2006

2. Investigational tests when ocular sarcoidosis is suspected

- 1. Negativity of PPD skin test in a BCG vaccinated patient or in a previously positively testing patient**
- 2. Elevated angiotensine converting enzyme (ACE) in serum and/or increase of serum lysozyme***
- 3. Chest X-ray : search for BHL**
- 4. Abnormal liver enzyme tests (ASAT, ALAT, Alc. Phosph, Gamma-GT); any one of them elevated over normal value**

In diagnostic group 3 only (BHL negative) :

- 5. Chest CT-scan**

**** Required in case of patient treated with ACE inhibitors***

Enzyme de Conversion

- Suspicion de sarcoïdose
- Se : 42%, Sp : 93%, VPP : 49%
- Taux proportionnels à l'âge, le sexe et la masse granulomateuse
- Faux positifs : diabète, histoplasmose, BK

First International Workshop on Ocular Sarcoidosis (IWOS)

Tokyo, October 27 – 29, 2006

3. Diagnostic guidelines*

**1. Biopsy supported diagnosis
with a compatible uveitis**

→ Definite Ocular Sarcoidosis

**2. Biopsy not done, bilateral hilar
Lymphadenopathy on Rx
With a compatible uveitis**

→ Presumed Ocular Sarcoidosis

**3. Biopsy not done, BHL negative
2 of suggestive clinical signs
& 2 of investigational tests**

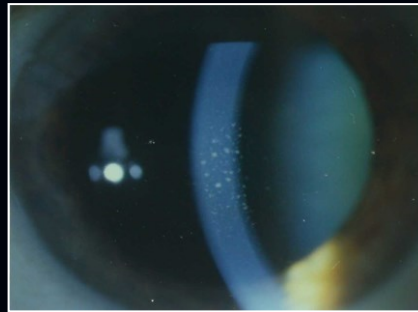
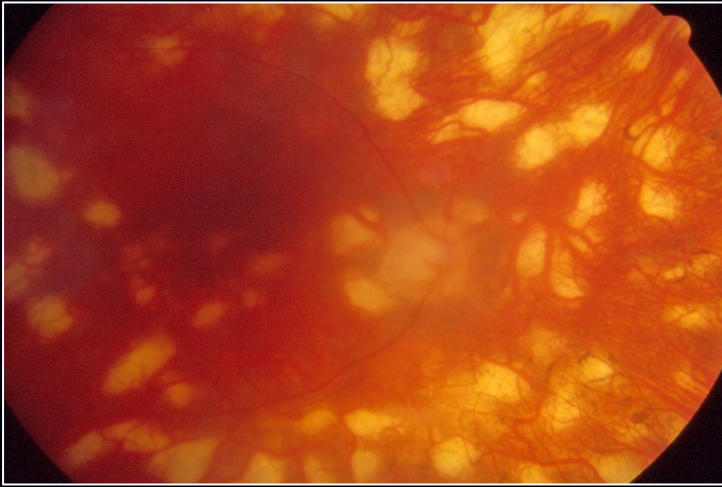
→ Probable Ocular Sarcoidosis

**4. Biopsy negative; 3 of
Suggestive clinical signs
2 of investigational tests**

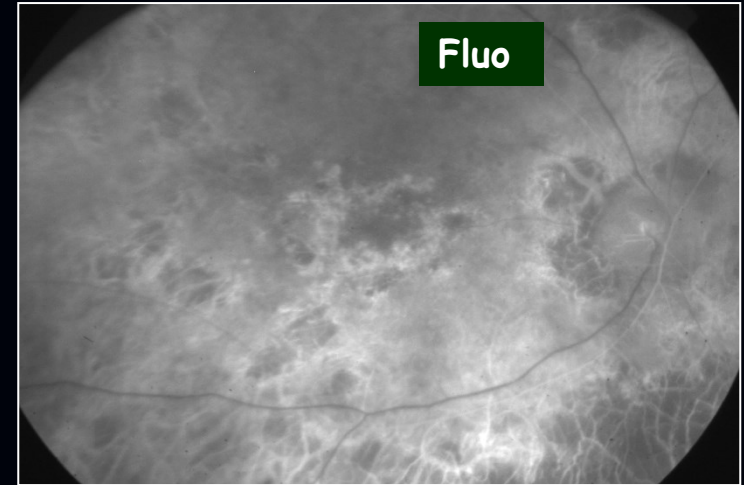
→ Possible Ocular Sarcoidosis

*** All other conditions having been excluded**





HLA-A29 negative

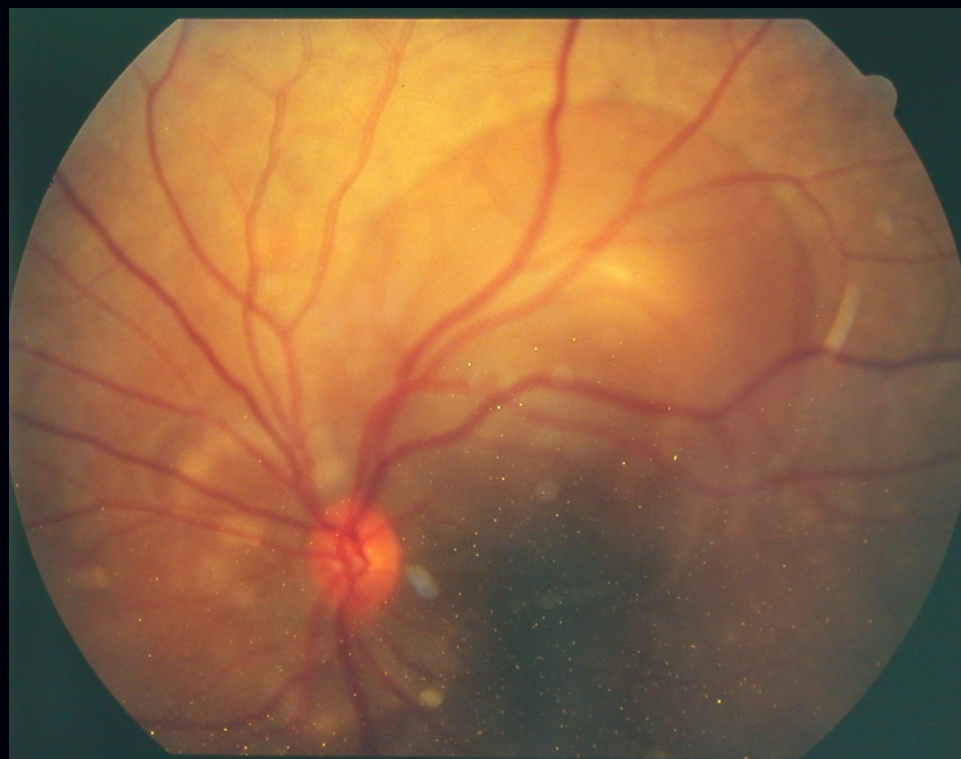
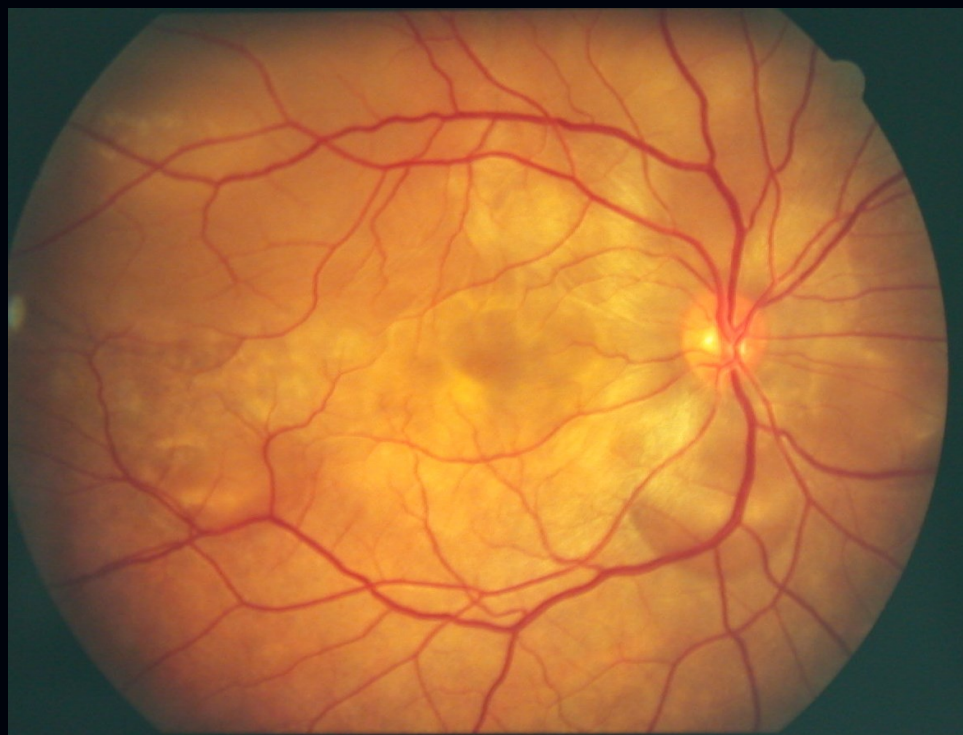


***Read et al. Sarcoid choroiditis initially diagnosed as birdshot choroidopathy.
Sarcoidosis Vasc Diffuse Lung Dis. 2000***

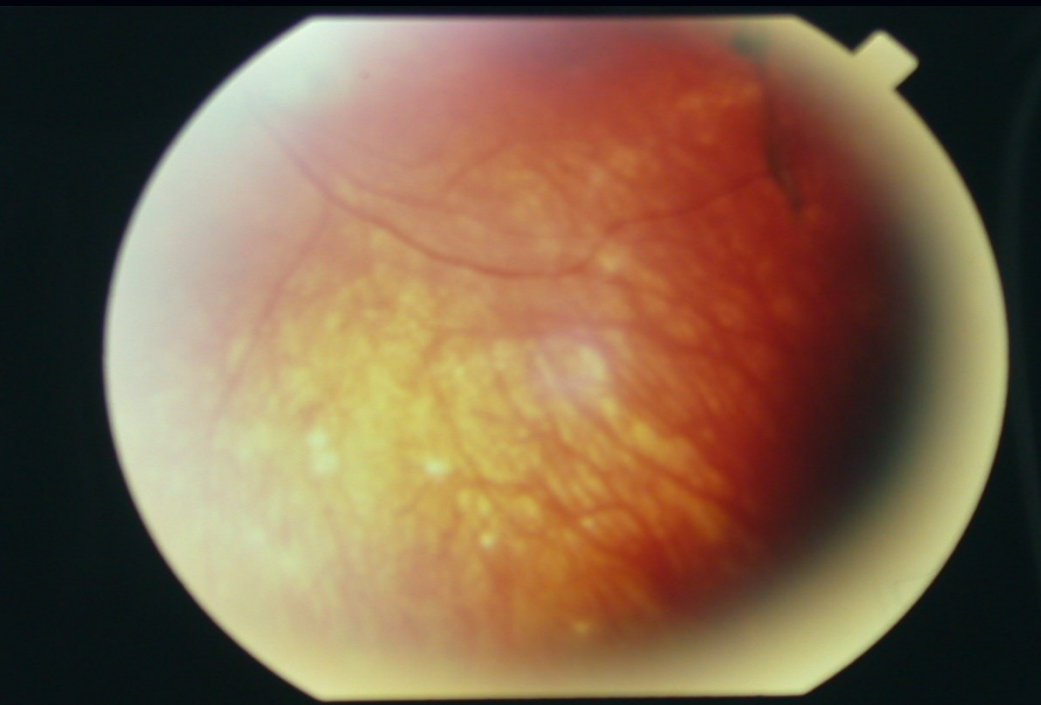
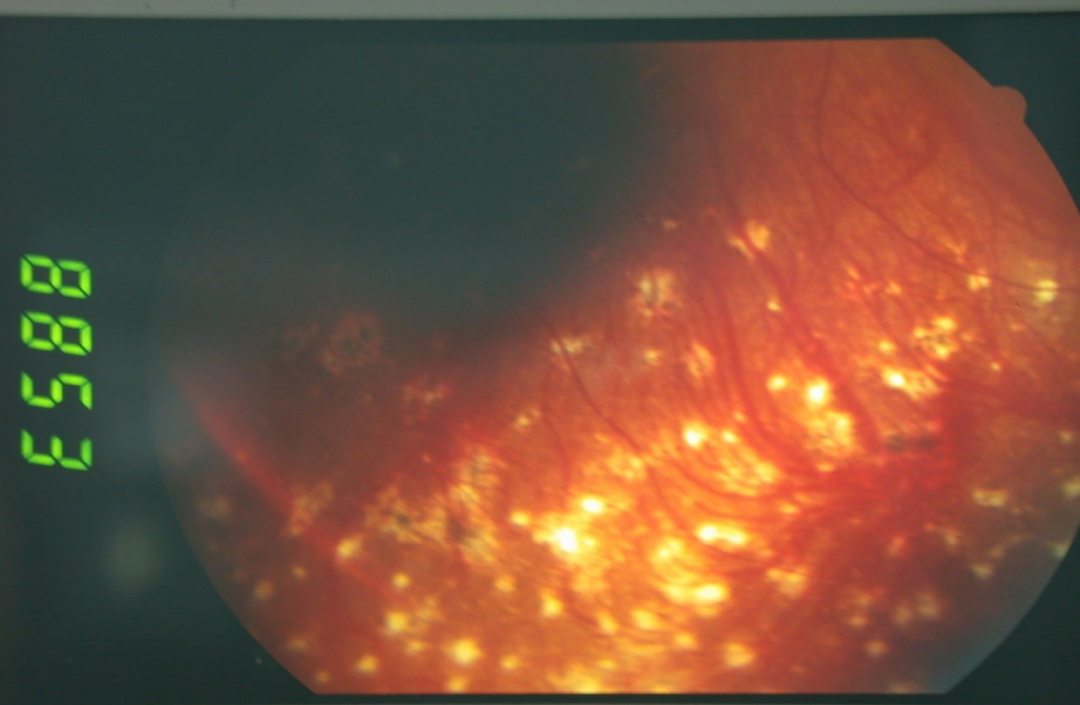
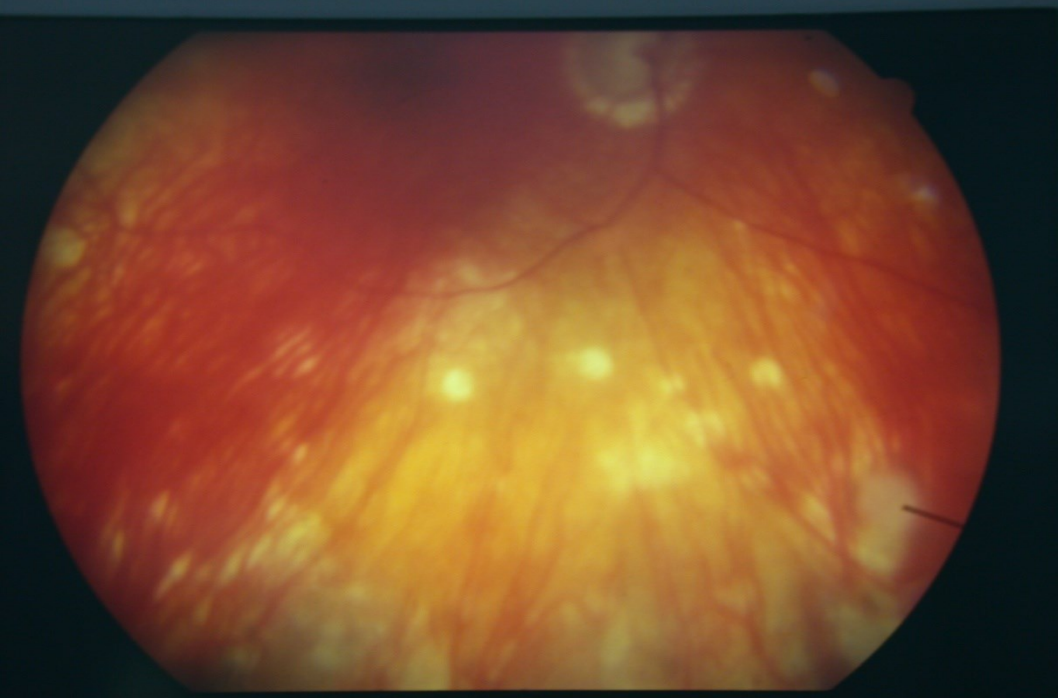
Clinical features

Typicaly 4 phases

- Prodromal : neurologic and auditory
- Acute uveitic : diffuse choroiditis, exsudative RD, papillitis
- Chronic : depigmentation of various tissues : fundus, limbus, integumentary (PVA)
- Chronic-recurrent : iridocyclitis

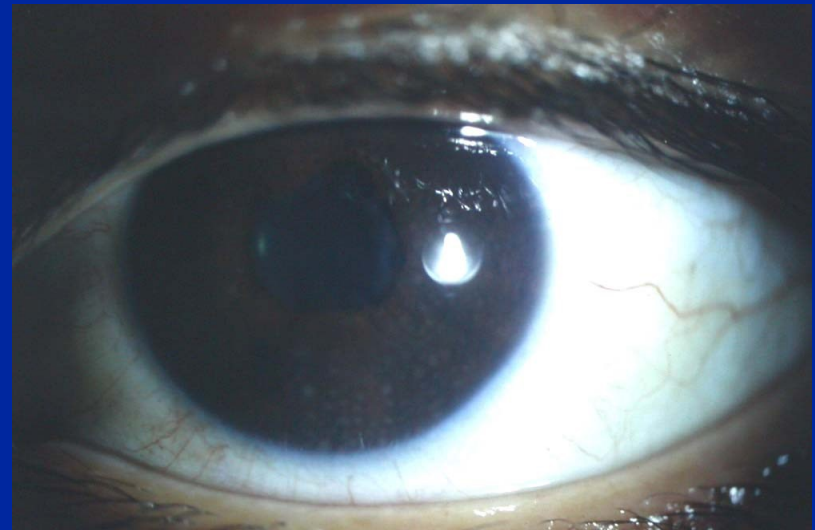






Chronic-recurrent

- Usually anterior uveitis
- Within 6 months of the initial onset
- Too rapid taper of medication
- Recurrences of retinal detachments have been described
- Complications : cataract, glaucoma, choroidal neovascular membranes, subretinal fibrosis



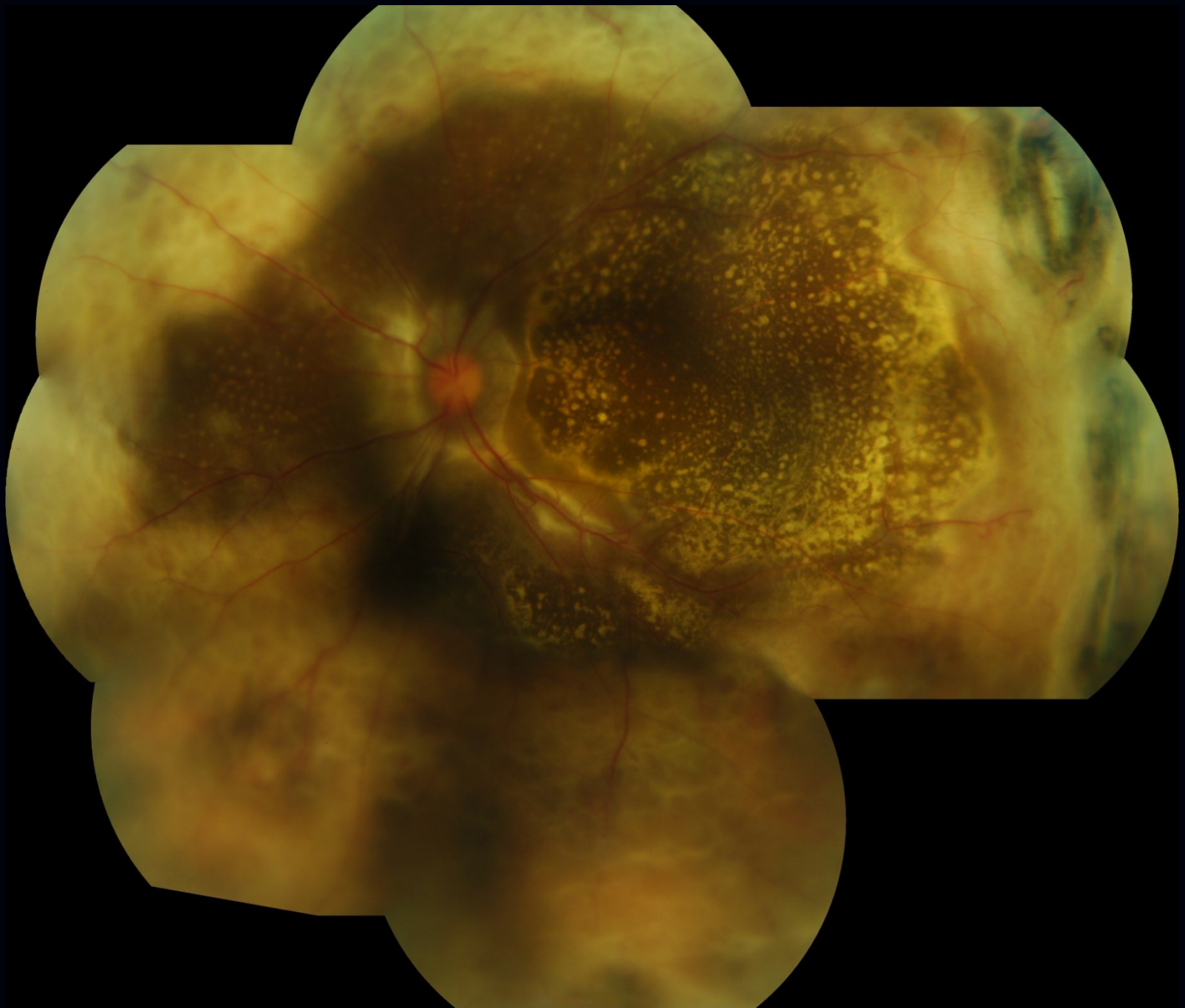
Classifications

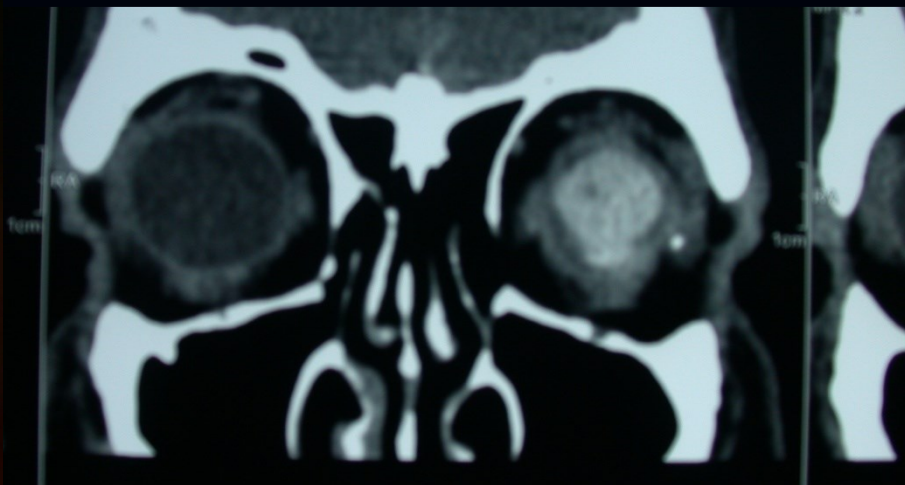
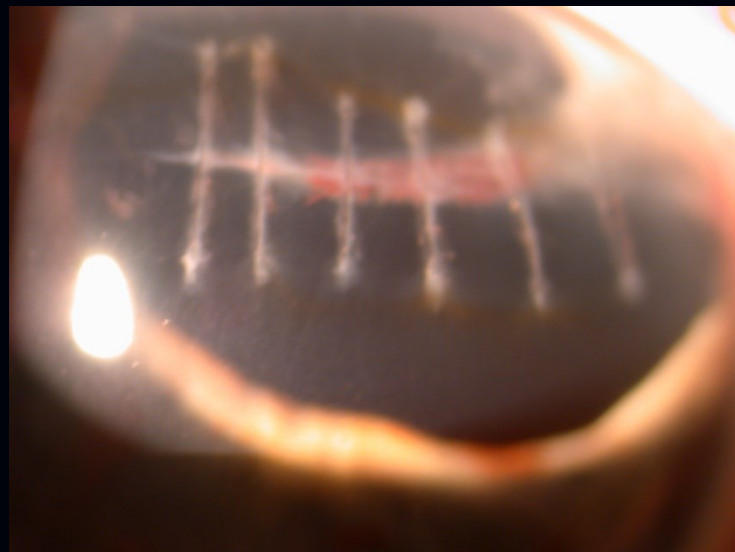
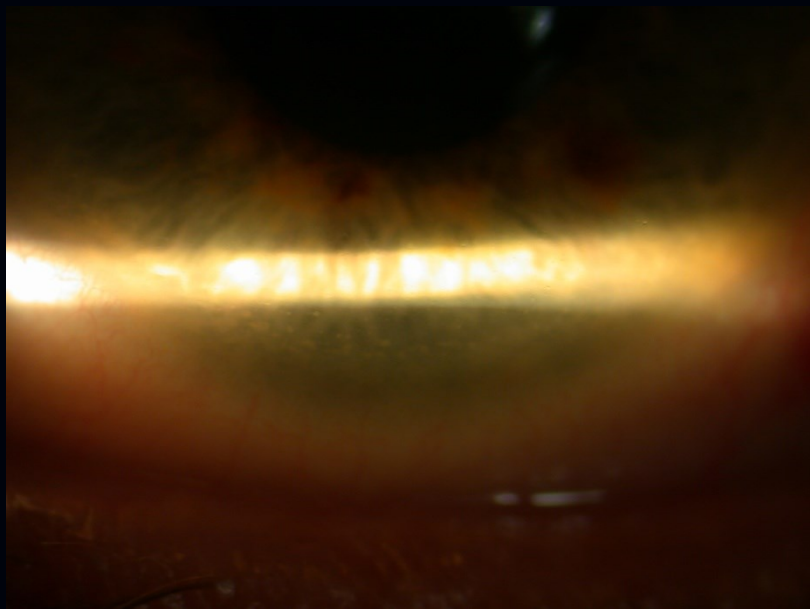
- No history of trauma or surgery
- Bilateral chronic iridocyclitis
- Posterior uveitis (SRD)
- Neurologic signs
- Cutaneous signs

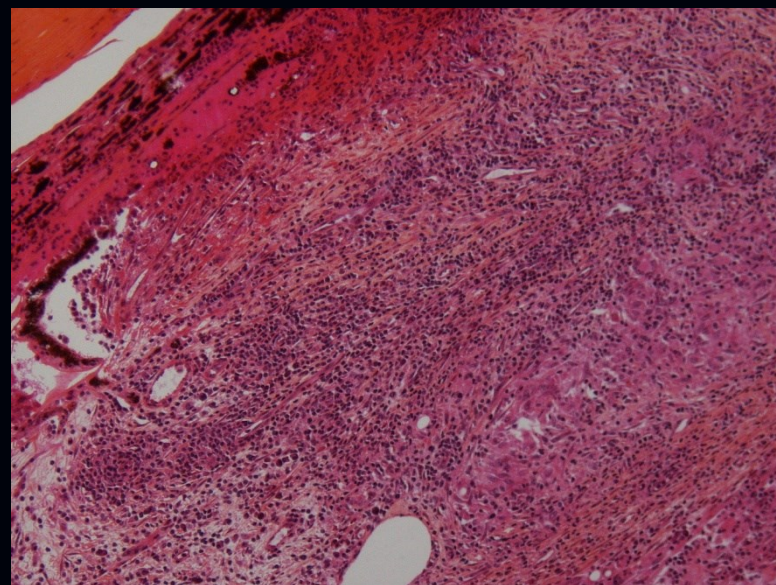
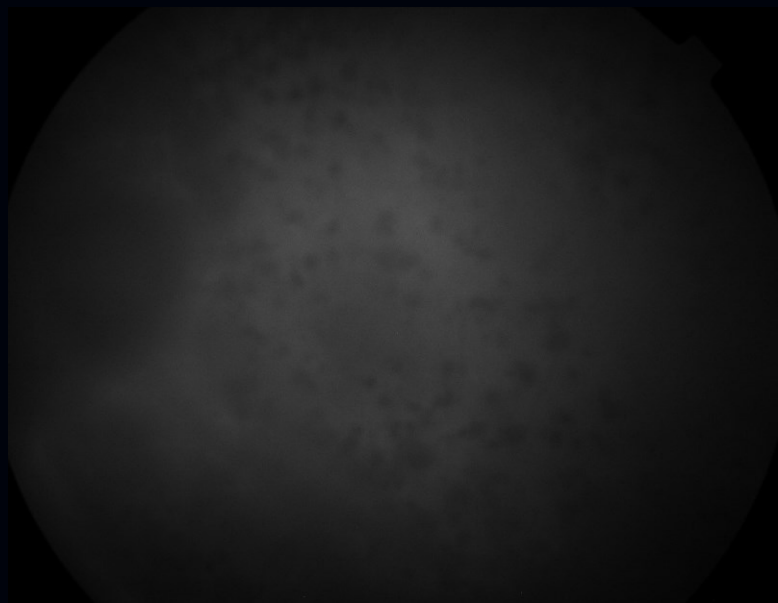
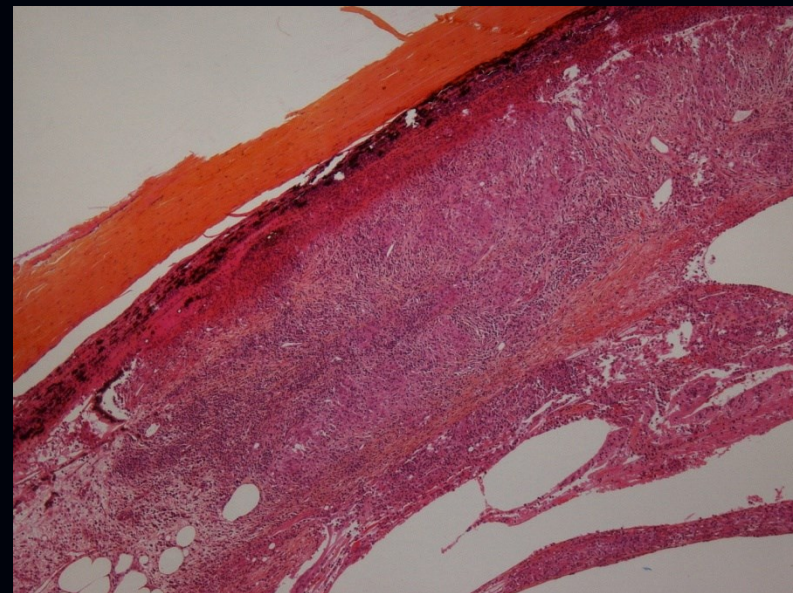
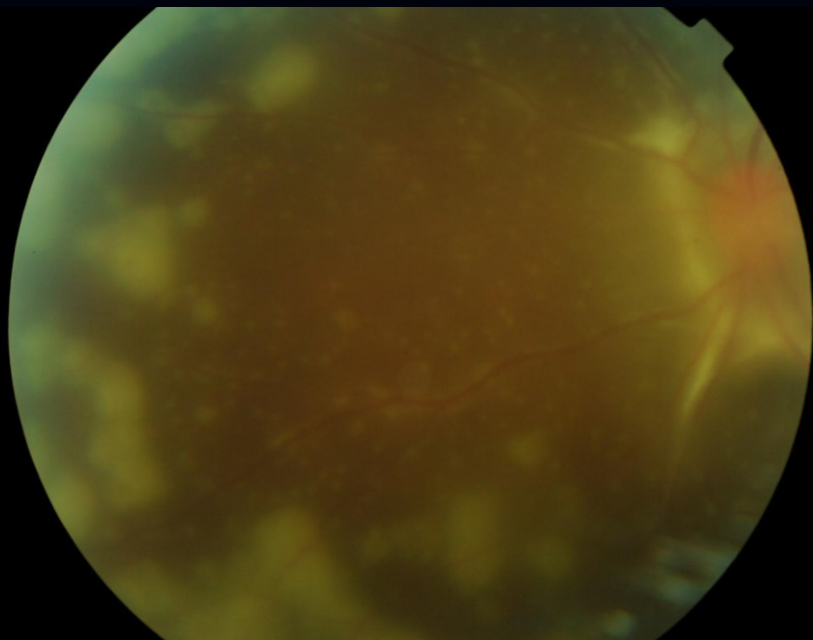
*Snyder and Tessler Am J Ophthalmol
1980*

- No history of ocular trauma or surgery
- No clinical or lab evidence suggestive of other entities
- Bilateral ocular involvement
 - Early manifestations (choroiditis+/- AU)
 - Late manifestations (ocular depigmentation, Dalen-fuchs nodules, RPE alterations, recurrent or chronic AU)
- Neurologic auditory findings
- Integumentary

Read et al. Am J Ophthalmol. 2001



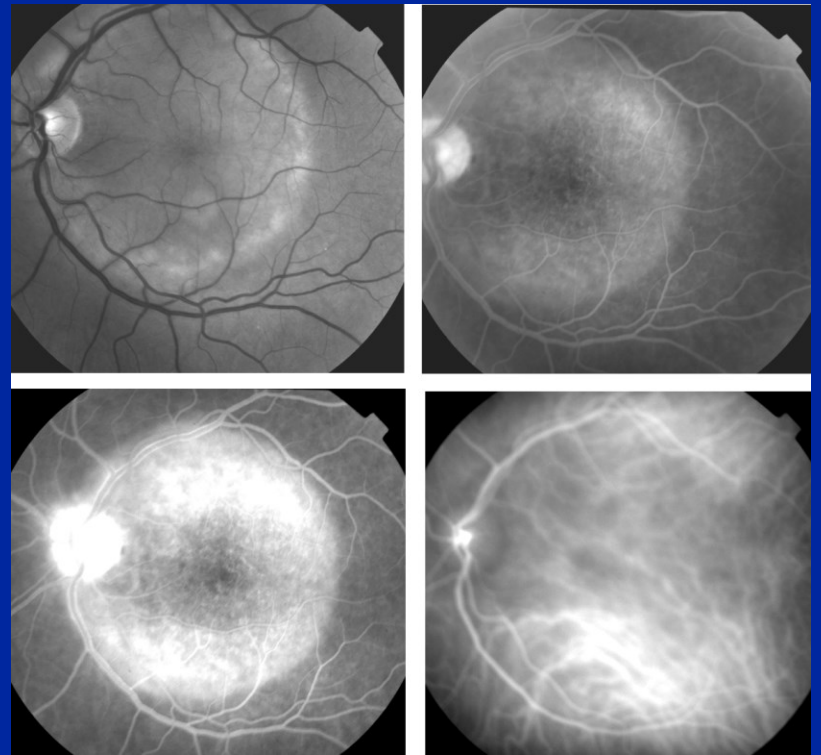




Sérologies

Syphilis

- Diagnostic surtout sérologique
 - Attention si neurosyphilis : PL obligatoire
- VDRL sur LCR,
protéinorrhachie,
pléiocytose
- Répéter PL au décours du traitement



Diagnostic Sérologique

Tests (tréponèmes-)

VDRL

Tests (tréponèmes+)

FTA-ABS (IFI)

TPHA (microHA)

Diagnostic Sérologique

- Faux + (TNT) : 2% adulte jeune, 10% P âgées
 - Etiologies : infection virale, vaccination, hyperγγ toxicomanie, grossesse, diabète
 - 75% : anticoagulants circulants ou Ac anticardiolipines (LED, GS, Behçet, Lyme, SIDA)
 - Réaction croisée (tests spécifs) avec bejel, pinta et Lyme, VDRL sera - si Lyme
- Tests spécifiques restent positifs après guérison/
VDRL se négative

Bilan de niveau 2

- Imagerie spécialisée : angios, écho (UBM), OCT, TDM, IRM, scinti
- LBA, fibro gastrique, colo-biopsies, PL
- Sérologies spécialisées
- Prélèvements oculaires (HA, vitré, biopsies RC)
- Médiastinoscopie
- Bilan fonctionnel

Maladie de Lyme

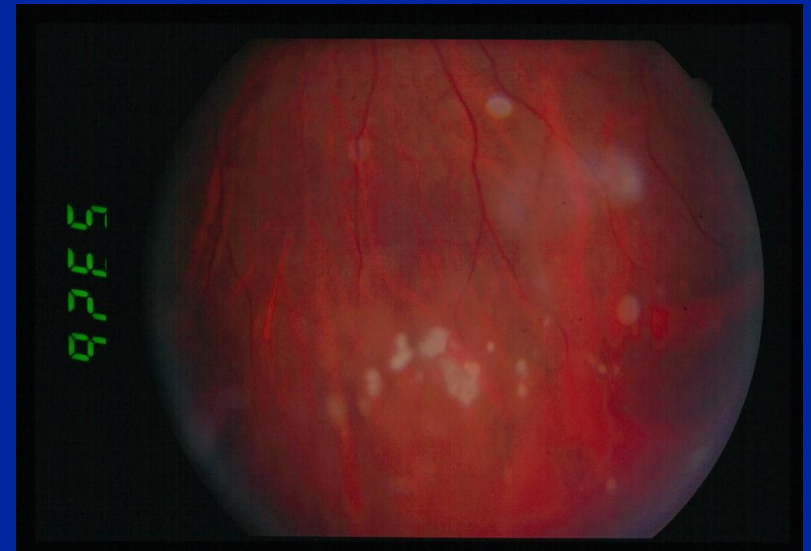
- Sérodiagnostic : IFI, ELISA

Ne pas attendre les IgM et savoir répéter l'examen

Faux+: 20-60% des Σ , FTA-ABS : + 20% des Lyme

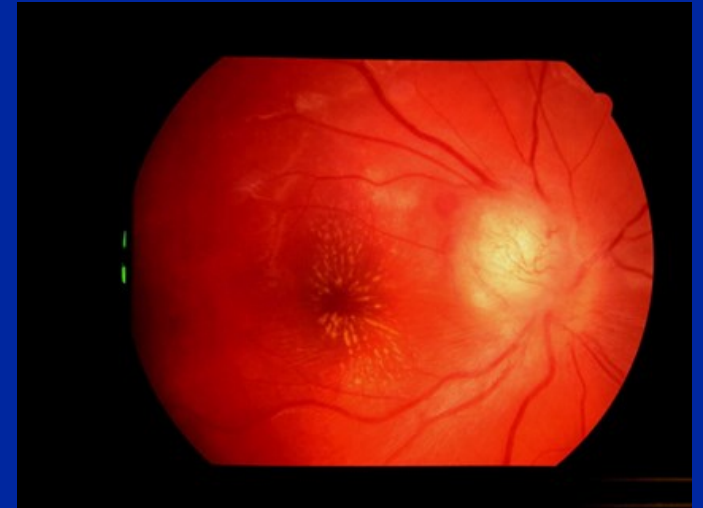
Recherche des Ac dans le LCR+Ag par Western blot, PCR difficile

- IRM cérébrale avec injection



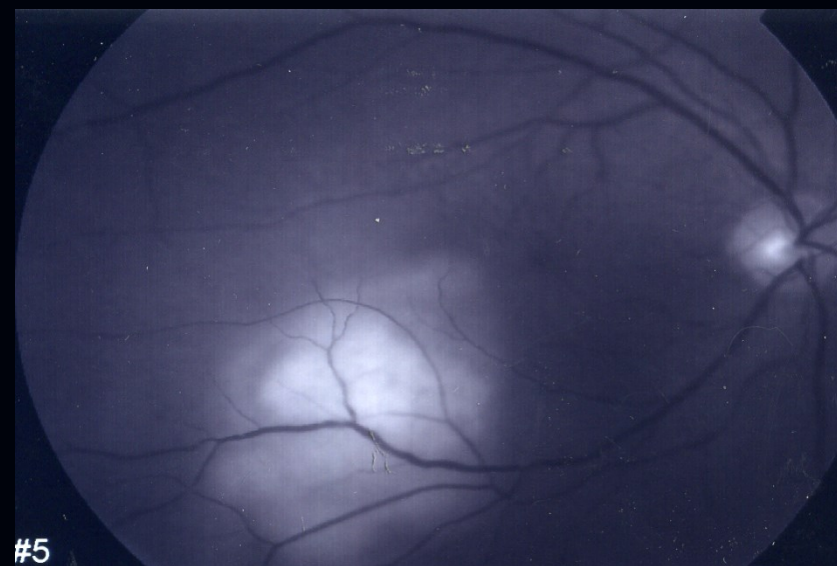
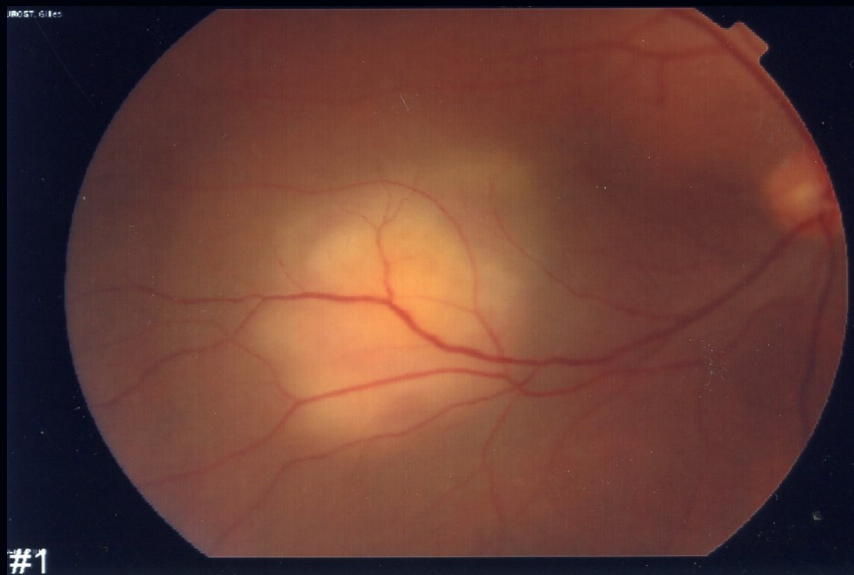
Maladie des griffes du chat

- **Prélèvement adénopathie :**
 - Culture
 - PCR
- **Sérologie : limites+++**
- **Présomption+++ :**
 - Neurorétinite
 - Contage : chat, griffures



Diagnostics différentiels : neurorétinite

- **Infectieuses :**
 - **Toxocarose**
 - **toxoplasmose**
 - **Rickettsioses**
 - **leptospiroses**
 - **Syphilis**
 - **Lyme**
 - **BK**
- **Autres : HTA, Diabète, BBS, OBVR,**
- **Si bilatéral : HTIC++++**

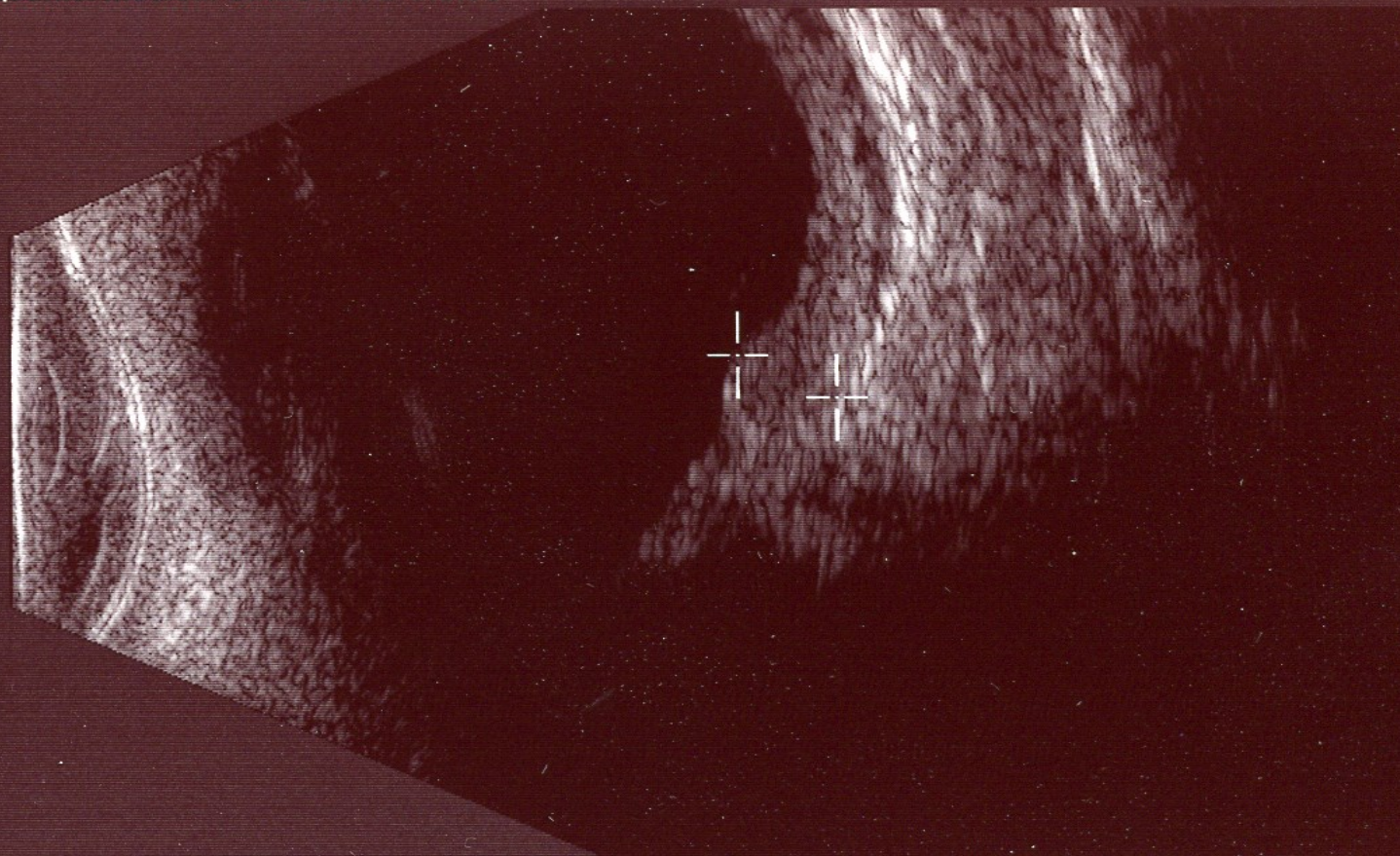


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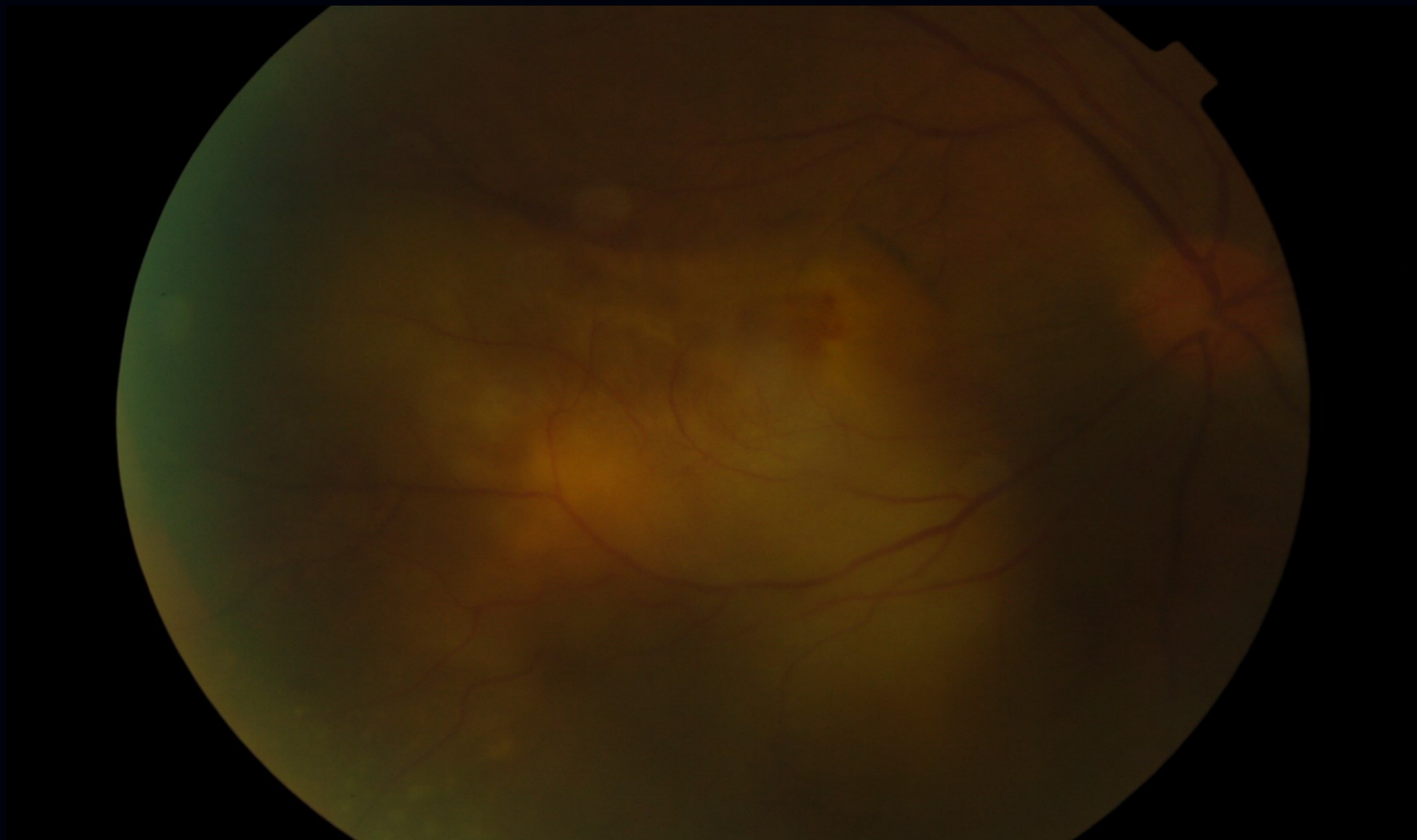
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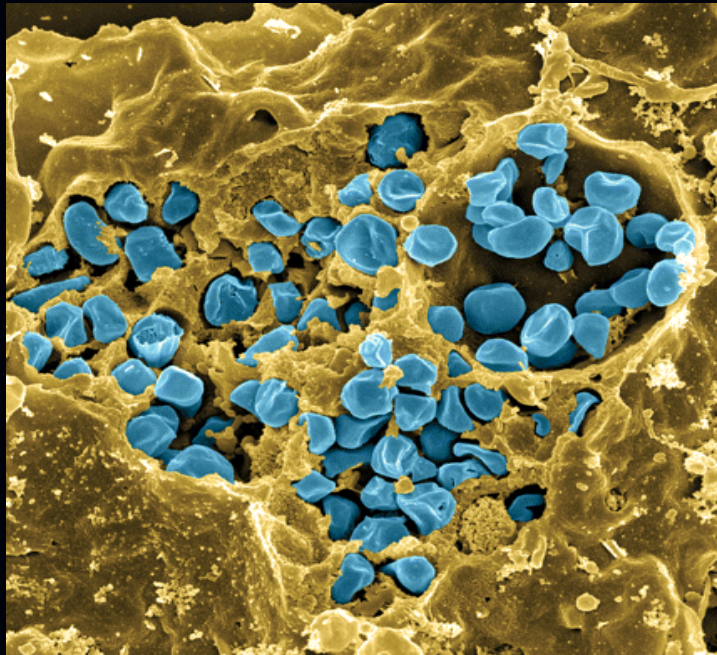
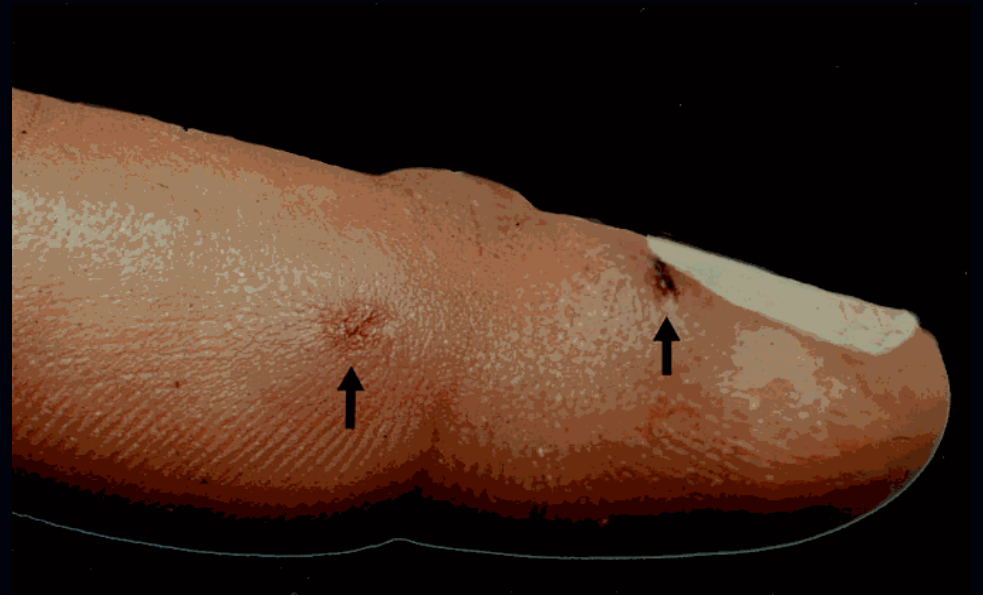
Off

Quantel Medical CineScan S V:5.06



Fev/25/2008 10 MHz





Francisella tularensis

Angiographies / OCT

- Aspect typique ou orientation étiologique
- Bilan lésionnel du SP
- Evaluation : OMC, VR, DR, OP
- Apport de l'ICG : UP avec participation choroidienne (*Herbort et al. 1998*)

Imagerie Radiologique

- Importance de la Rx thoracique
 - tuberculose
 - sarcoïdose
- Rx des sinus et pano dentaire : rech de foyers infectieux avant Ct
- TDM et IRM cérébrale :
thrombophlébite, granulome, SEP, lyme et LOCP
- Contribution : en moyenne 10% des cas

Imagerie radiologique : les pièges

- **Ne pas répéter un examen si conditions de réalisation imparfaites**
- **Importance des avis et centres spécialisés**
- **Intérêt limité de la TDM thoracique si Rx thoracique nle**





Ponctions et Biopsies Extra-oculaires

- Gls salivaires, glande lacrymale, bronches (LBA), peau, $\gamma\gamma$, foie
- Orientées par l'imagerie
- Importance de la PL : hémopathies, SEP, uvéo-méningites



photo PRB

Barry J. Marshall
Australia

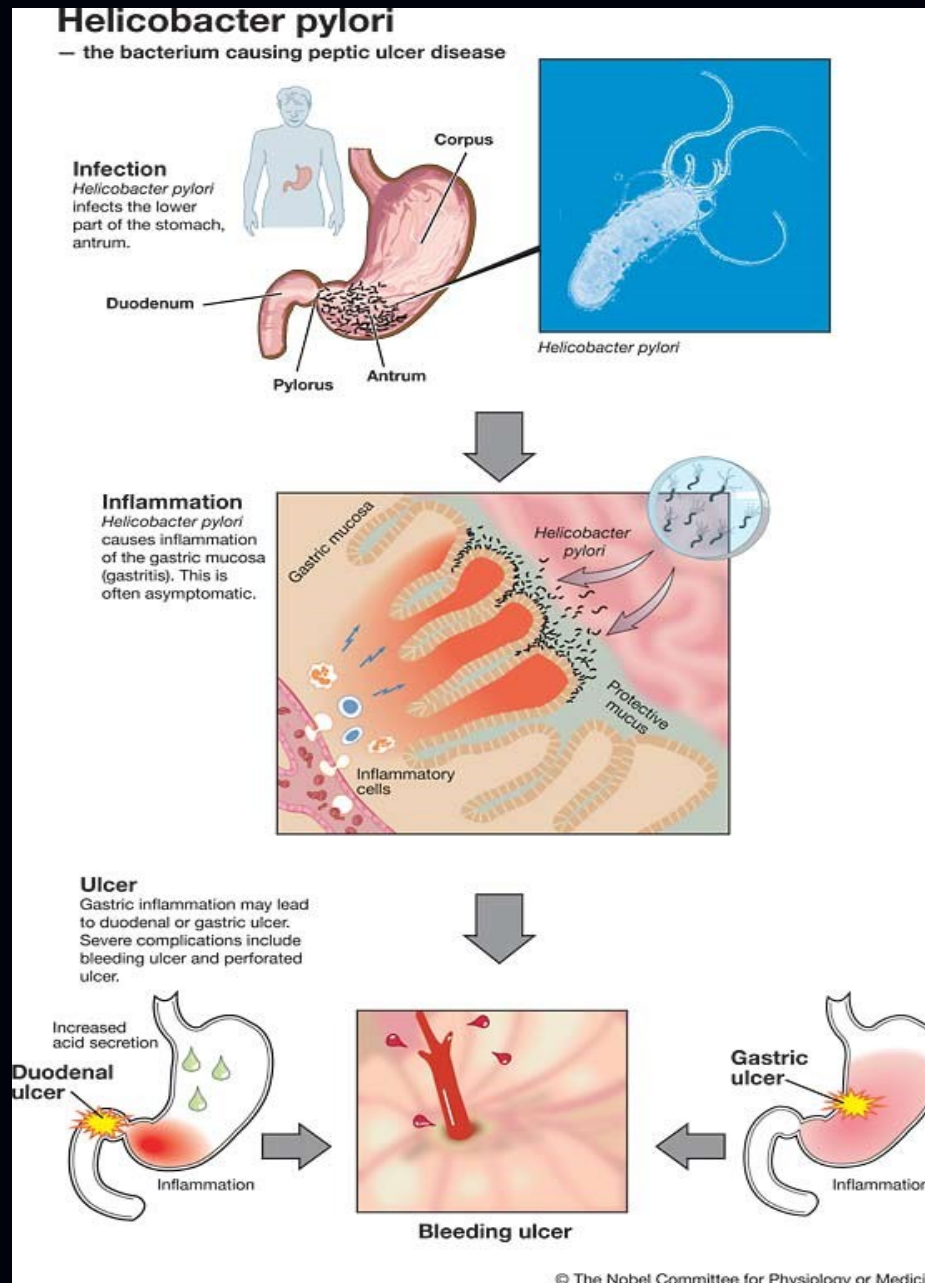


photo PRB

J. Robin Warren
Australia

Nouveautés diagnostiques

- Etre tenace !
- Privilégier les prélèvements oculaires (HA+++)
- Choisir le laboratoire le plus performant
- Techniques d'analyse moléculaire (PCR+++)
- Parasito, viro et bactériologie
- Ex de l'uvéite de Whipple
- VR rétiniennes tuberculeuses (*Gupta et al. 2001, Retina*)
- Uvéites bactériennes confirmées

PCA

- Prudence+/- En cas de doute diag
- Coeff Charge Immunitaire
 $\frac{\text{IgG sp HA/IgG totales HA}}{\text{IgG sp sériques/IgG totales sériques}}$
- + si > 3
- Toxo : respectez les 2-3 sem d' évolution
- Rendement : + toxo / $\pm$ herpès

Analysis of ocular fluids

AC tap

Rare

- Keratitis (long exposition)
- Hyphema (hypotony, Fuchs)
- Iris injury
- Cataract
- Endophthalmitis ~ 0%



Vitrectomy

Common

- Retinal detachment
- Cataract
- Endophthalmitis



PCR

- Amélioration de la se et de la sp de la technique
- Rendement : vitré > HA
- Neutralisation des inhibiteurs
- Spécificité des amorces
- Analyse génotypique des souches
- Evolution constante des techniques

PCR

- • Conventional PCR
- • Real time PCR+++
- • Multiplex PCR
- • Nested-PCR

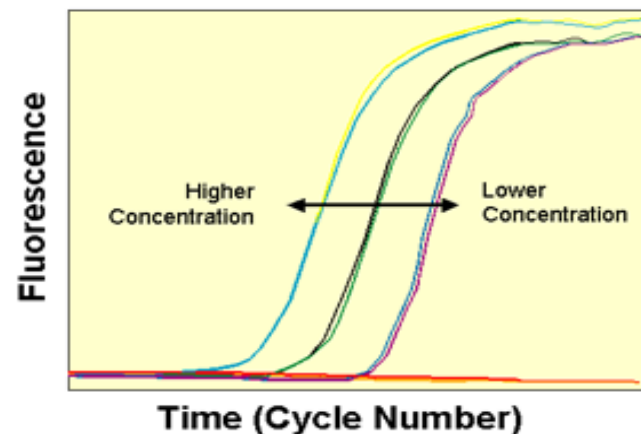
Rapidity

High sensitivity

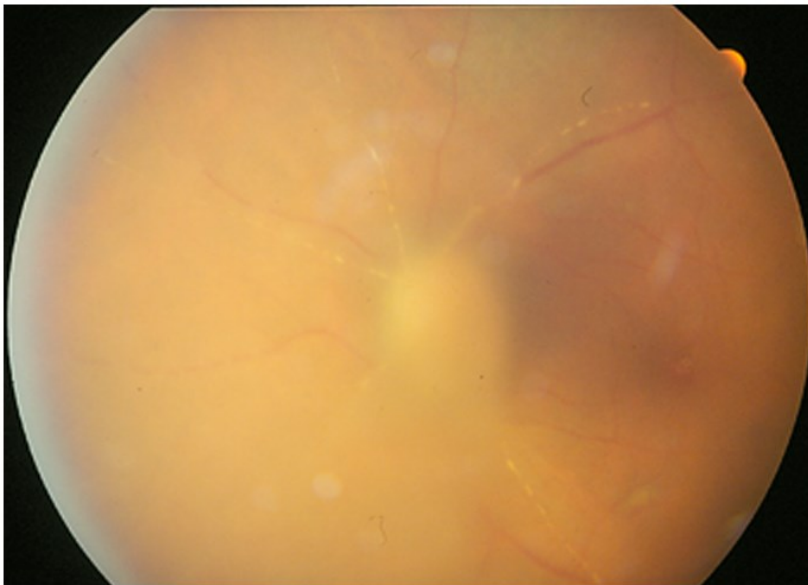
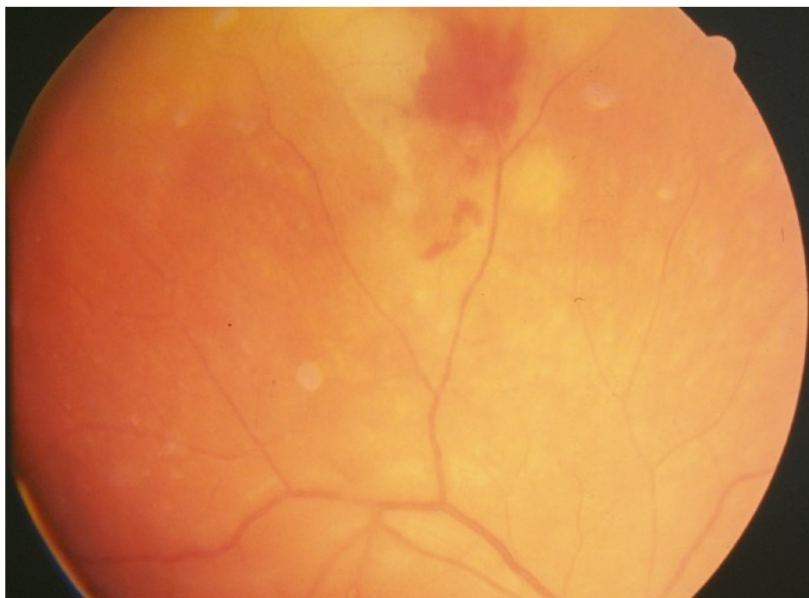
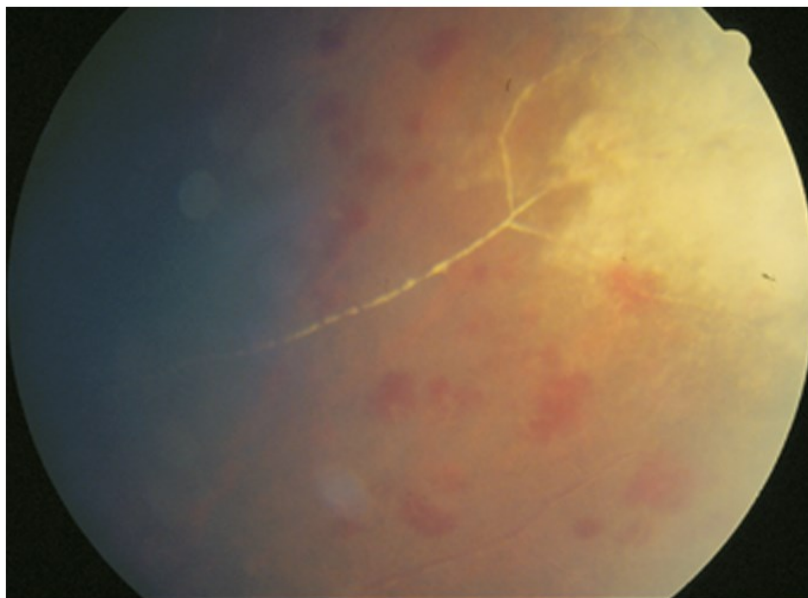
Quantification



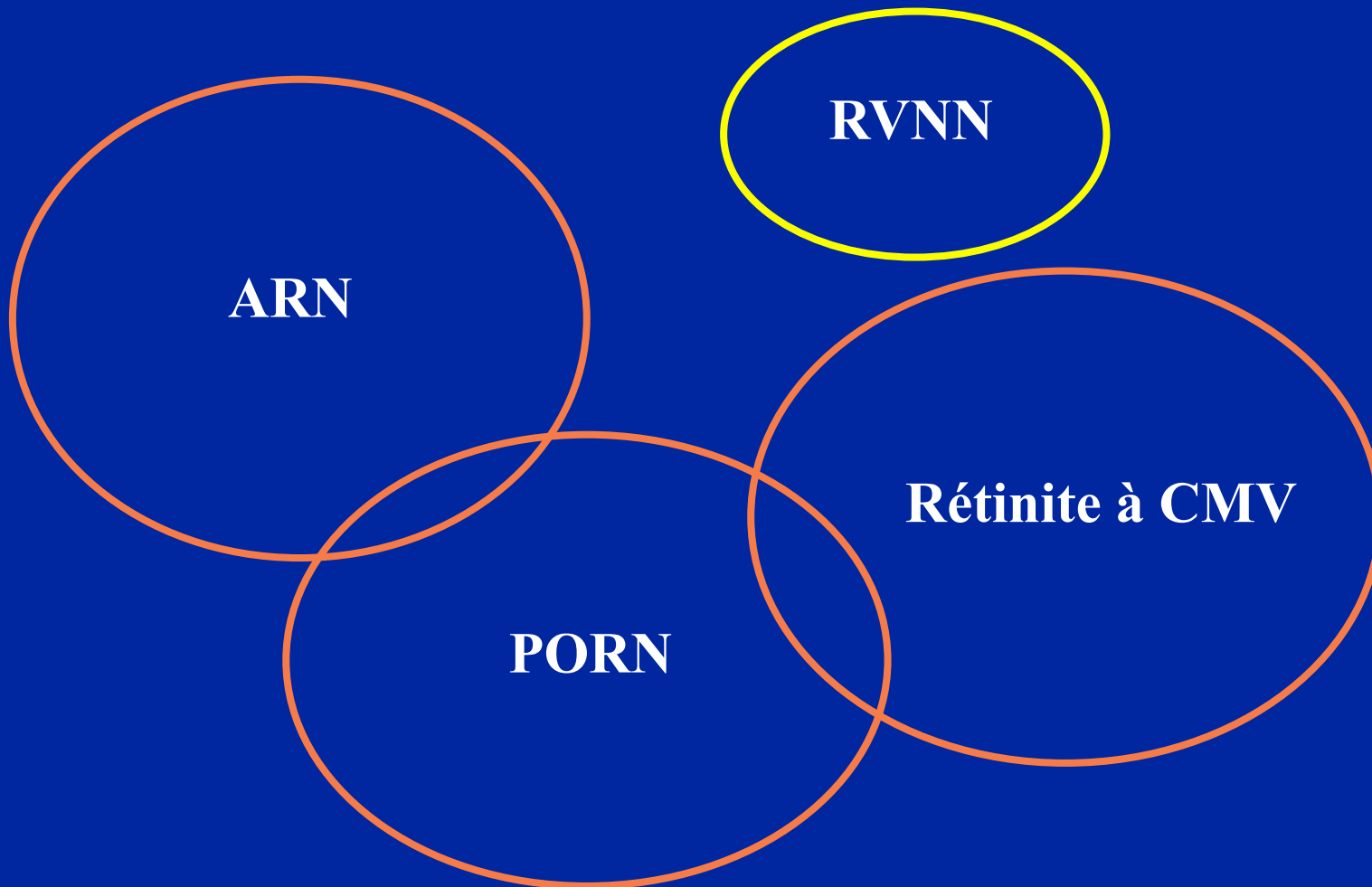
Real-Time Monitoring of PCR



ABI PRISM 7000



Rétinopathies virales



BRIEF REPORT

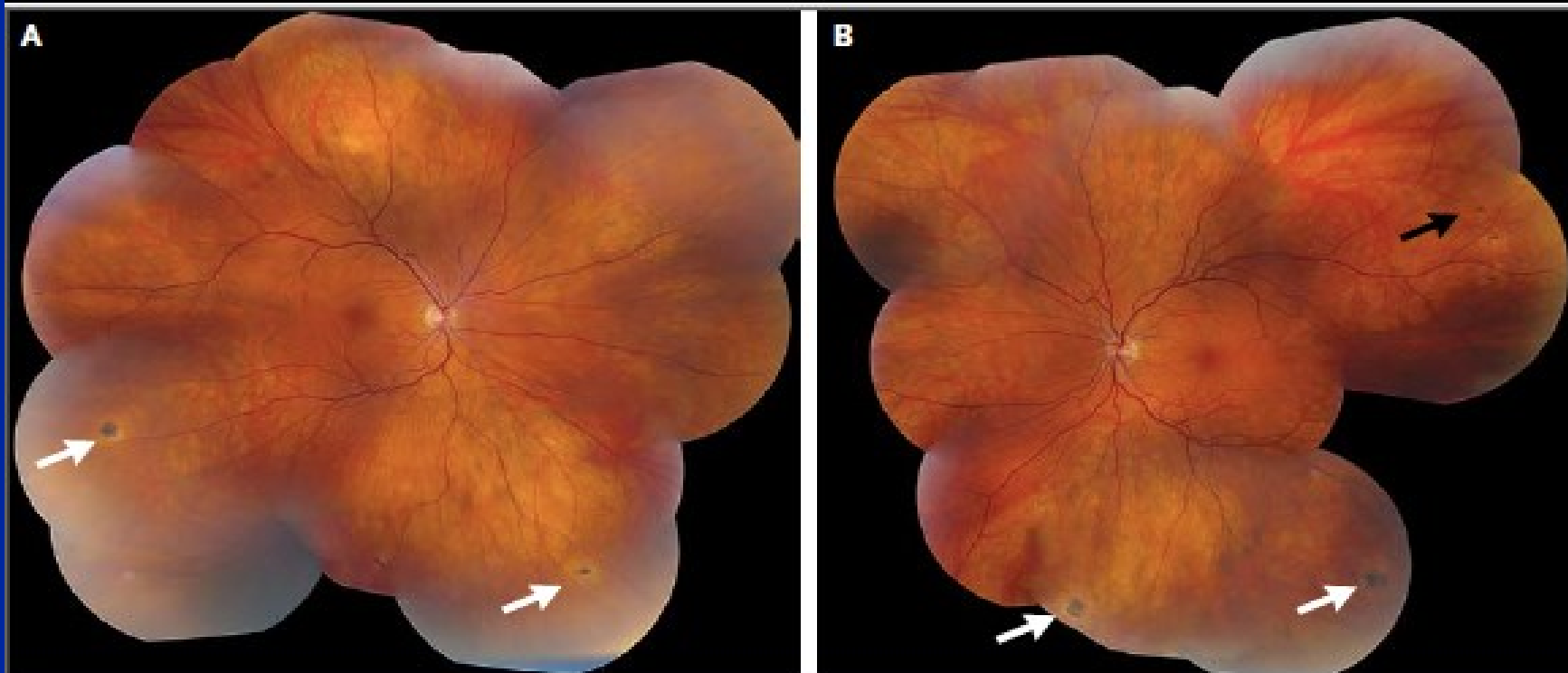
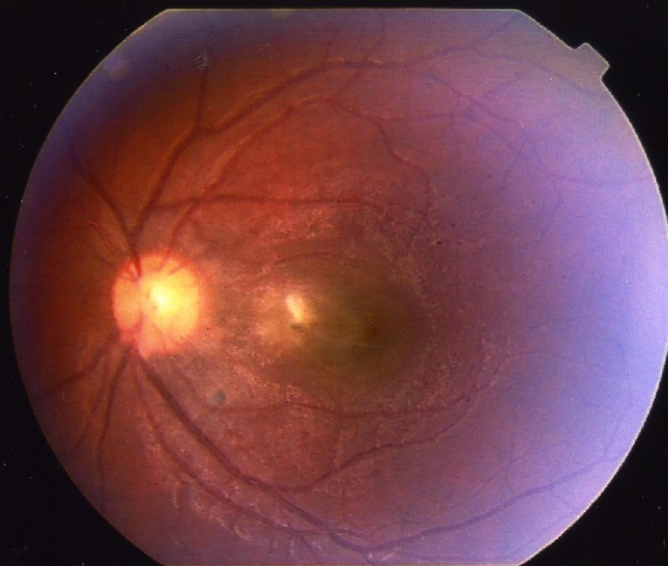


Figure 1. Montage Fundus Photographs 10 Weeks after the Onset of Ebola Virus Disease.

Multiple peripheral chorioretinal scars with hypopigmented haloes are visible in the right eye (Panel A) and left eye (Panel B) (white arrows). A small intraretinal hemorrhage (black arrow) is adjacent to a chorioretinal scar in the left eye.



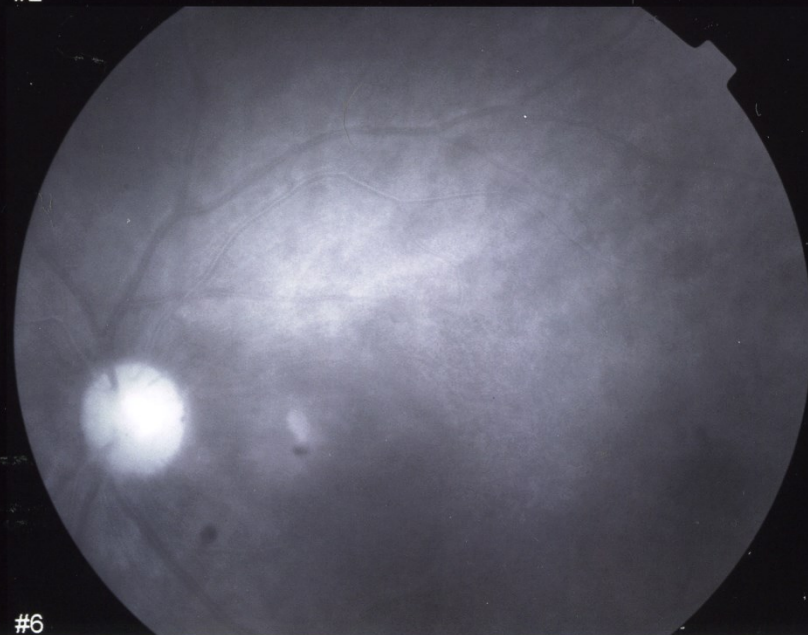
#5



#2



#4



#6



0:19.7



0:23.3



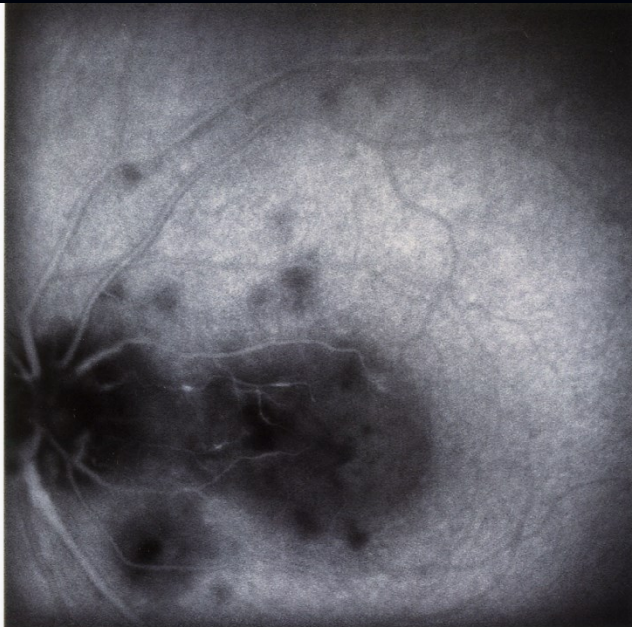
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4:33.3



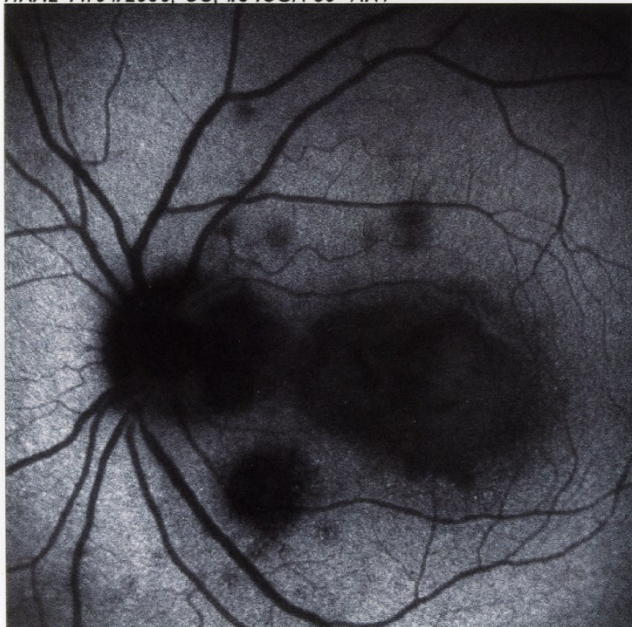
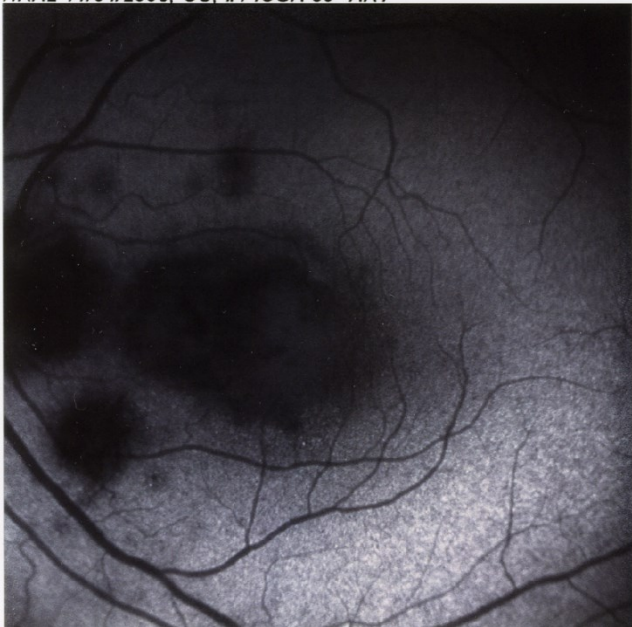
HRA2 11/04/2008, OS, #1 ICGA 30° ART

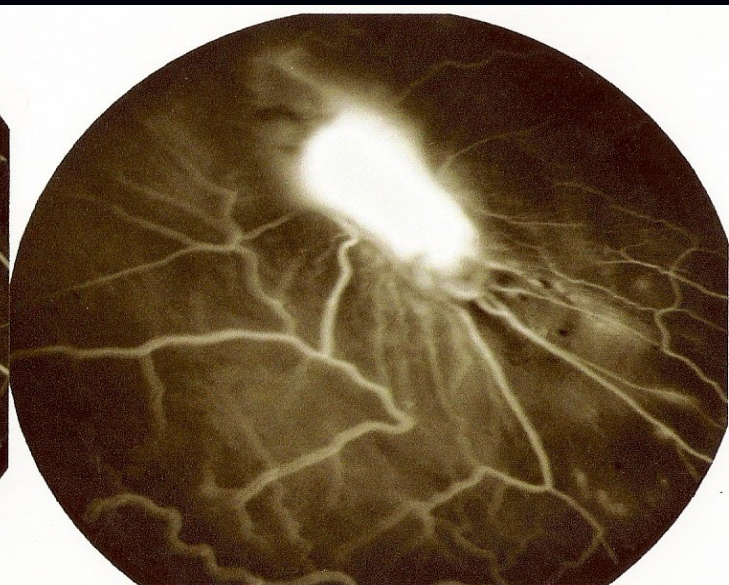
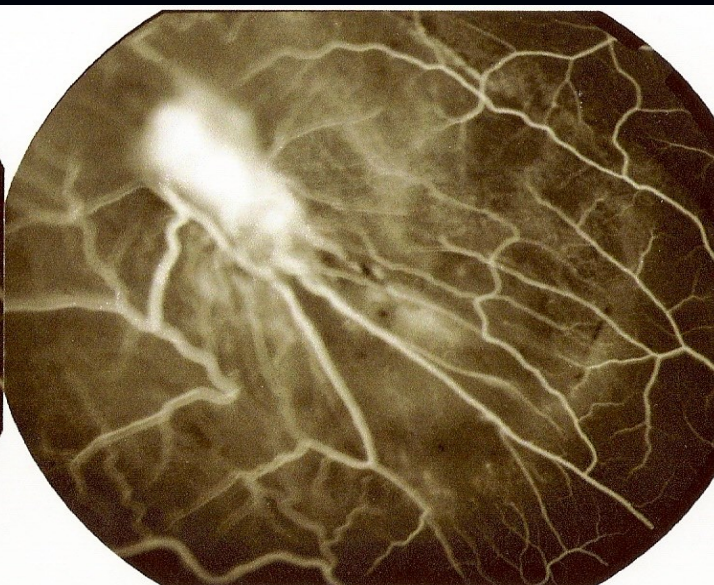
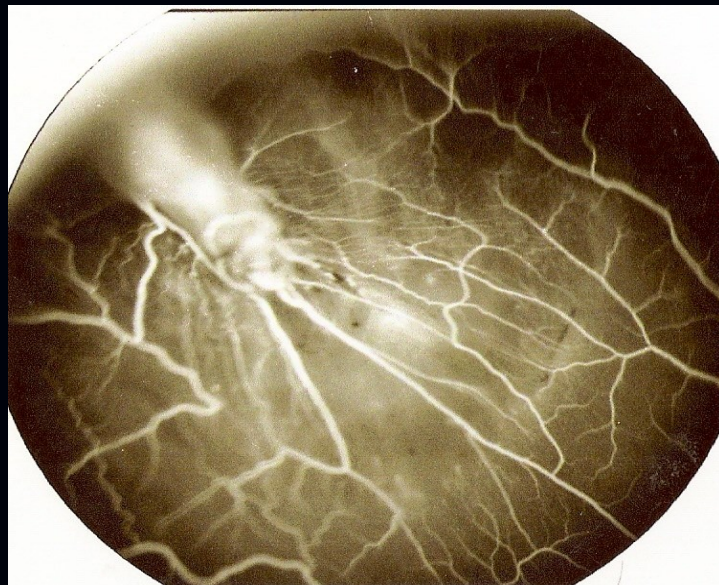
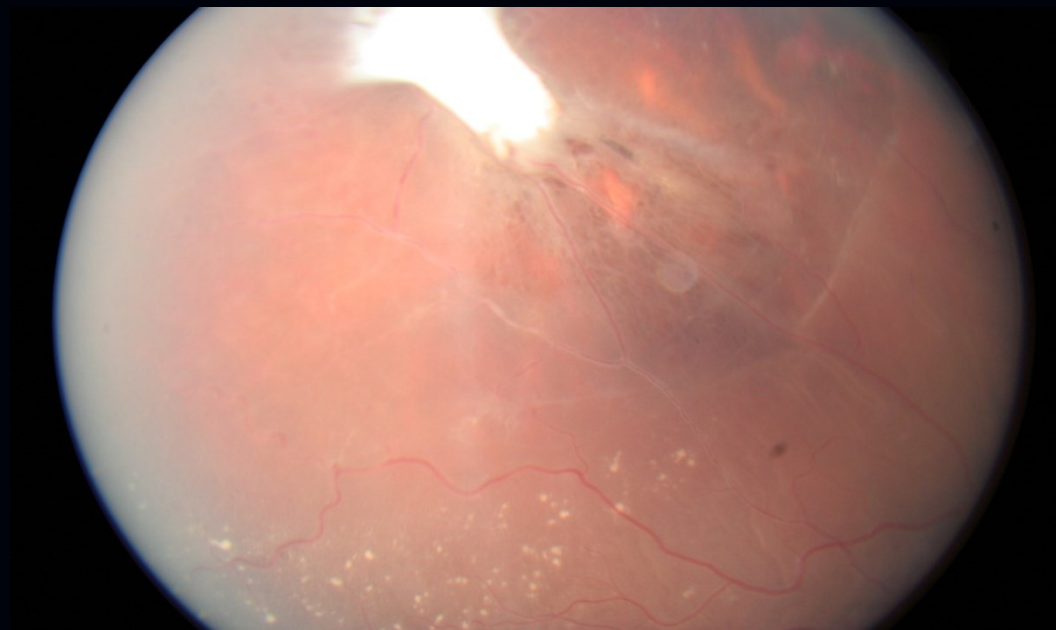


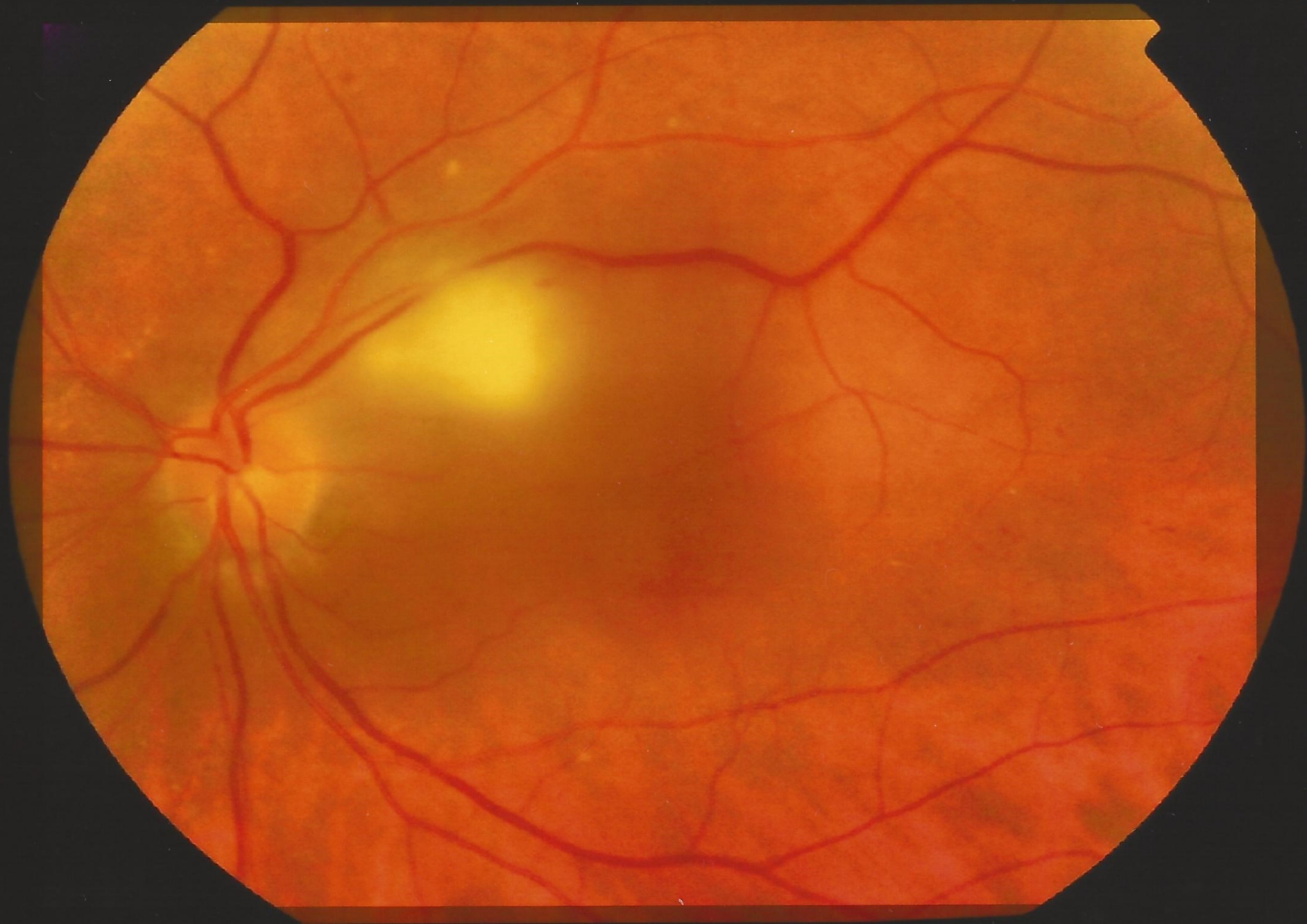
HRA2 11/04/2008, OS, #6 ICGA 30° ART



HRA2 11/04/2008, OS, #11 ICGA 30° ART







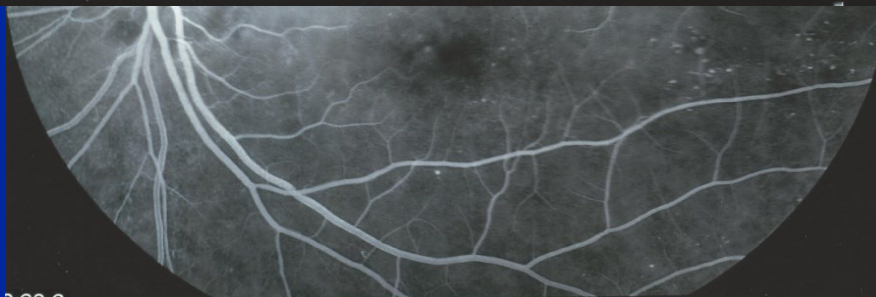
FLUO



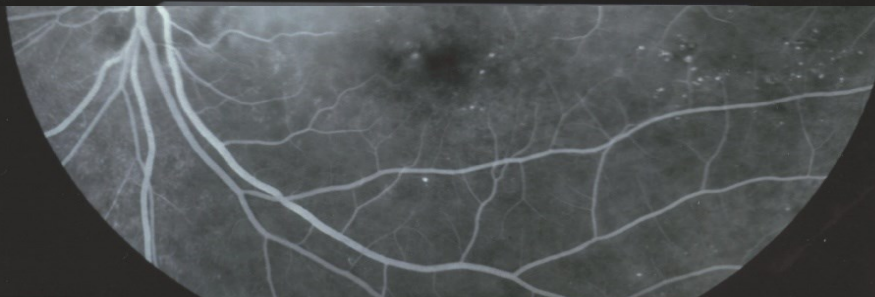
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6:45.0



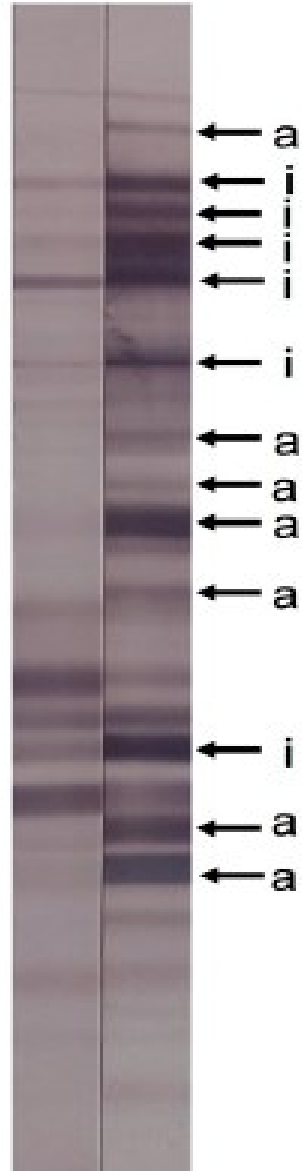
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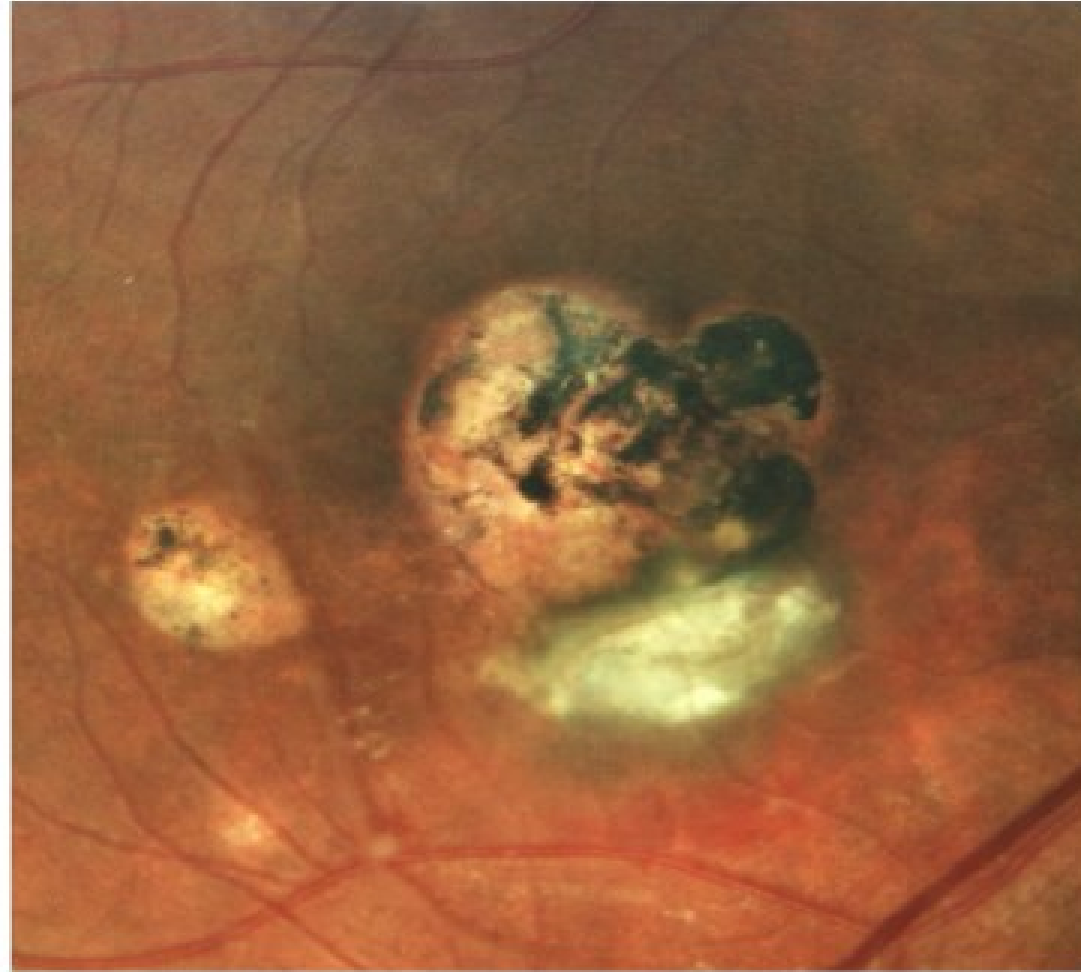
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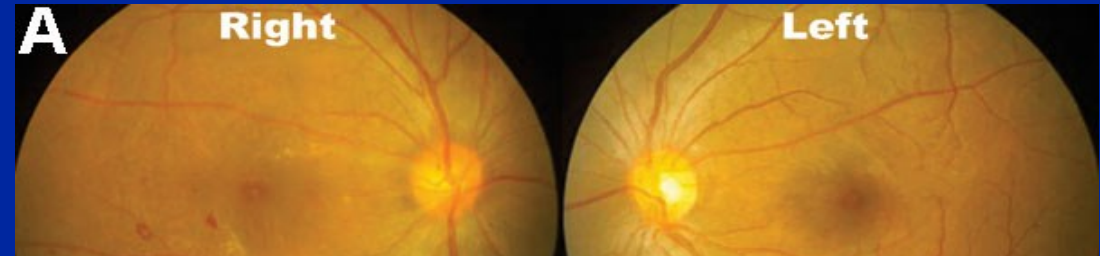
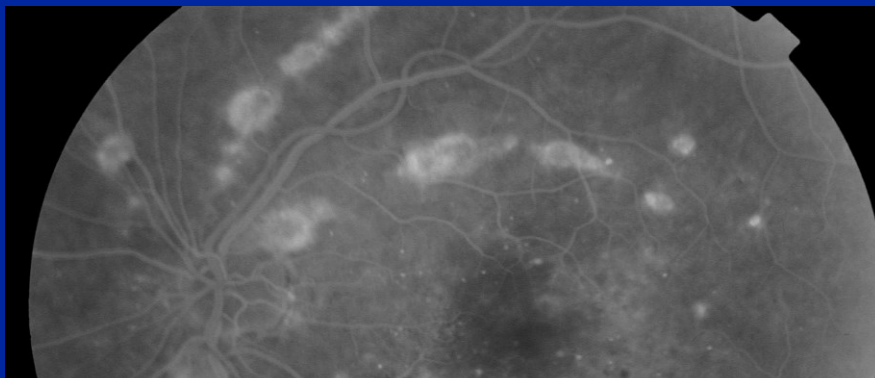
serum
aqueous humor

A



B





de Andrade *et al. Int J Retin Vitre* (2017) 3:4
DOI 10.1186/s40942-016-0057-4

International Journal
of Retina and Vitreous

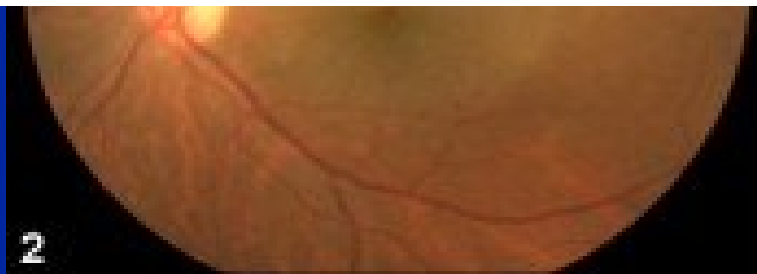
REVIEW

Open Access

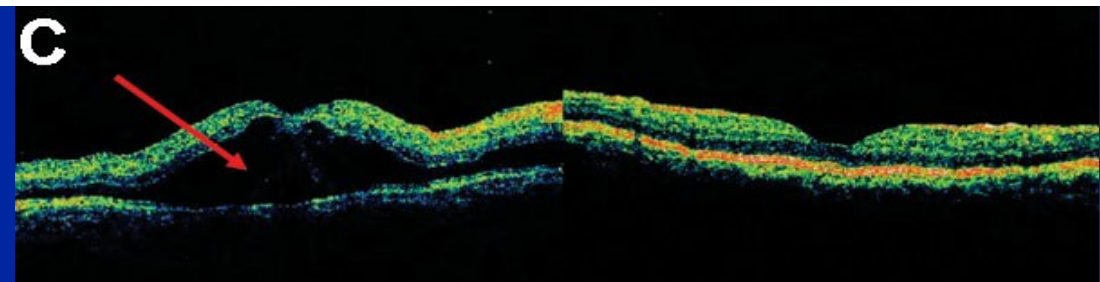


Arboviruses and the eye

Gabriel Costa de Andrade*, Camila V. Ventura, Paulo Augusto de Arruda Mello Filho, Maurício Maia, Silvana Vianello and Eduardo Büchele Rodrigues



Mahendradas et al.



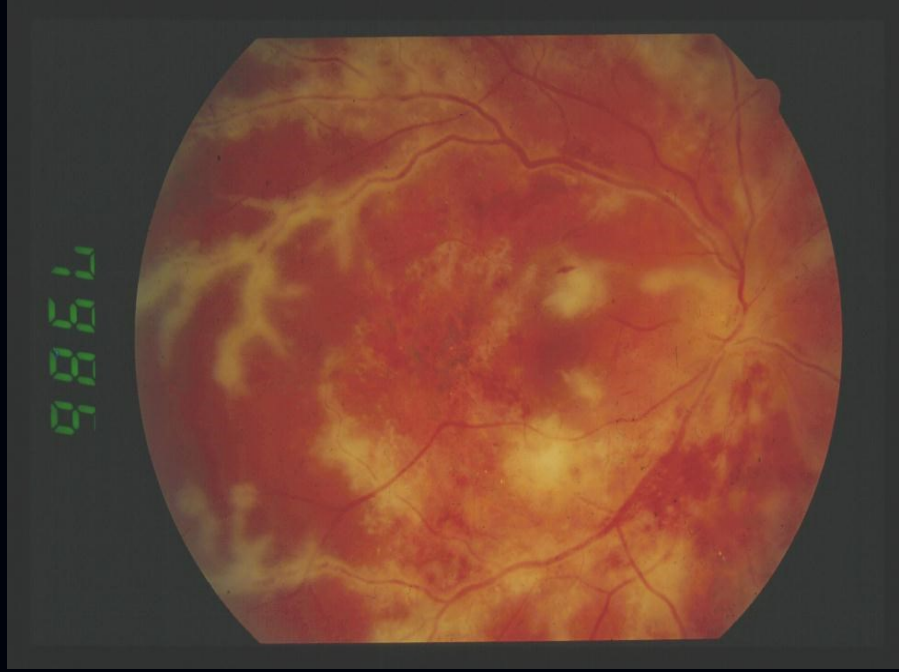
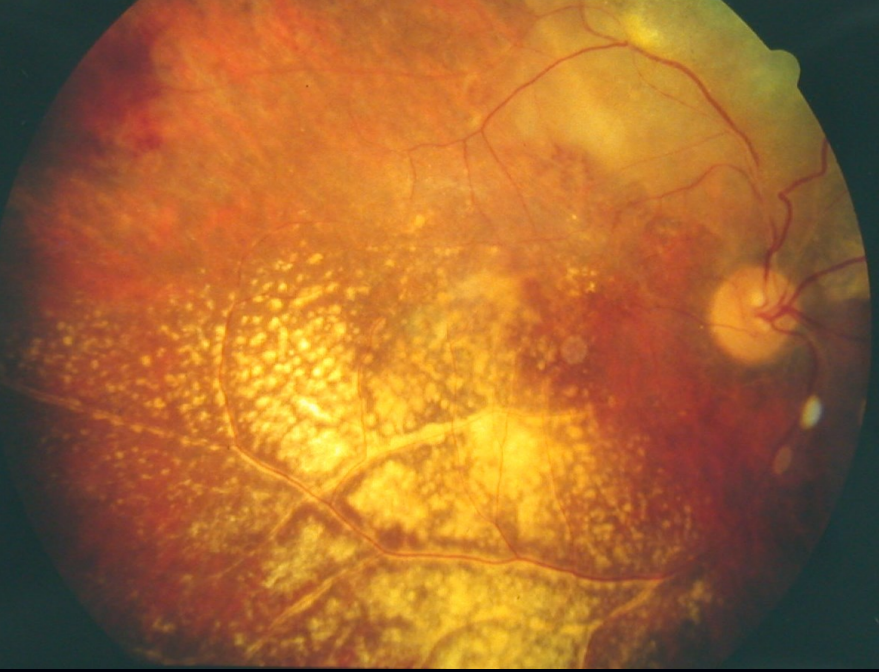
Chan et al.

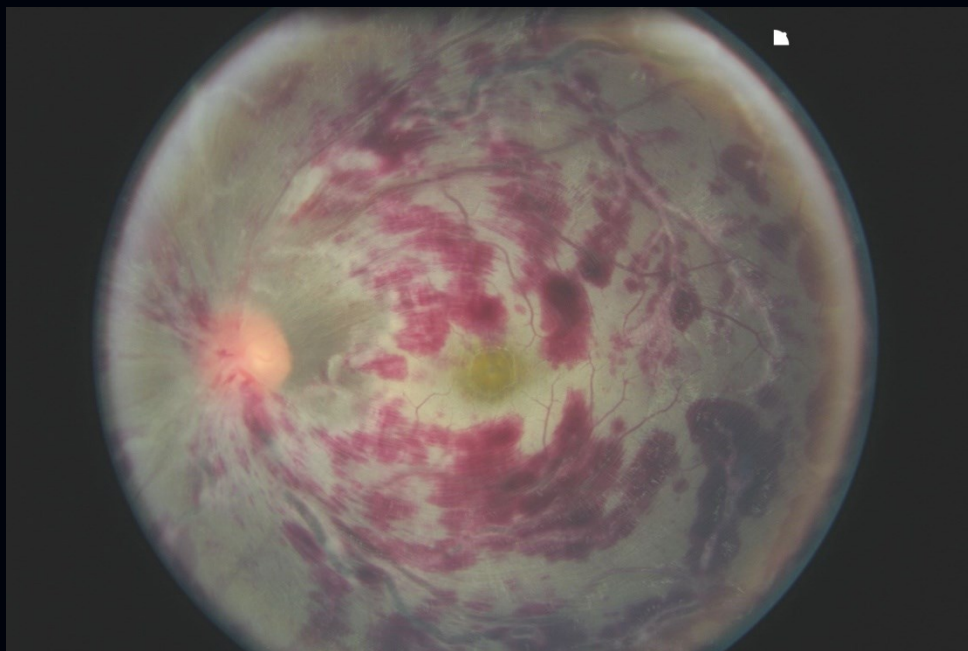
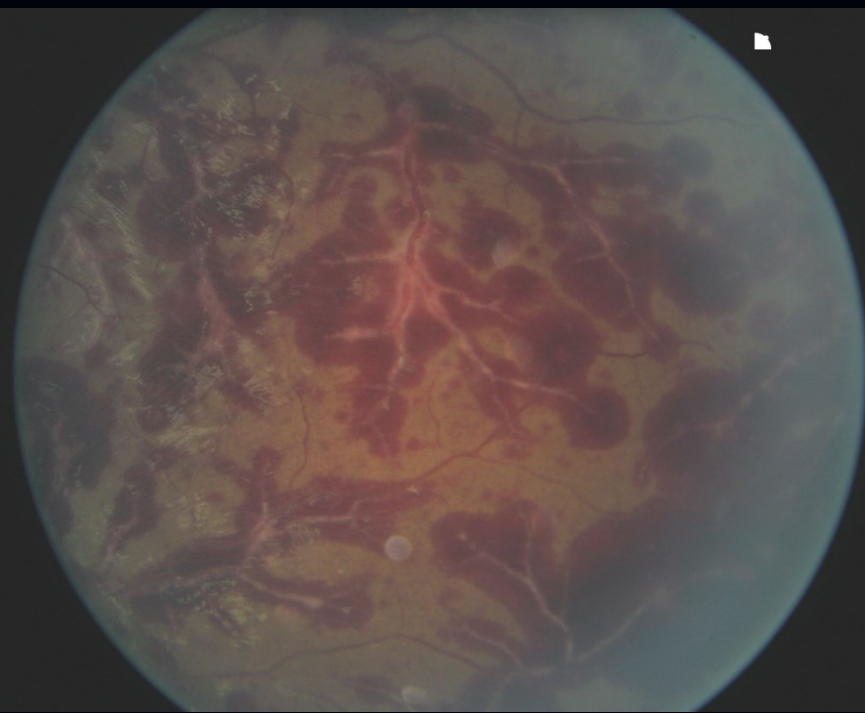
Vitrectomies diagnostiques

- Rentabilité satisfaisante
- “Ex de la dernière chance”
- Fenêtre thérapeutique
- Vitrectomie à 3 voies
- Prise en charge de l'échantillon
- Anapath, hémato, PCR, immuno

Apport de la Vitrectomie

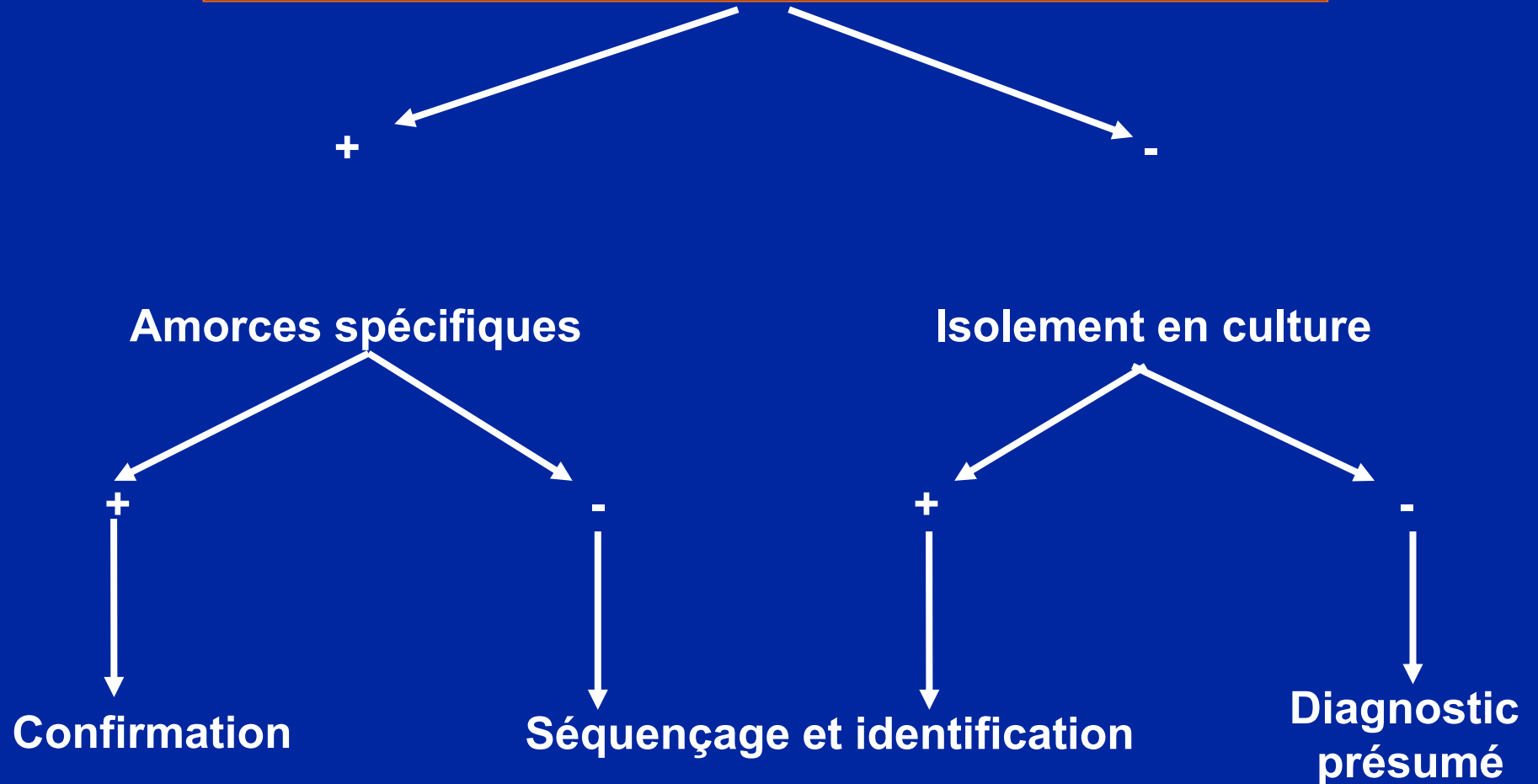
- LIOP
- Infections herpétiques
- Maladie de Whipple
- Tuberculose
- Candidoses
- Amylose

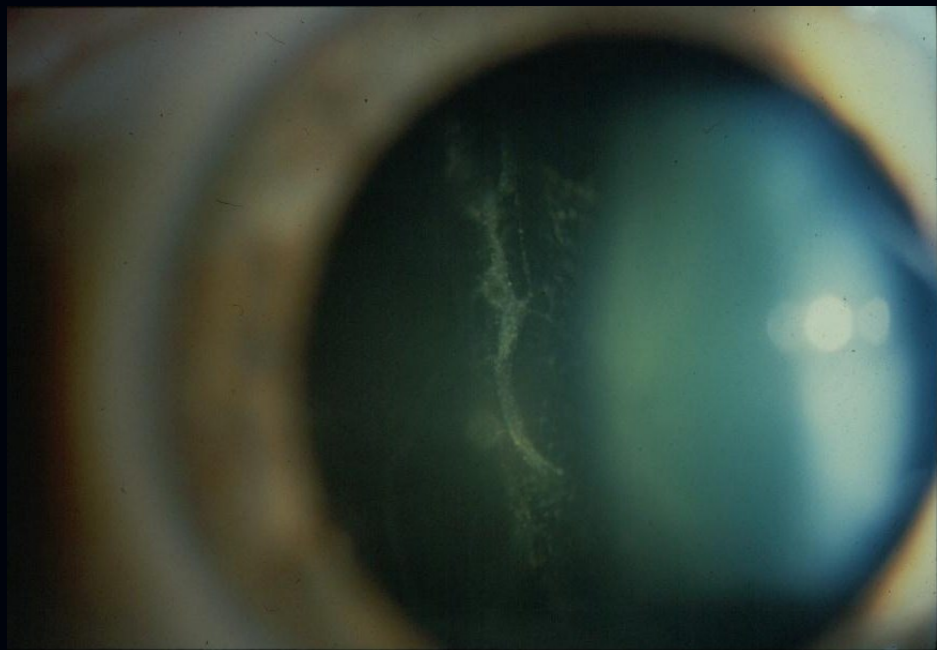


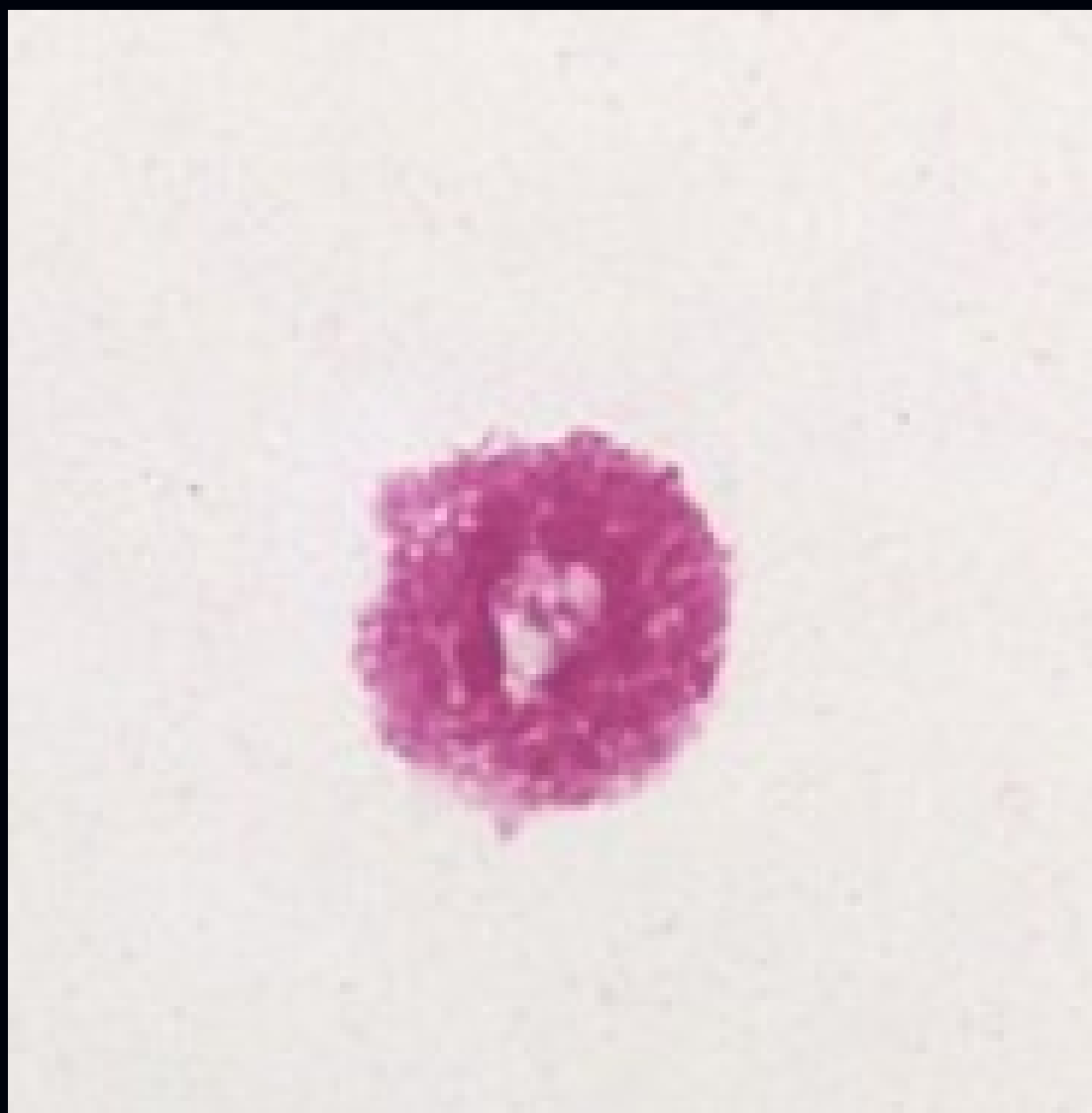


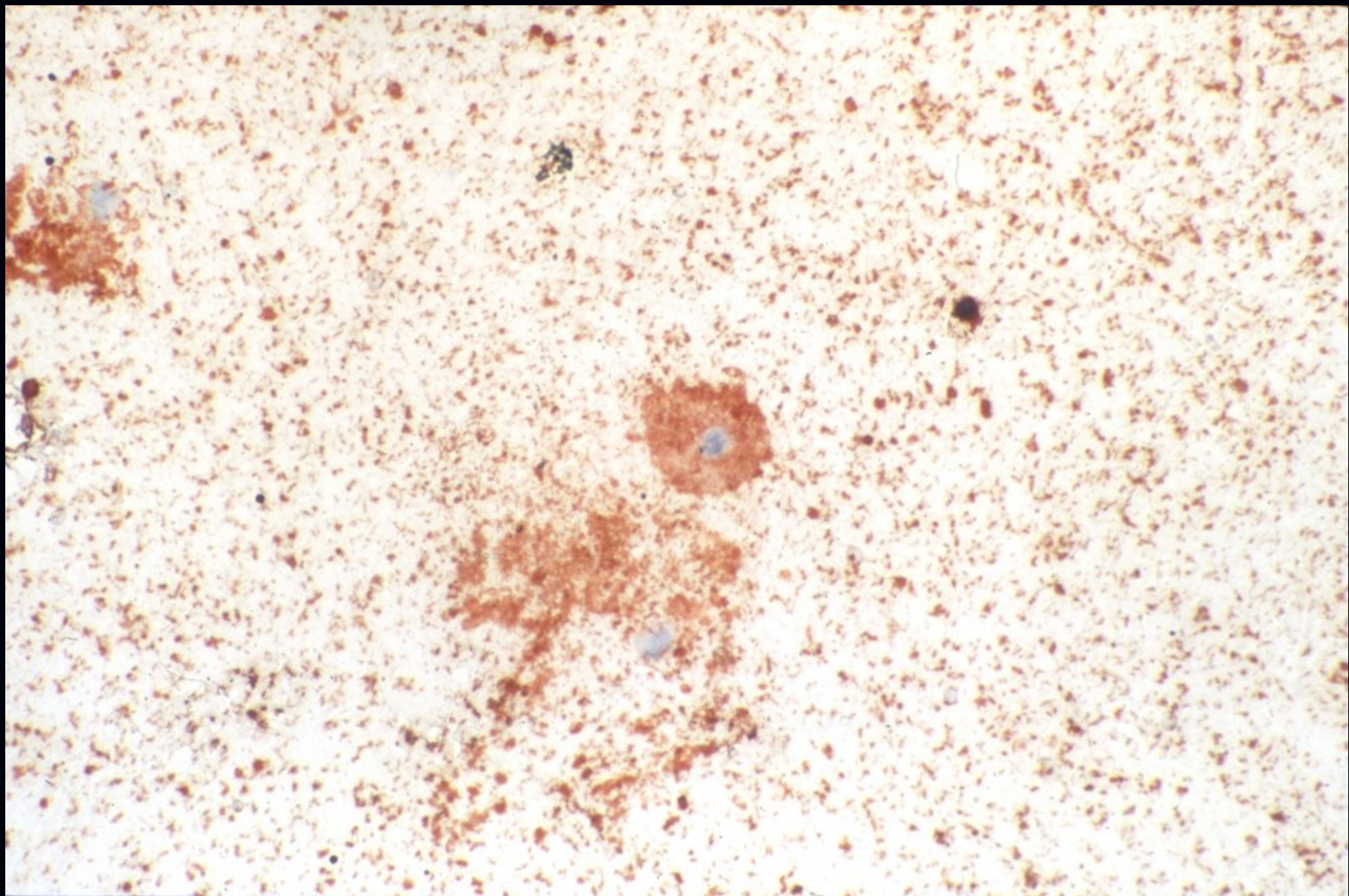
Diagnostic moléculaire

Premier set de PCR avec amorces universelles 16S

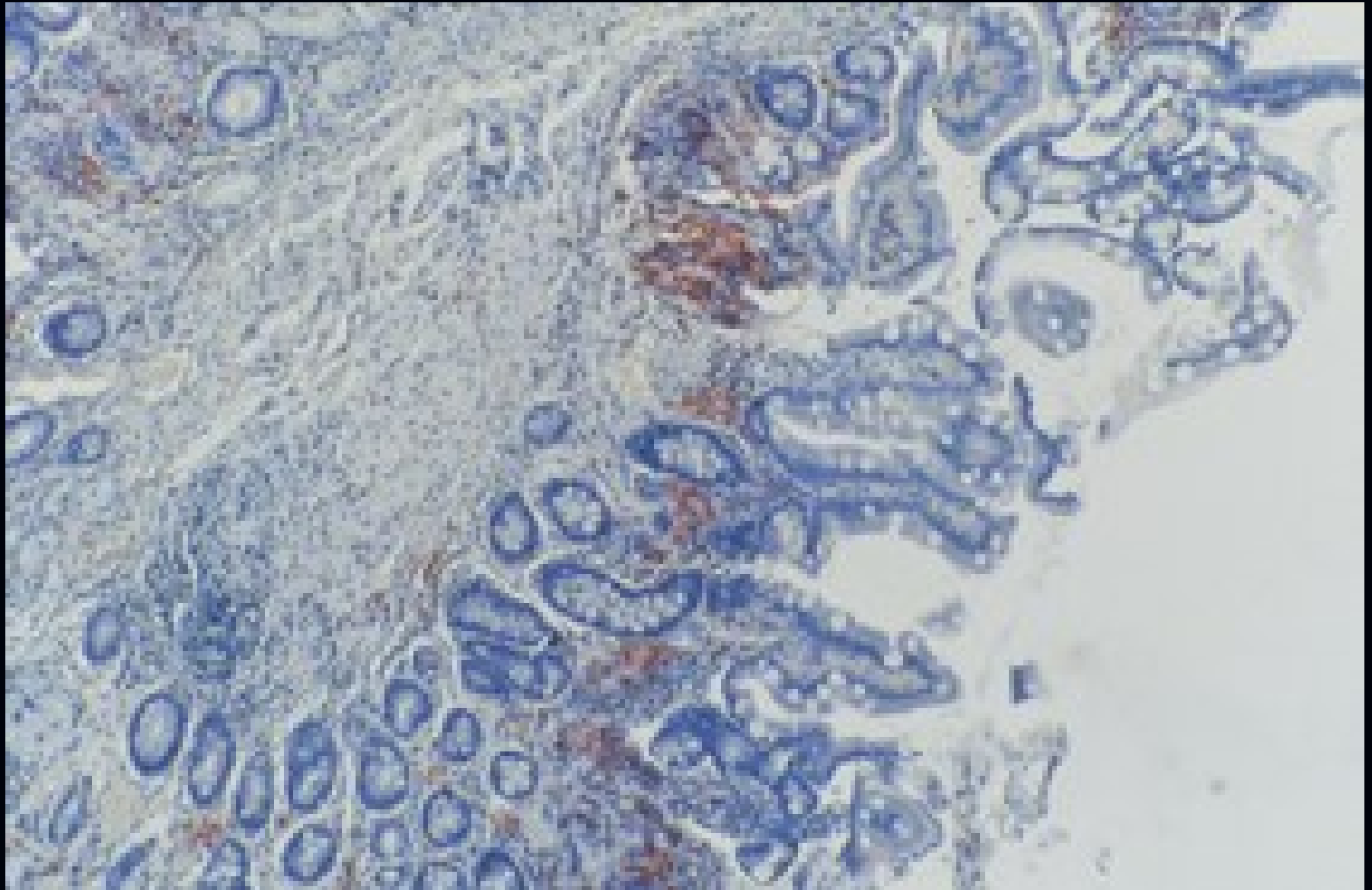












Drancourt et al. Ann Int Med, 2003

16/01/2006



Couleur (comp.

16/01/2006



Rouge

16/01/2006



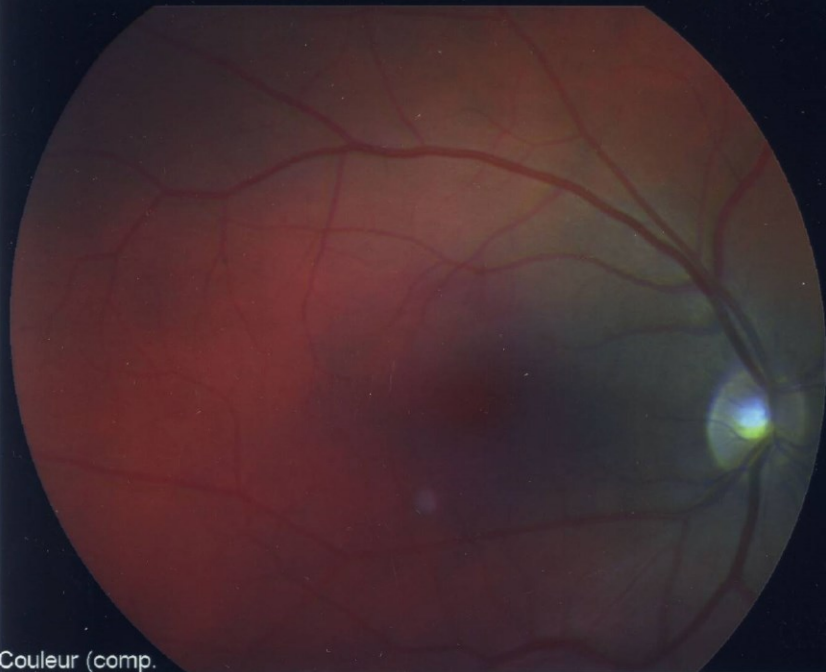
Vert

16/01/2006



Bleu

16/01/2006



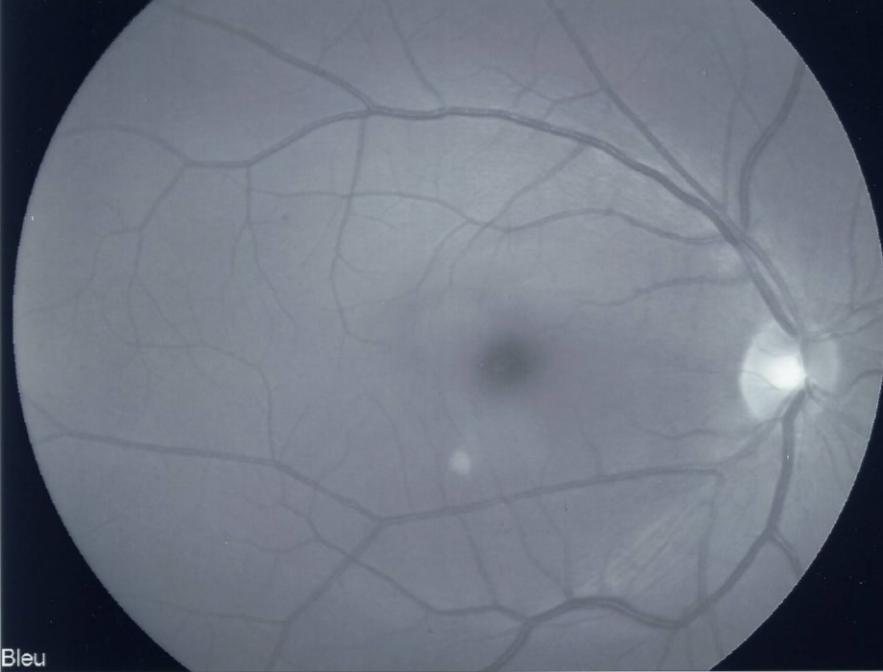
Couleur (comp.

16/01/2006



FLUO
00:00:42

16/01/2006



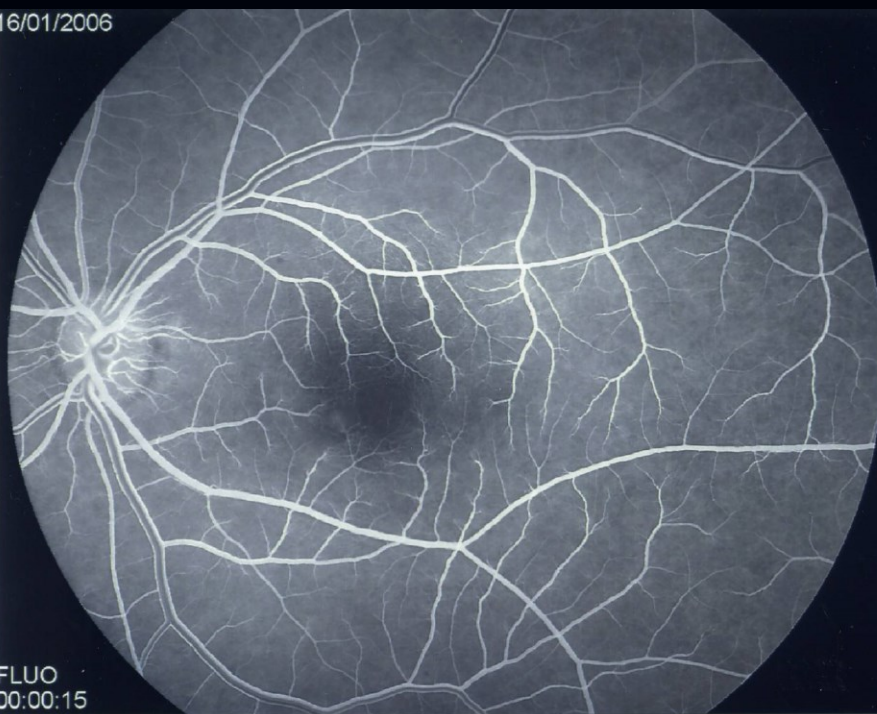
Bleu

16/01/2006



FLUO
00:04:36

16/01/2006



FLUO
00:00:15

16/01/2006



FLUO
00:01:18

16/01/2006



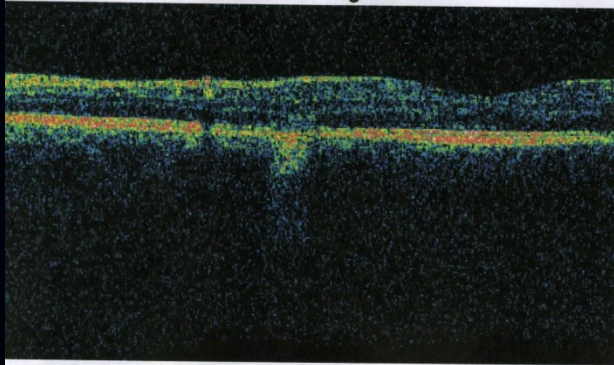
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16/01/2006

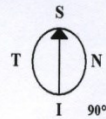
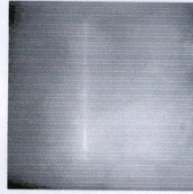


FLUO
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OCT Image



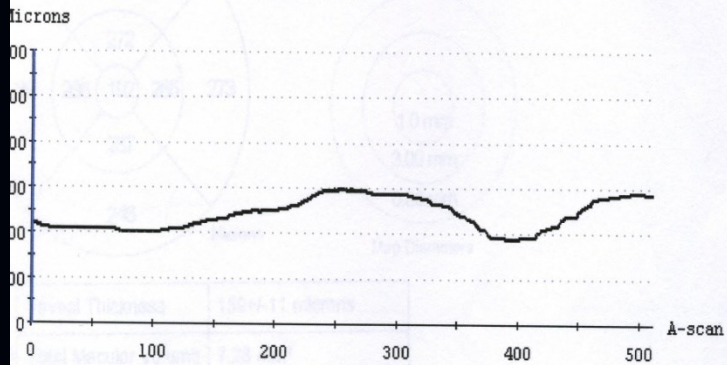
Fundus Image



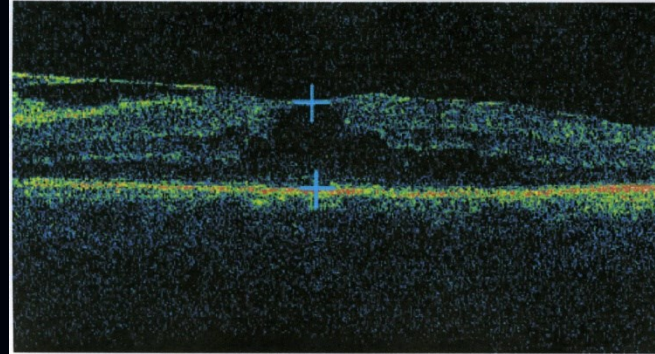
Signal Strength (Max 10)	4
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Retinal Thickness is	220	microns at A-scan	1
Caliper Length is	OFF		

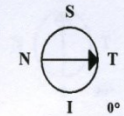
Thickness Chart



OCT Image



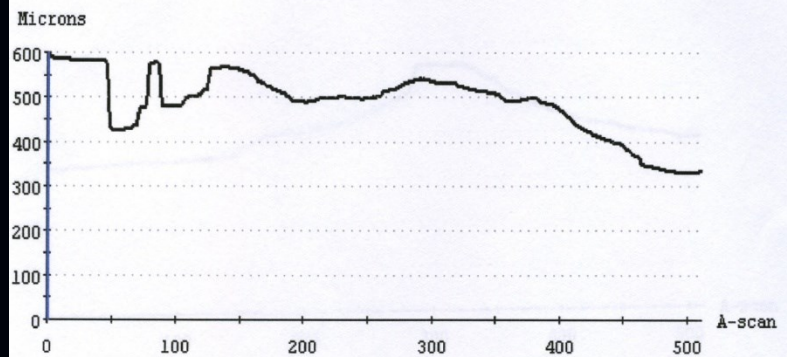
Fundus Image



Signal Strength (Max 10)	3
Analysis Confidence Low	

Retinal Thickness is	591	microns at A-scan	1
Caliper Length is	491 μ		

Thickness Chart



G=104.5dB

MARS/16/20 6

TGC=-30dB

PERSO.

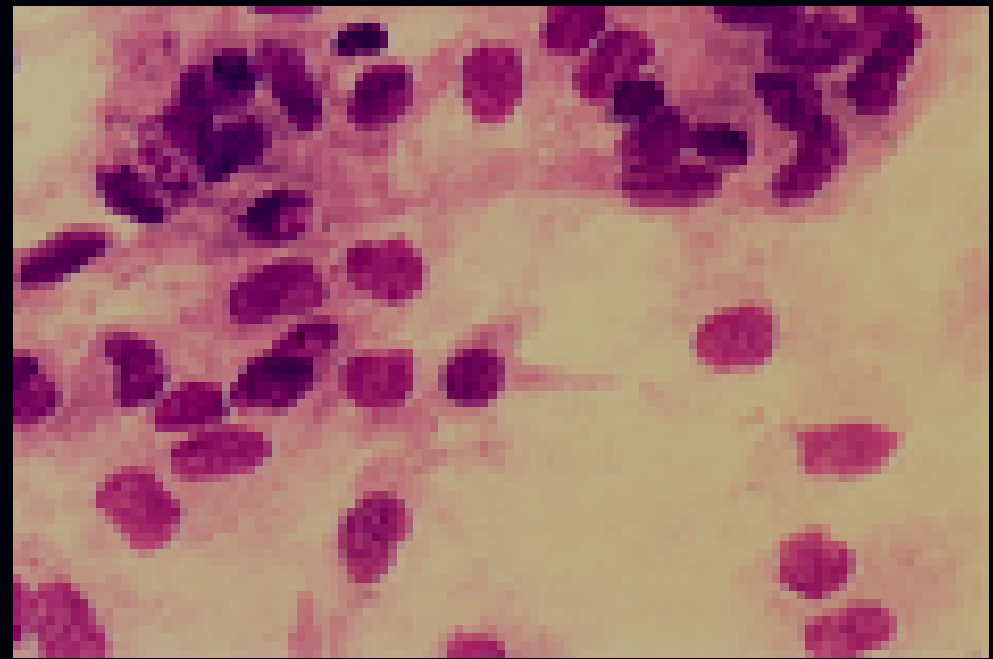
BVI

D=20.91mm

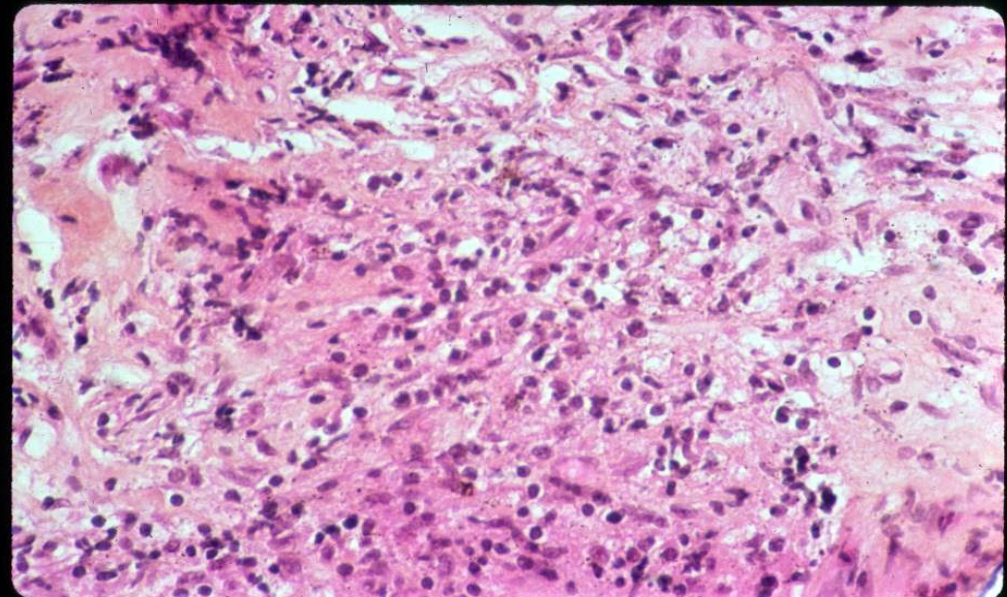
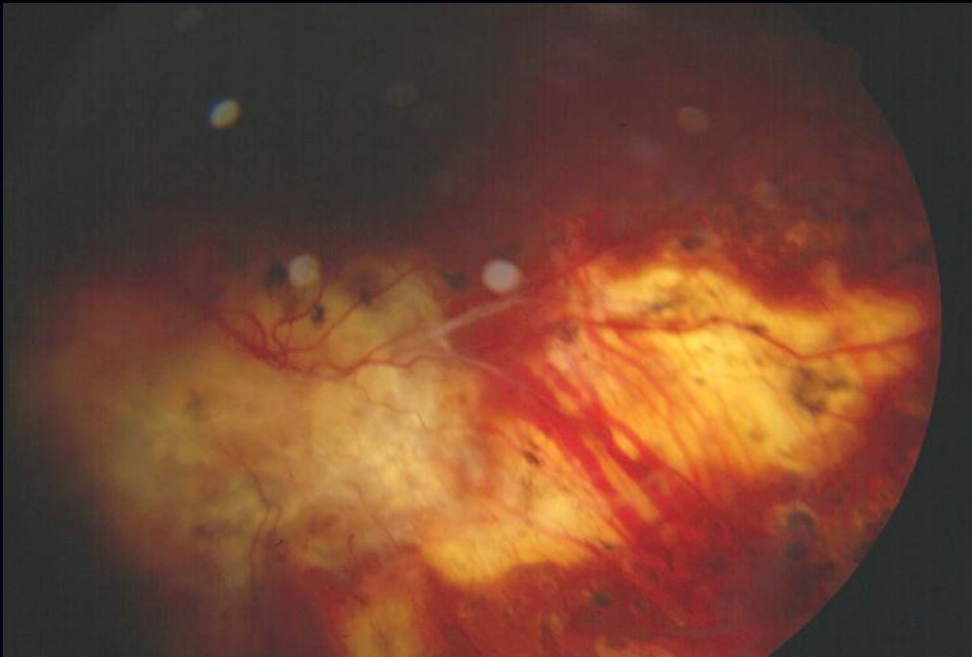


mm





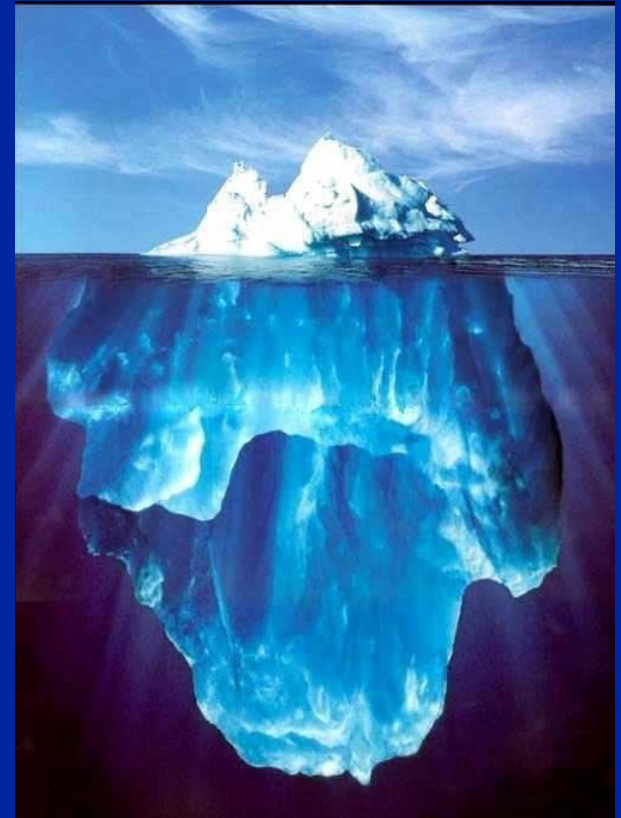
Ocular tuberculosis



Infectious agent	Diagnostic strategy
Toxoplasmosis	GWC > PCR
Toxocariasis	WB
HSV, CMV, VZV	PCR > GWC
EBV, HHV-8	PCR
Tuberculosis	PCR/PPD/Chestx-ray, IGRAs, Pathology
Whipple	PCR
Fungal	Culture/PCR

Conclusions

- **Importance du bilan minimal : dépistage des uvéites associées à une maladie de système**
- **Rôle incontestable des agents infectieux**
- **Apport incontestable mais encore imparfait des techniques d'analyse moléculaire**
- **Danger des nouvelles options thérapeutiques en l'absence d'un bilan étiologique complet**



DOGME

*Toujours compléter le bilan
étiologique d'une uvéite avant de
proposer une intensification
thérapeutique*