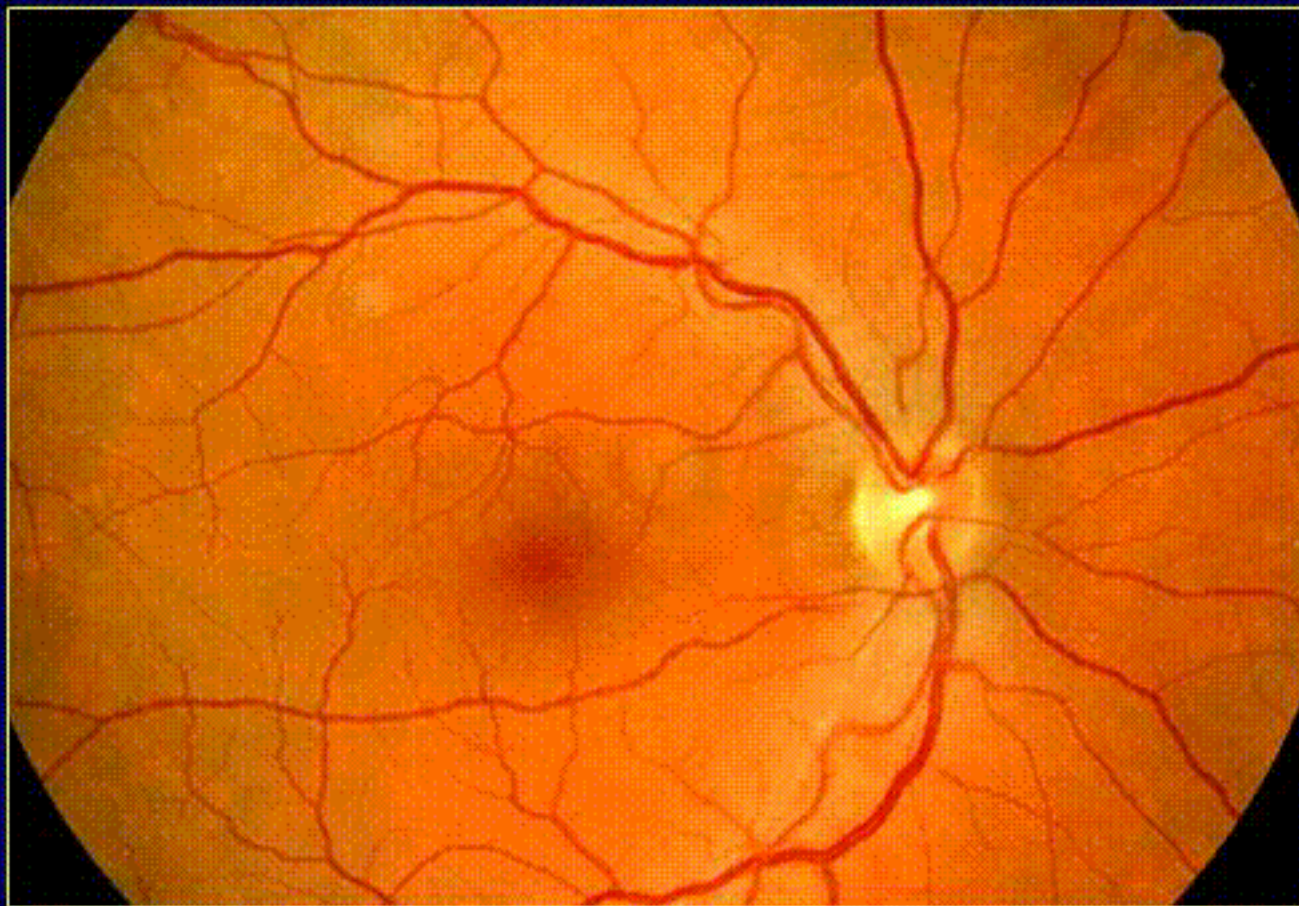


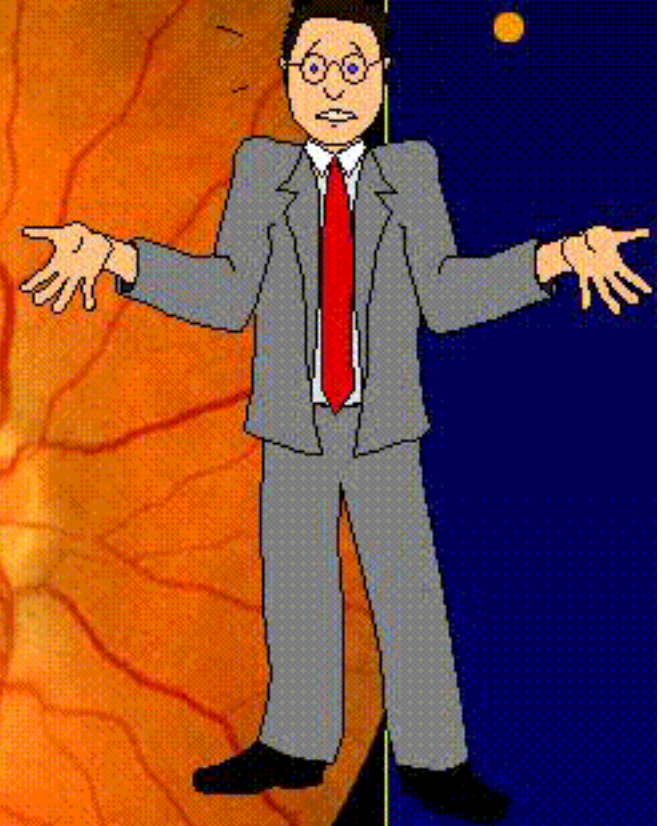
IL FONDO OCULARE

UNA FINESTRA SULL'APPARATO CIRCOLATORIO

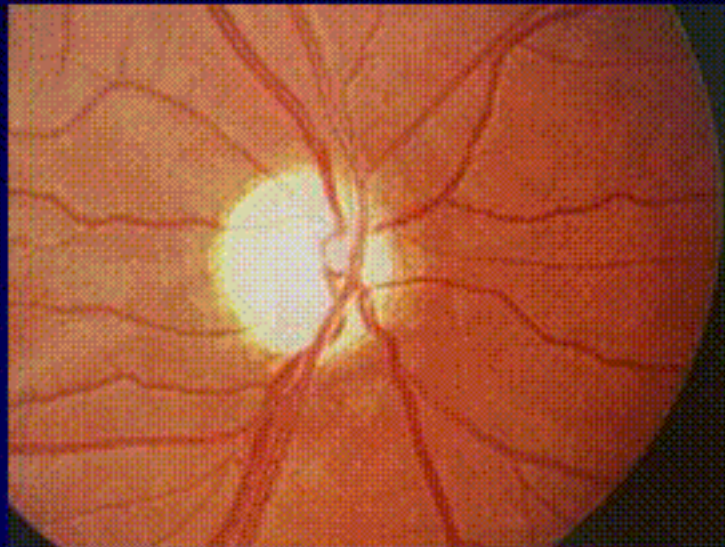


IL FONDO OCULARE

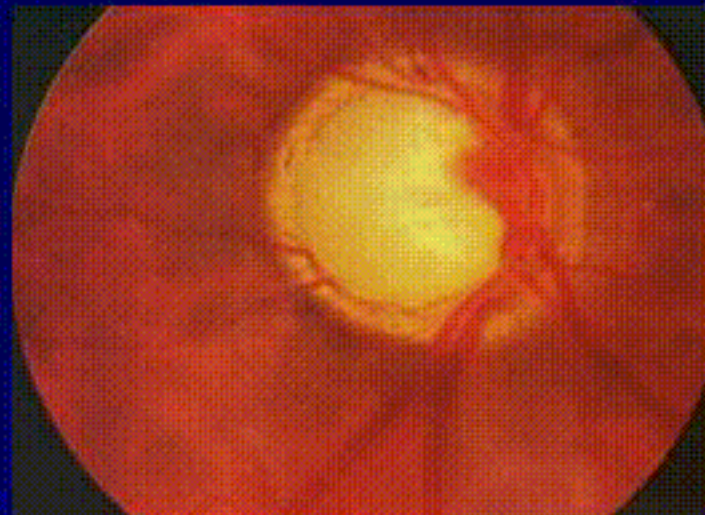
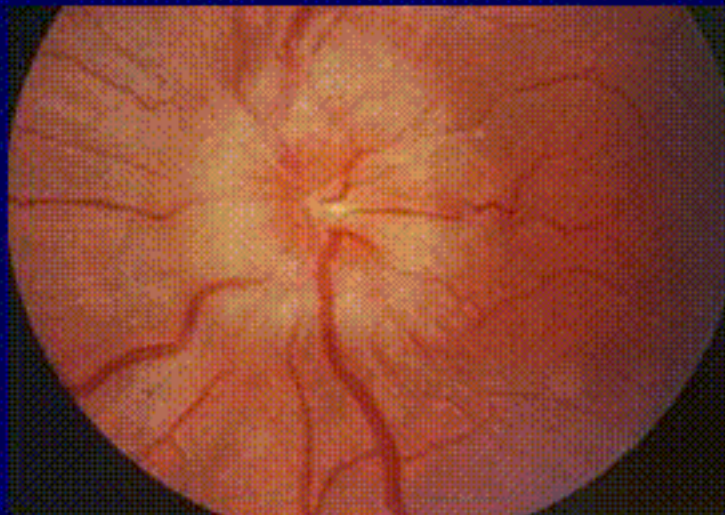
- DISCO OTTICO:
MARGINI-COLORITO-
SUPERFICIE
- VASI SANGUIGNI: A/V
DECORSO-CALIBRO-
COLORITO
- MACULA: RIFLESSO
- COLORITO DEL
FONDO: UNIFORME



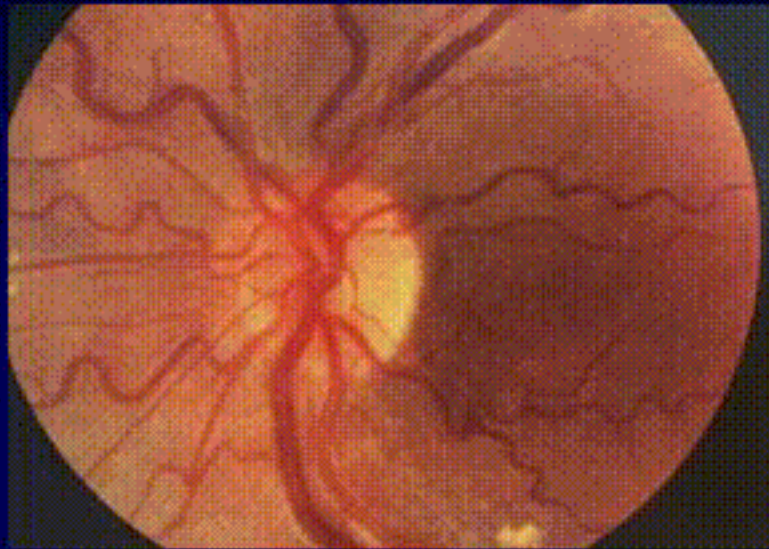
DISCO OTTICO



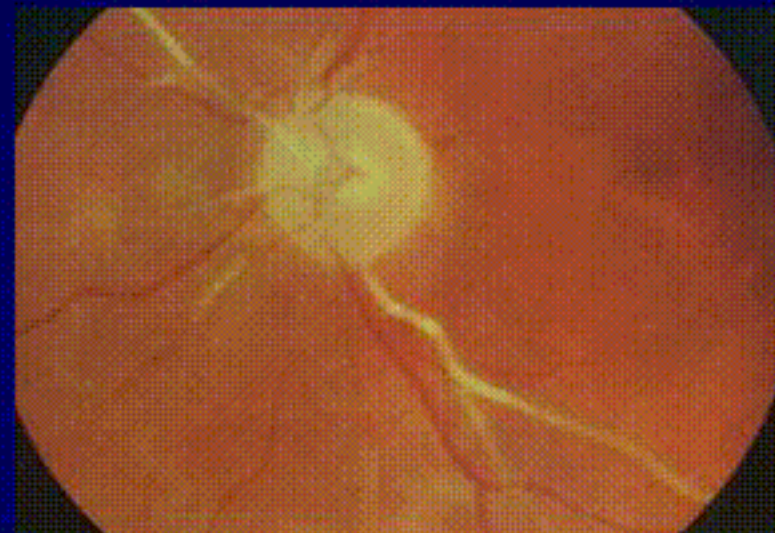
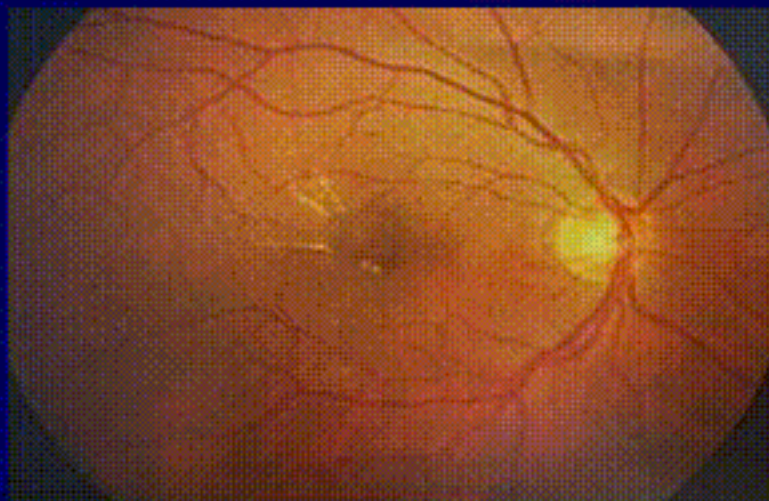
- ATROFIA
- PAPILLEDEMA
- ESCAVAZIONE
GLAUCOMATOSA



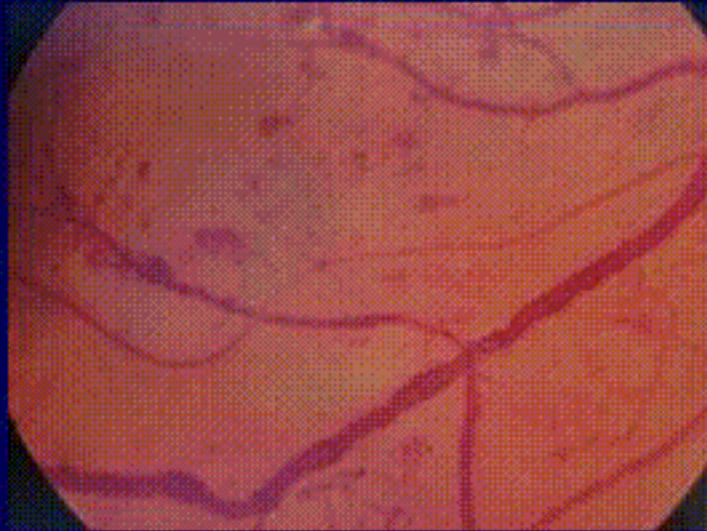
VASI – ARTERIE RETINICHE



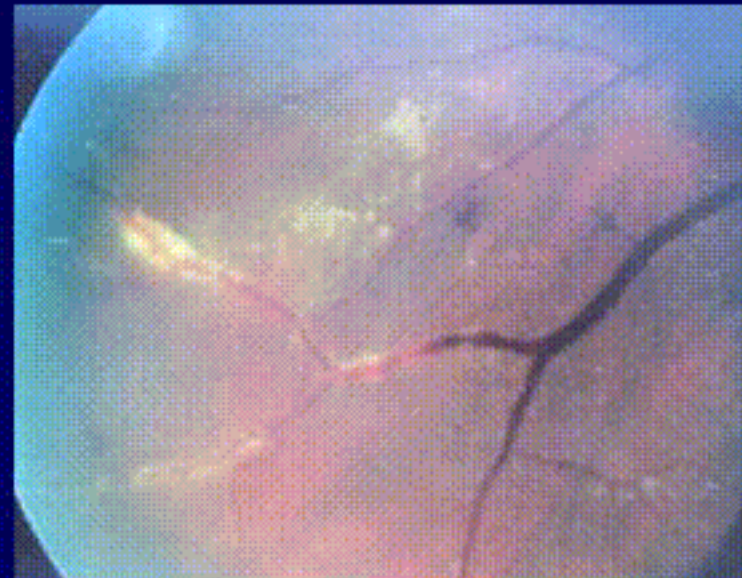
- DECORSO:
RETINOP. IERTENSIVA
- CALIBRO:
RETINOP. PERTENSIVA
- COLORITO: ATRESIA



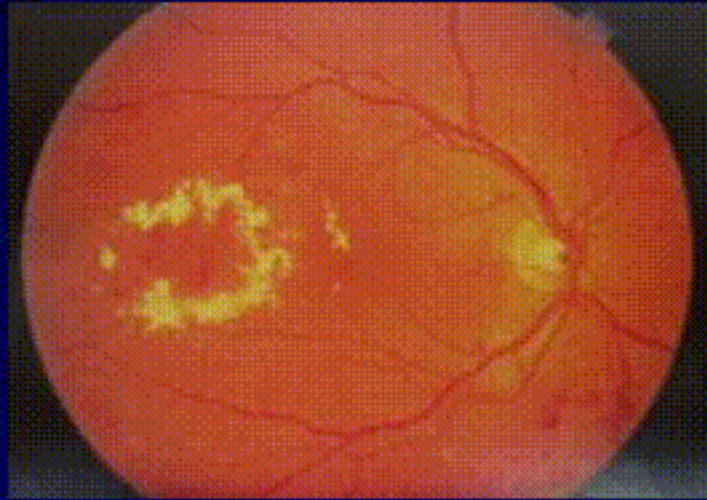
VASI-VENE RETINICHE



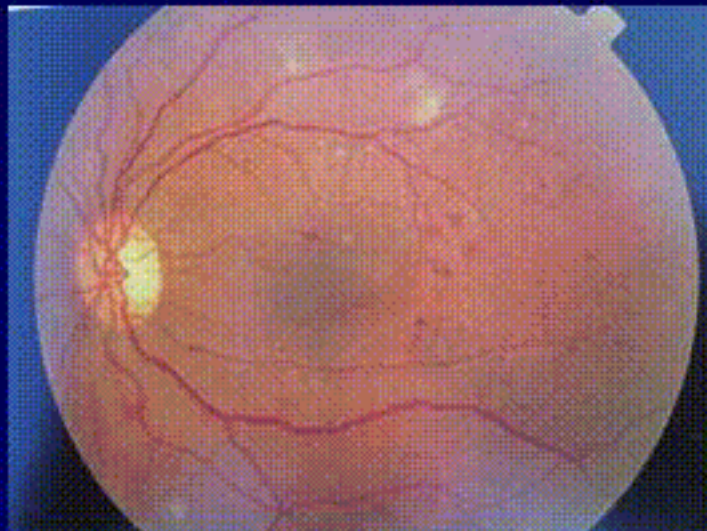
- CALIBRO
- COLORITO



MACULA



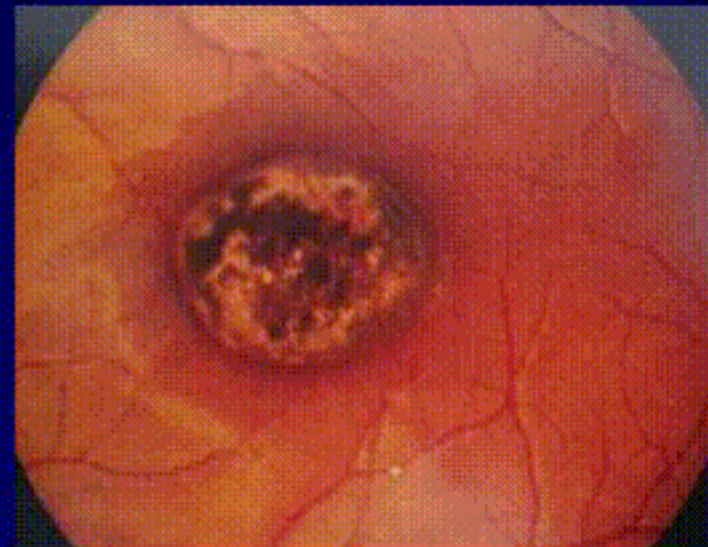
- EDEMATOSA
- ISCHEMICA
- ATROFICA



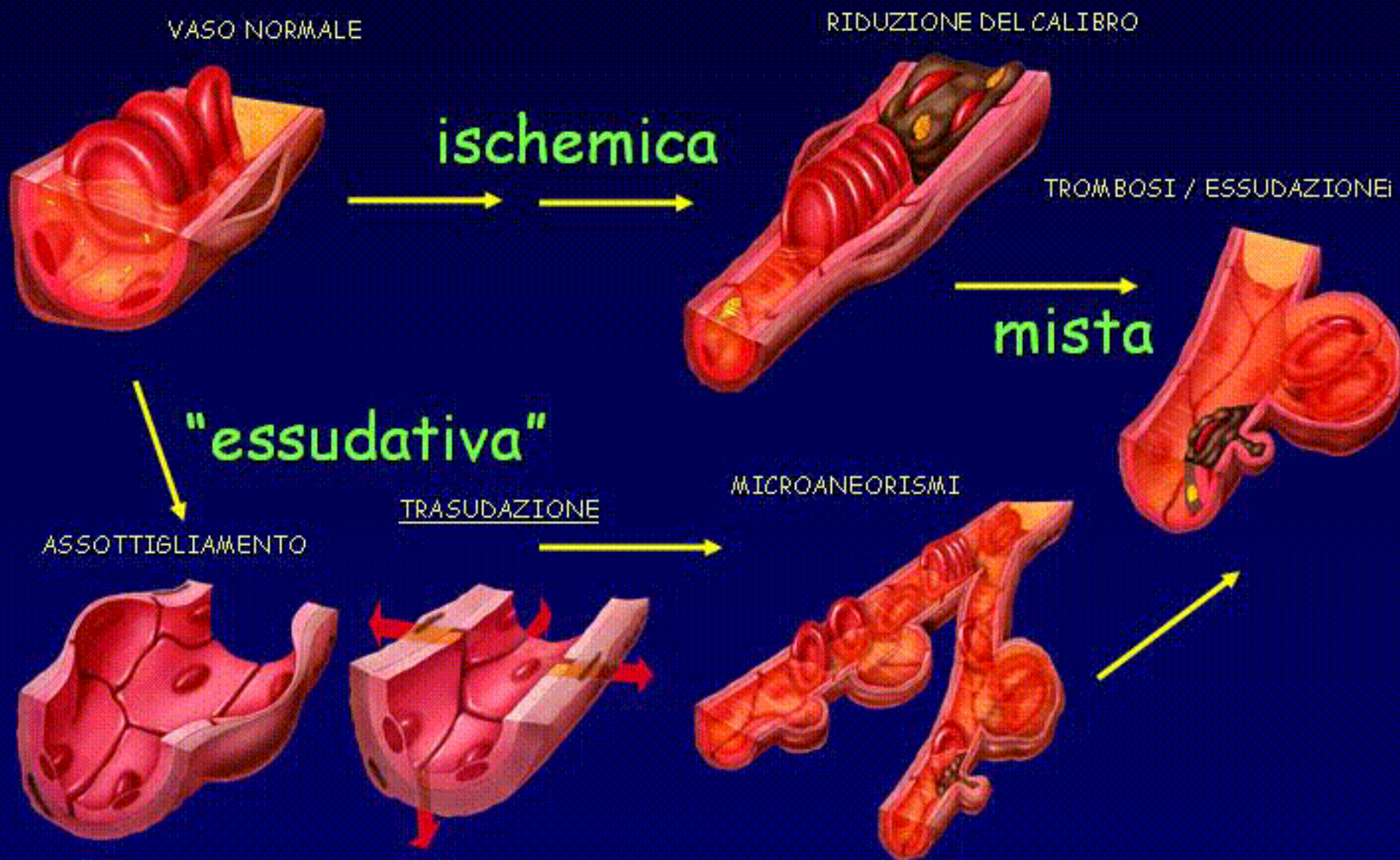
COLORITO DEL FONDO



- MELANOMA
- ANGIOMA
- TOXO



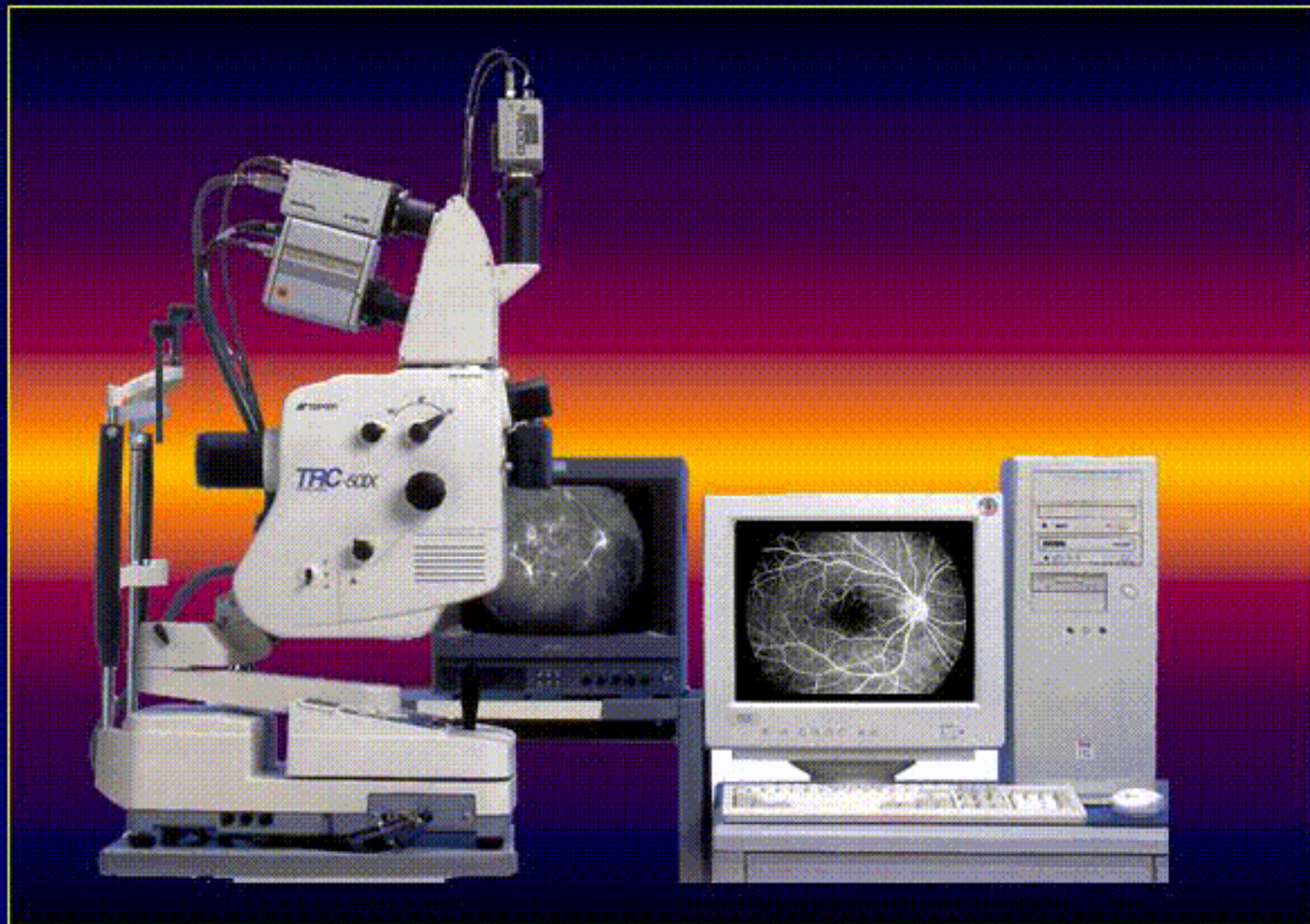
MICROANGIOPATIA



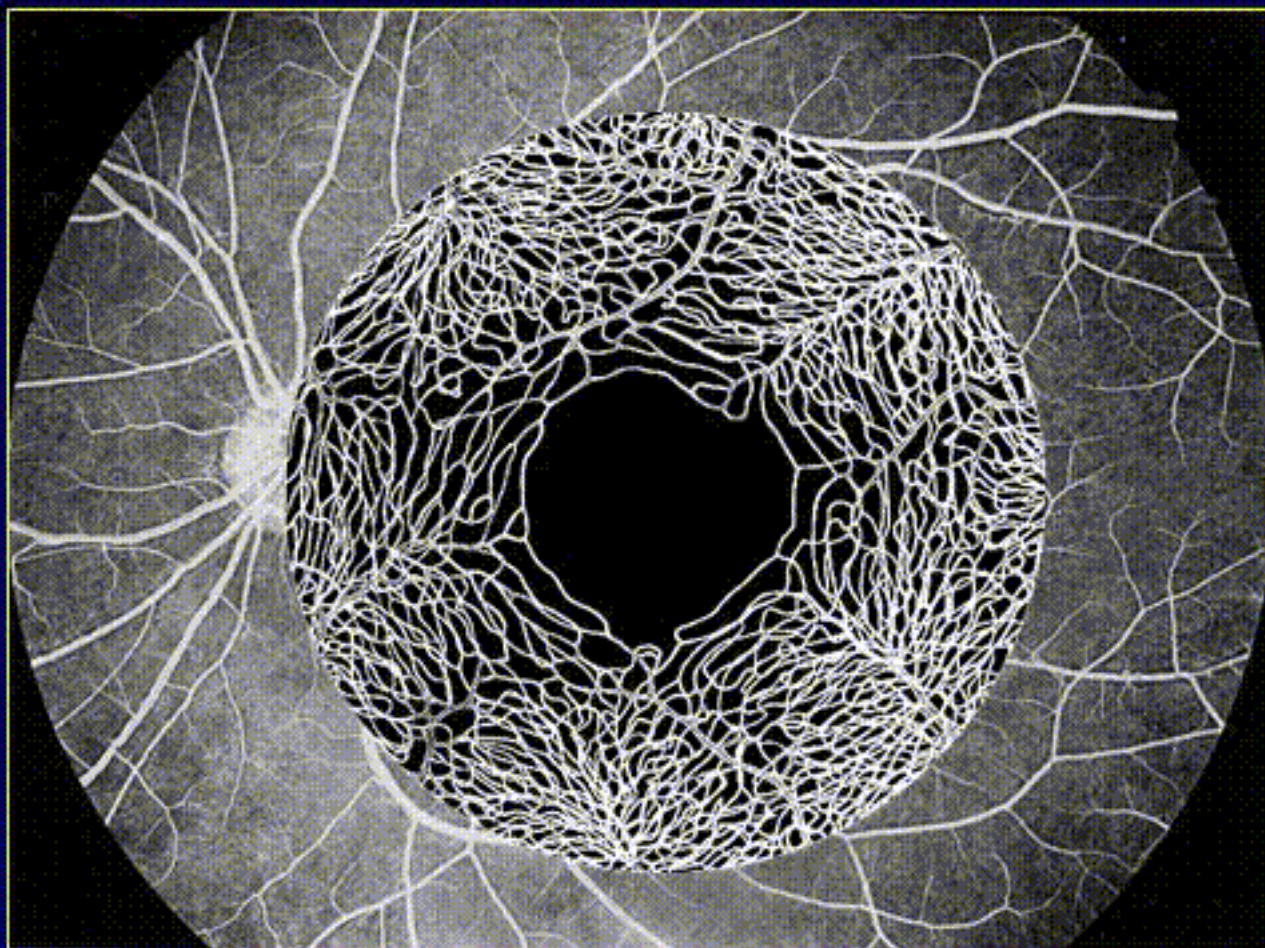
LESIONI ELEMENTARI

- EDEMI
- “ESSUDATI”: DURI / COTONOSI
- EMORRAGIE: A FIAMMA / A PETECCHIE
- MICRO/MACRO-ANEURISMI
- “SEGNO INCROCIO ARTERO-VENOSO DI SALUS GUN”

ANGIOGRAFIA A FLUORESCENZA COMPUTERIZZATA

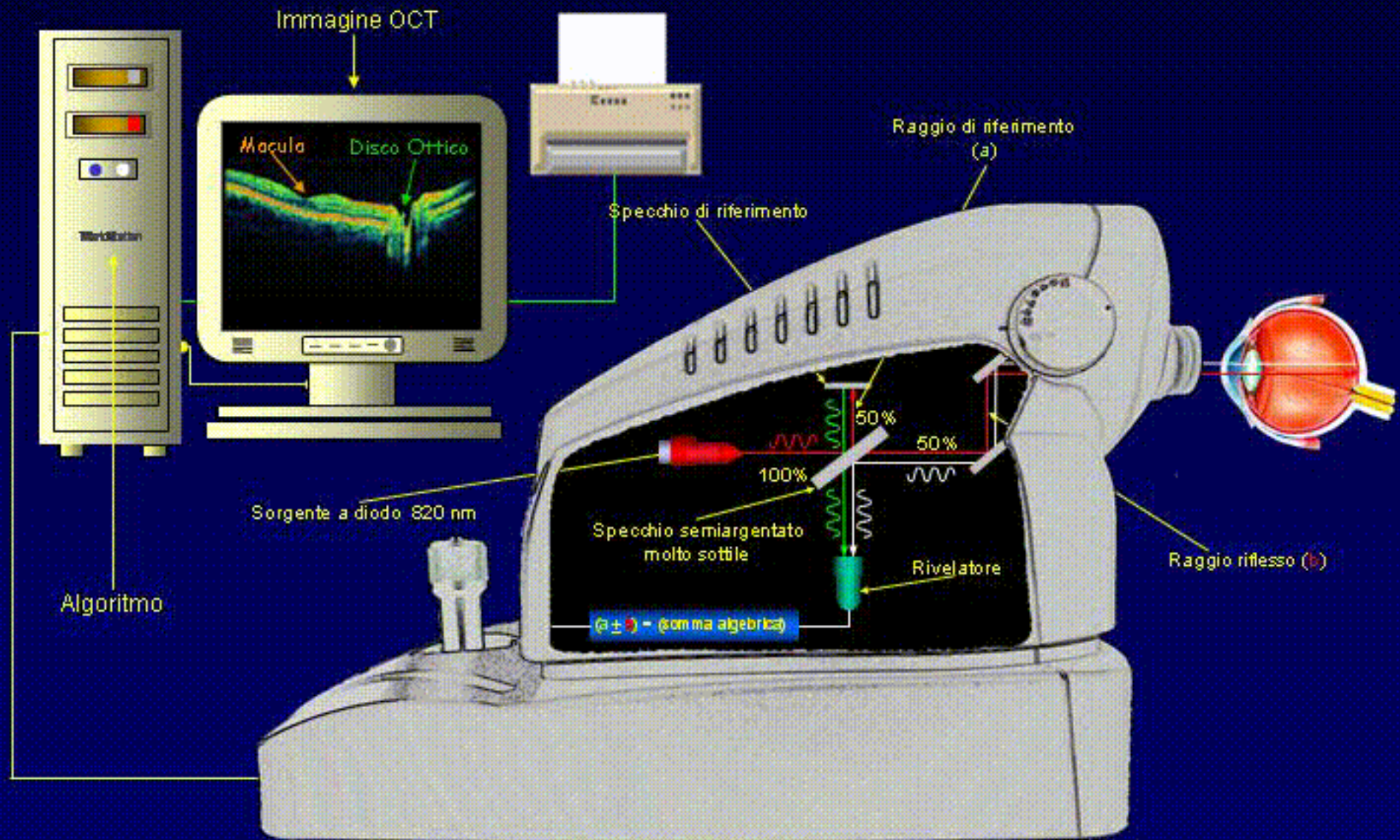


FLUORANGIOGRAFIA - FONDO SANO

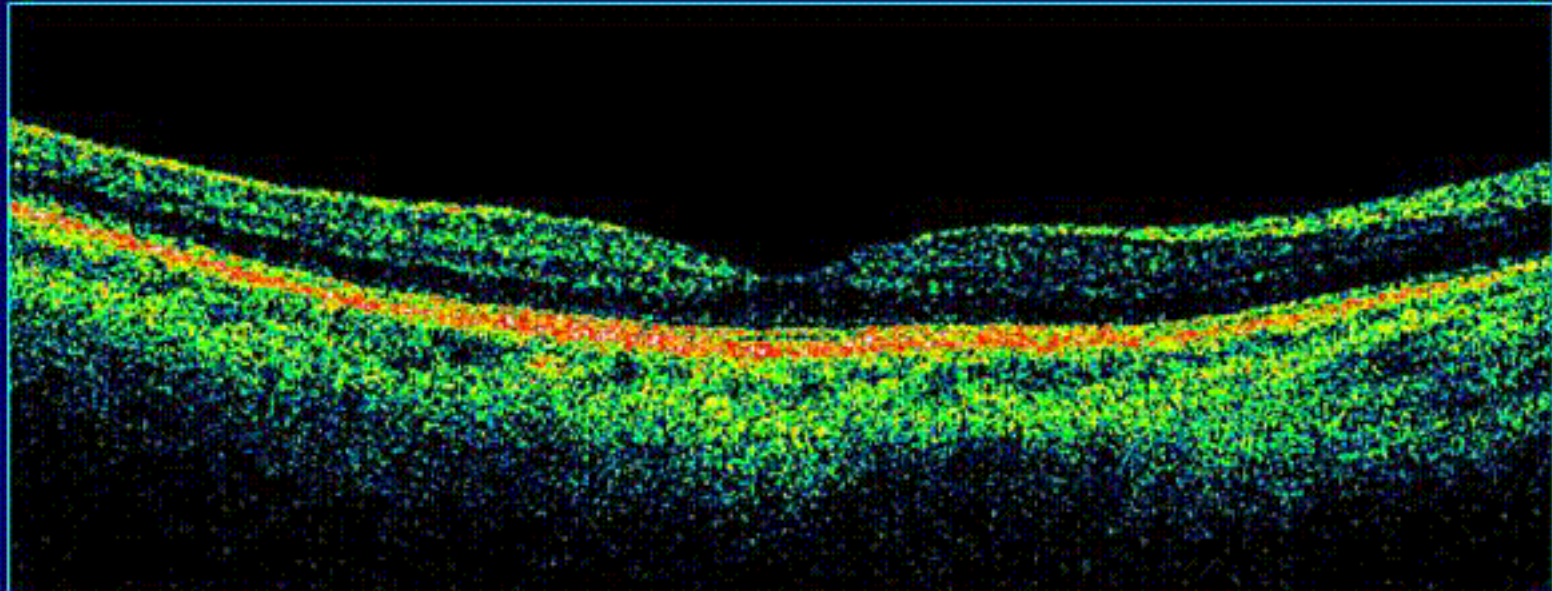
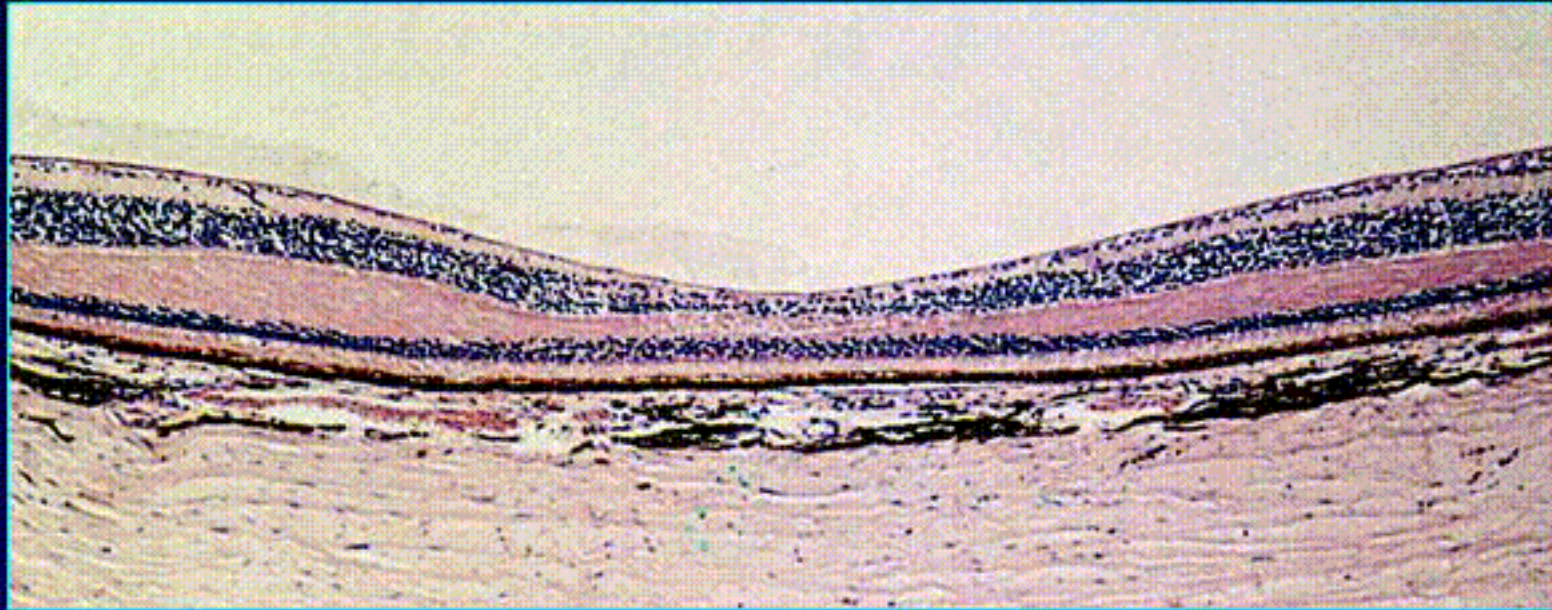


OCT- (Optical Coherence Tomography)

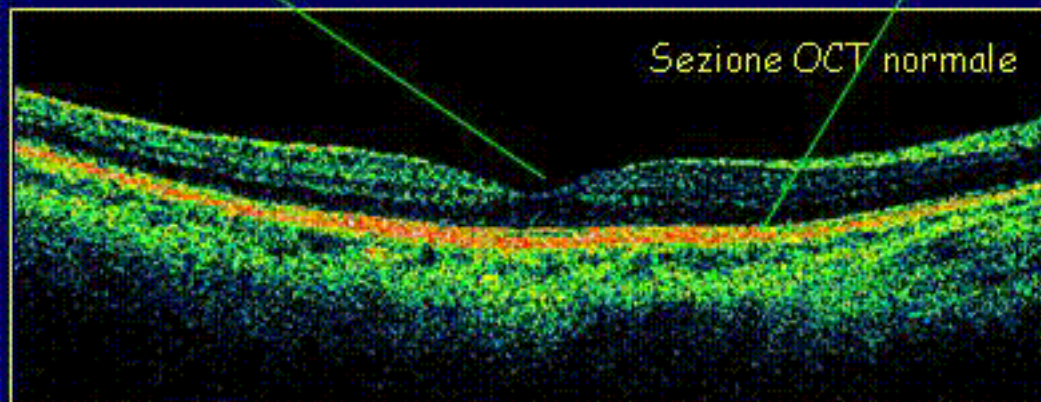
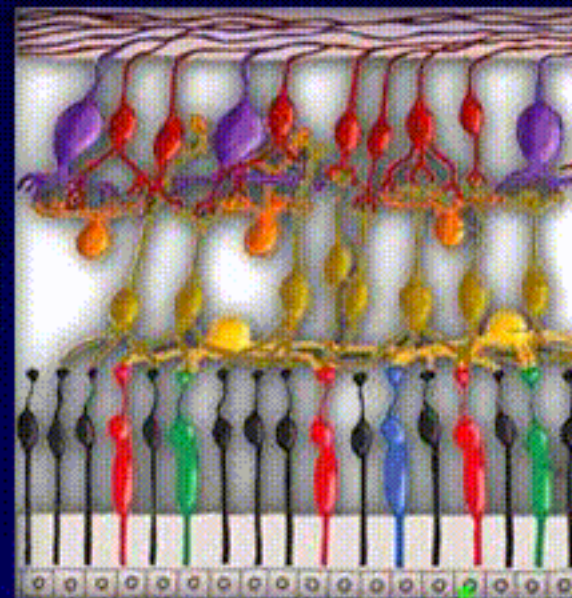
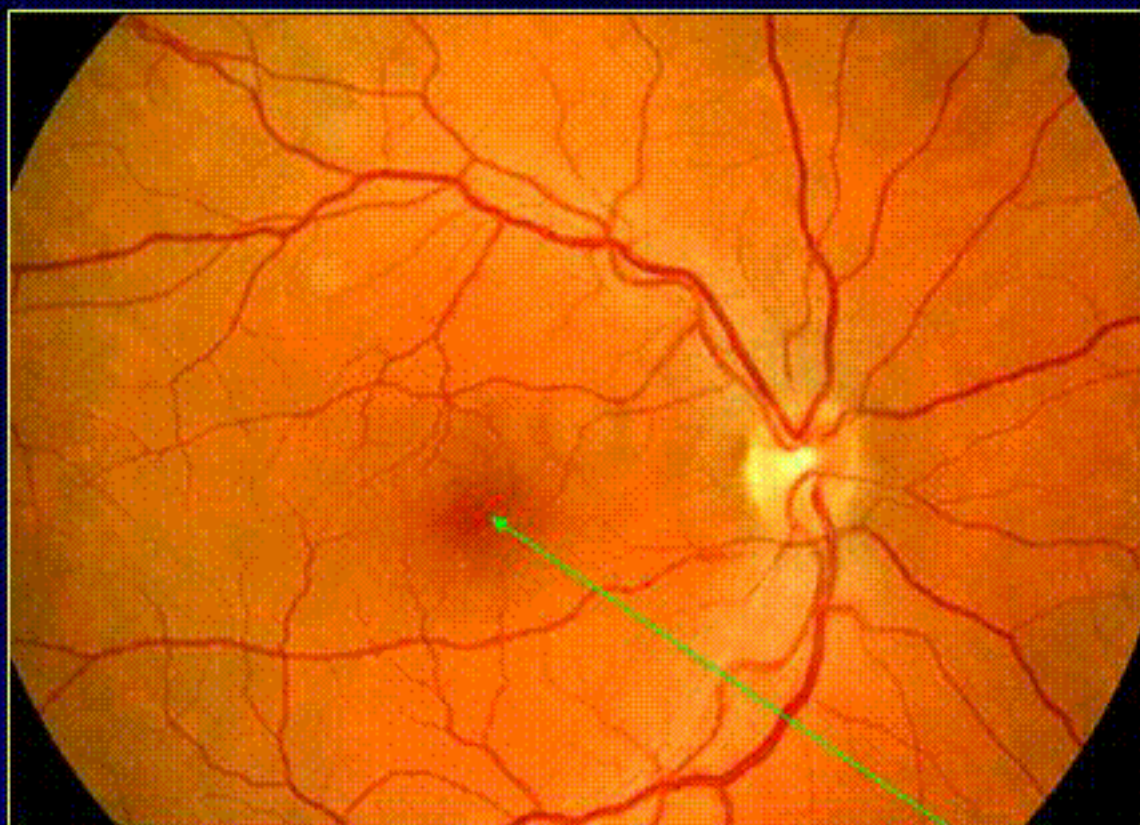
principio di funzionamento (*interferometro di Michelson*) semplificato.

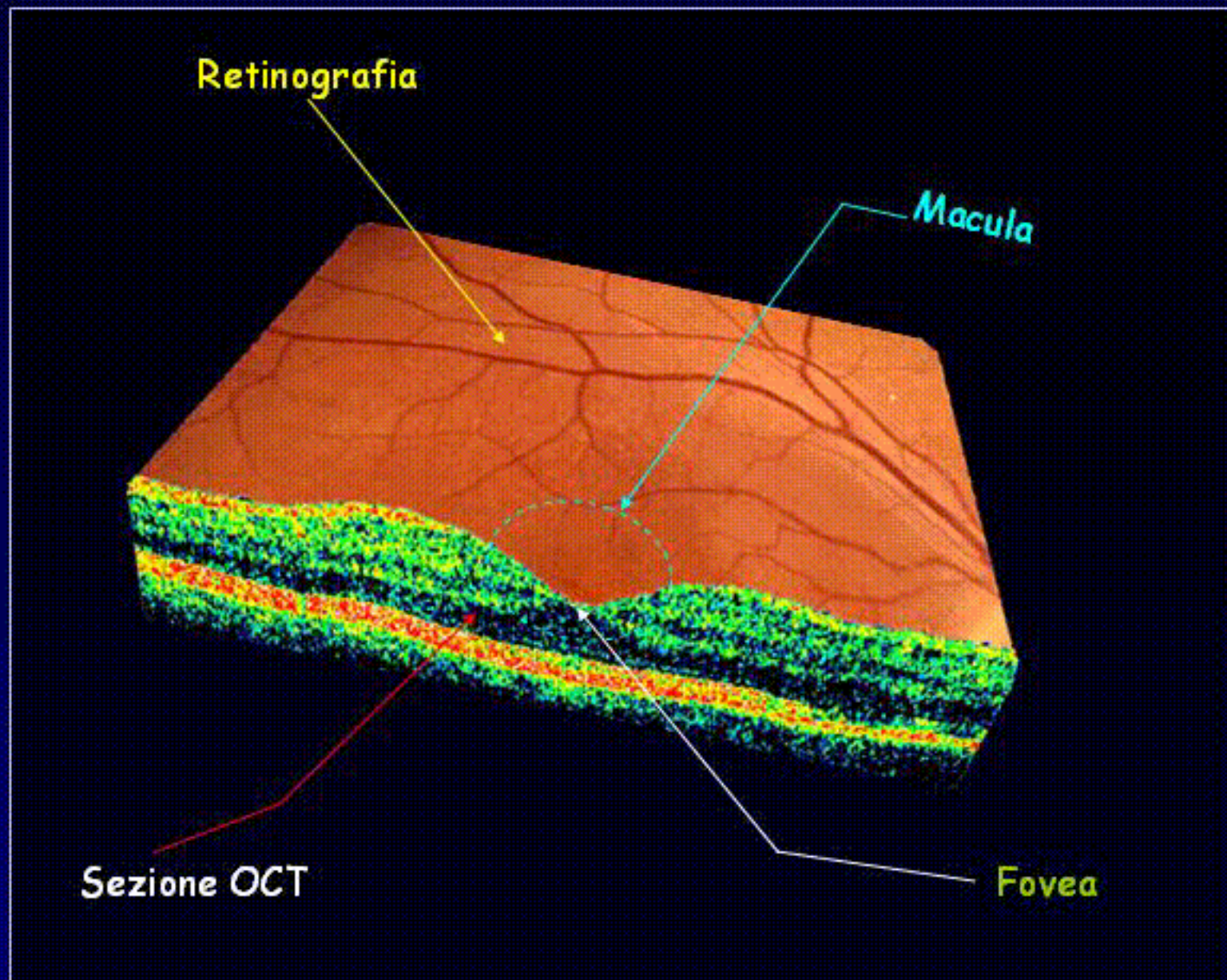


Macula: sezione istologica ed OCT

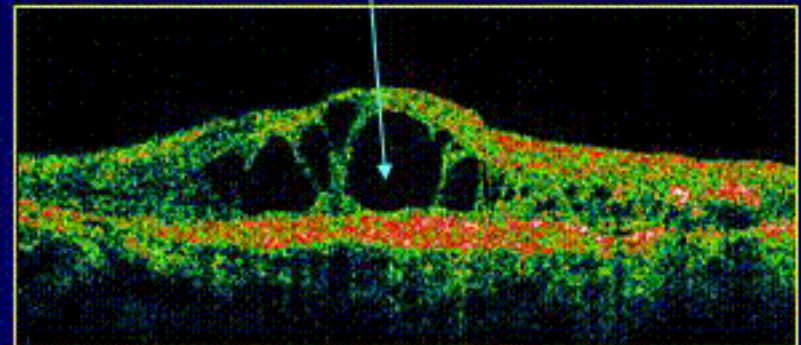
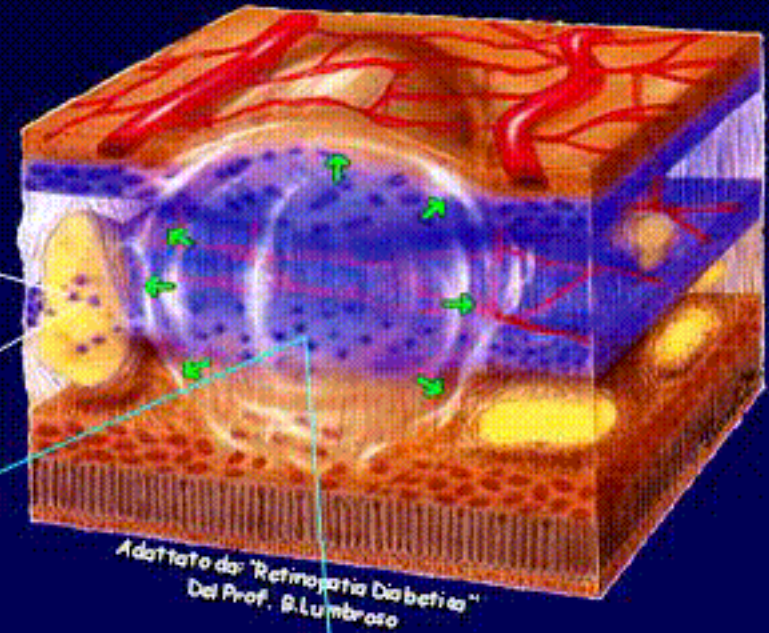
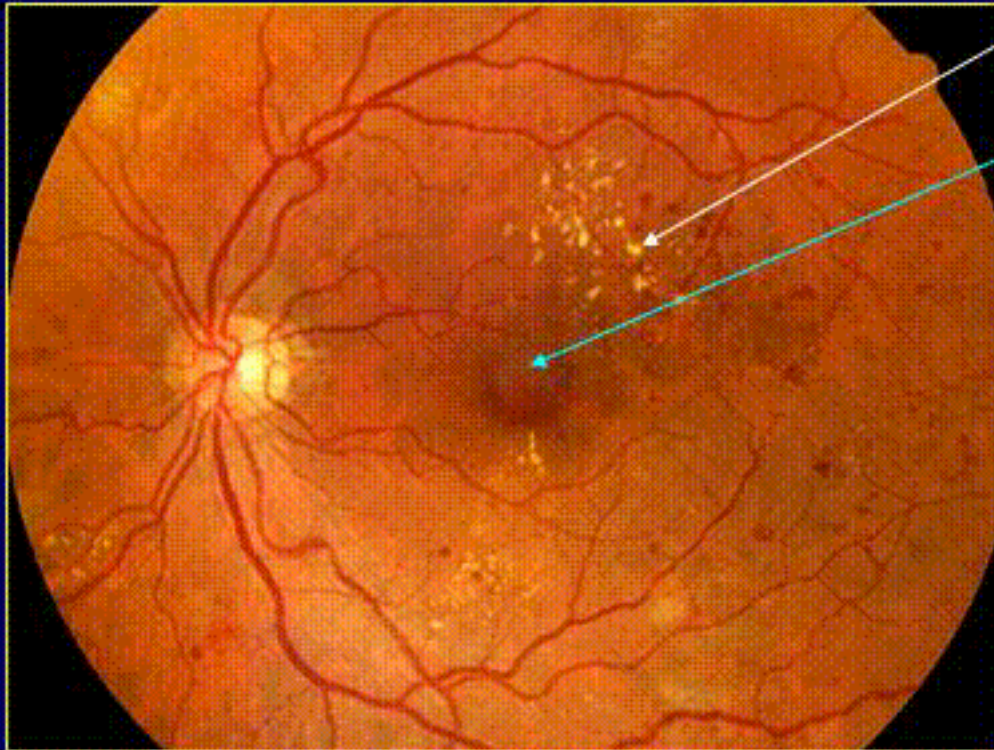
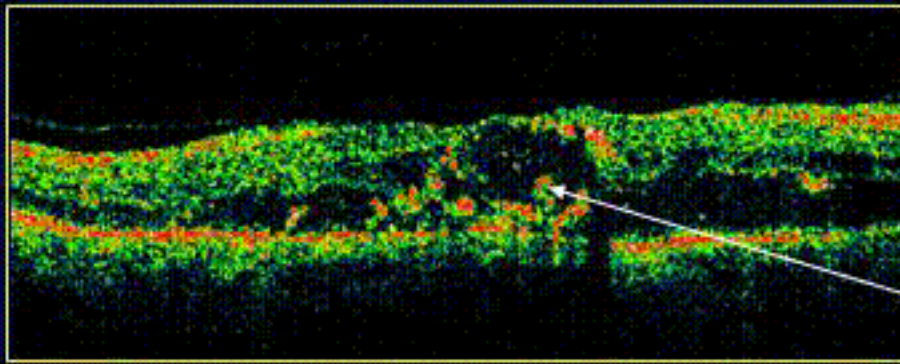


FONDO SANO

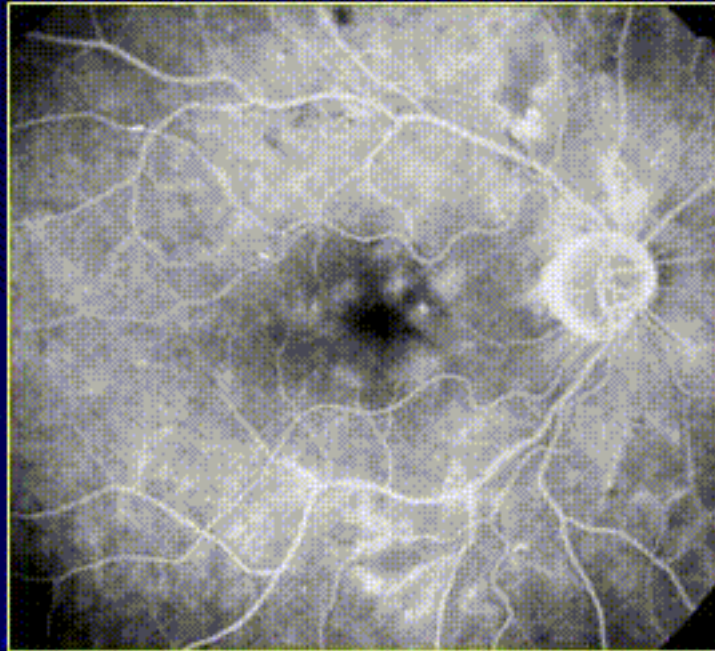




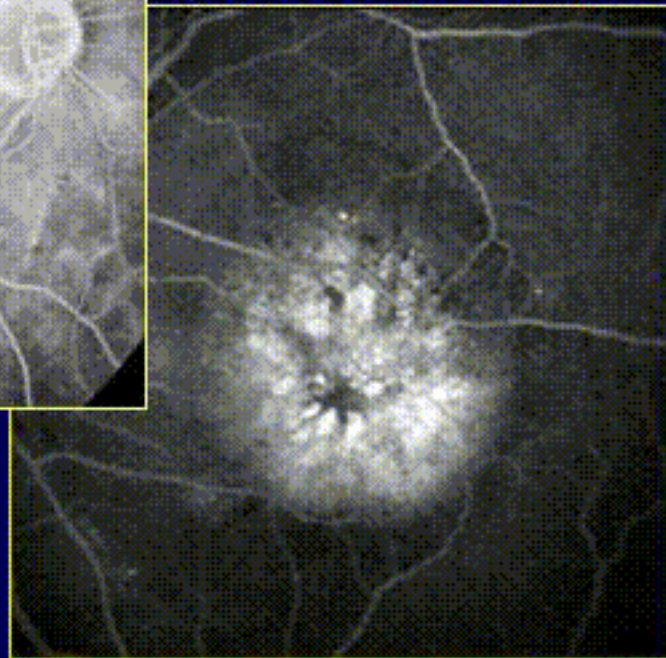
EDEMA MACULARE ED ESSUDATI DURI



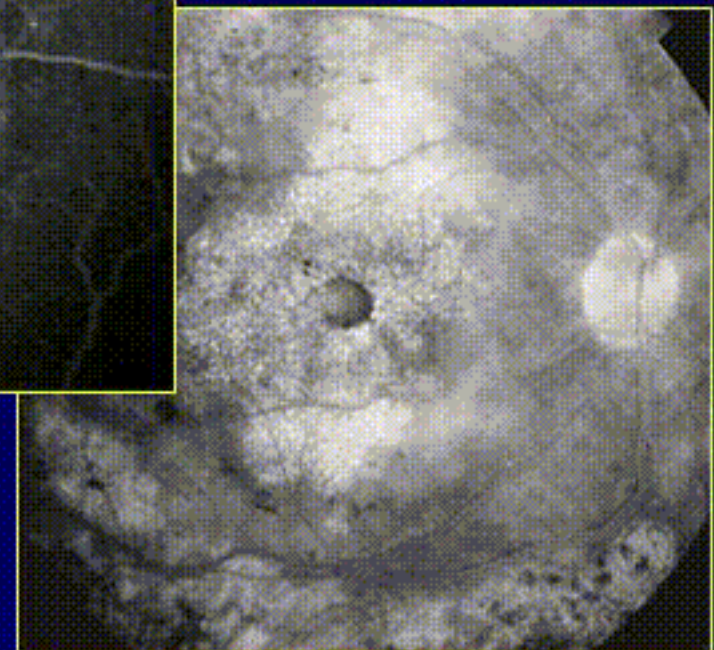
Fluorangiografia dell' edema
maculare cistoide in via di
strutturazione



Fluorangiografia dell' edema maculare
cistoide strutturato

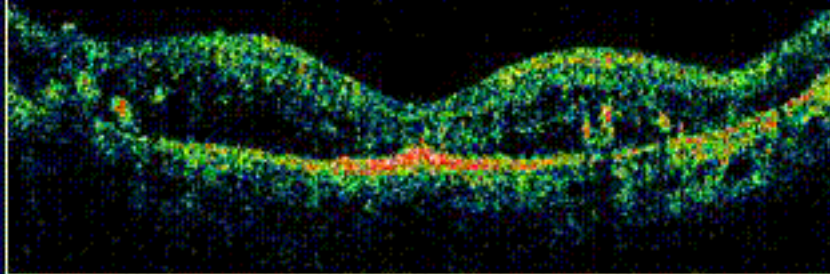


Fluorangiografia di grave
edema cistoide maculare
con pseudofoveo

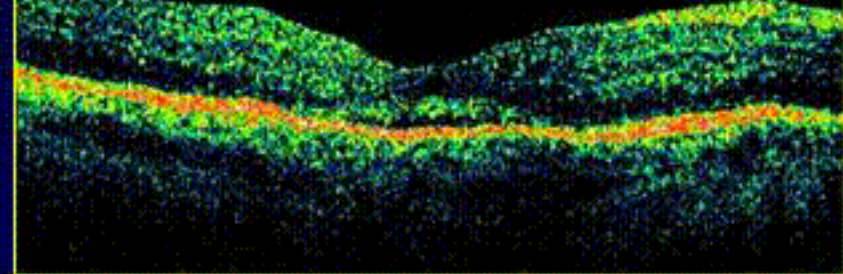


FORME DI EDEMA MACULARE

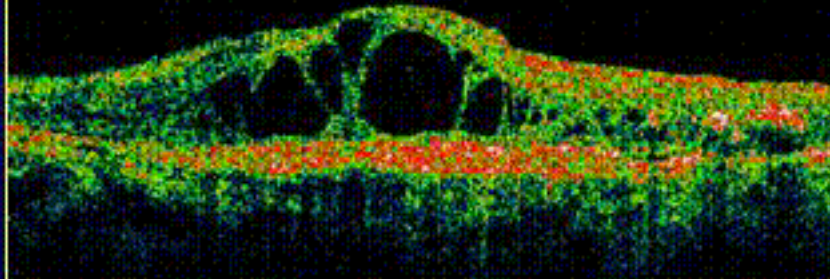
spugnoso (42% dei casi)



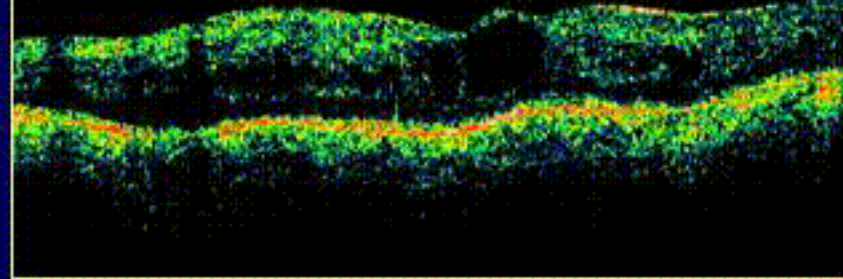
spugnoso e distacco sieroso (10% dei casi)



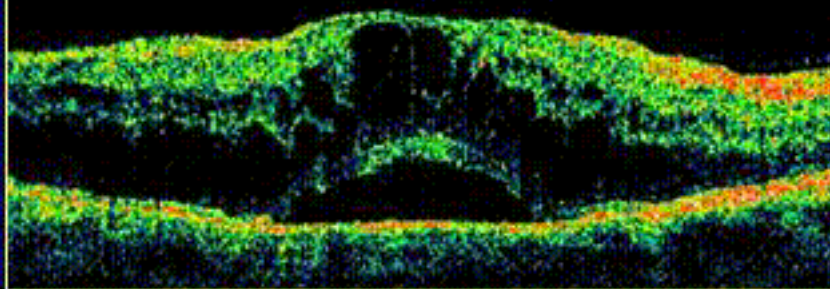
cistoide (12% dei casi)



spugnoso e cistoide (30% dei casi)



spugnoso, distacco sieroso e cistoide (5% dei casi)

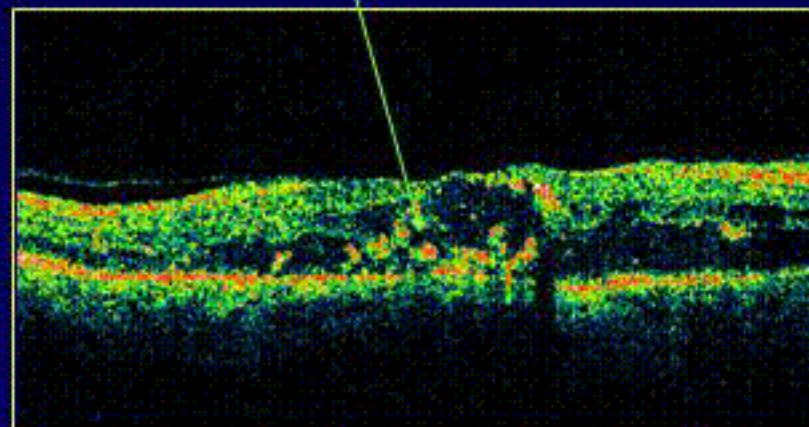
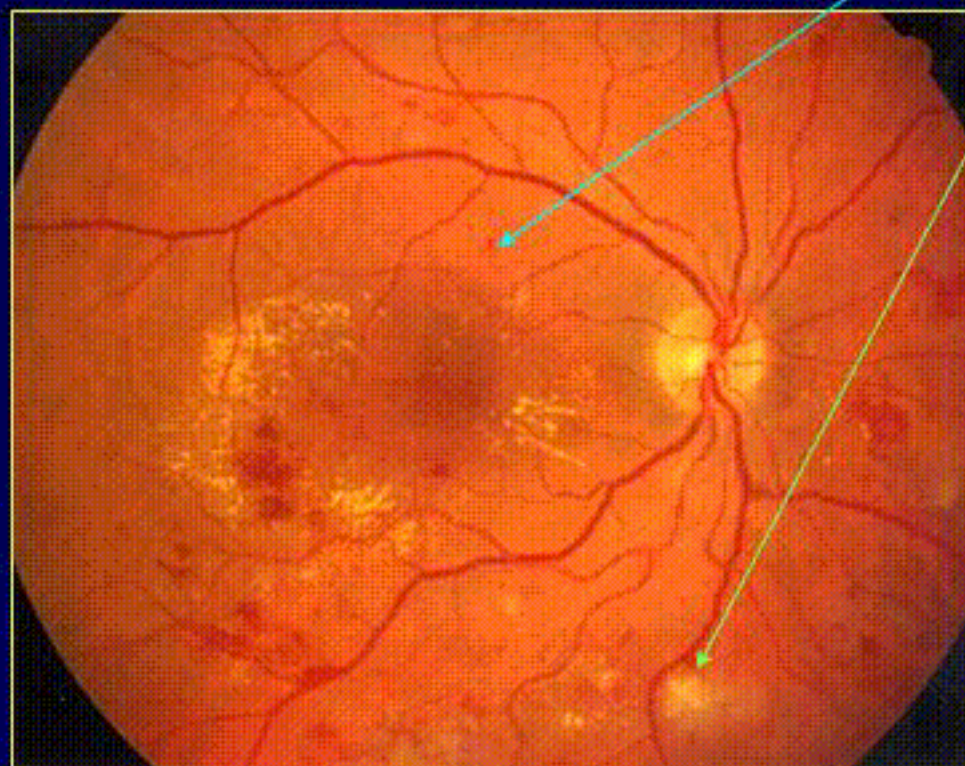


Otani, Kishi and Maruyama
Am J Ophthalmol 1999; 127:688-693

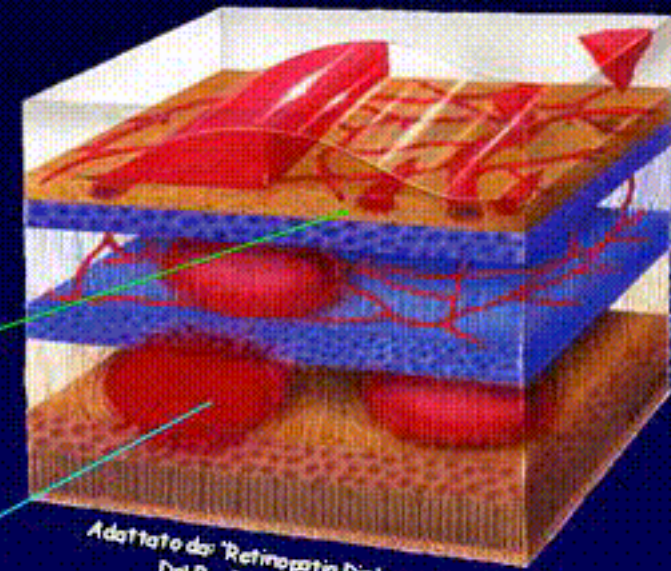
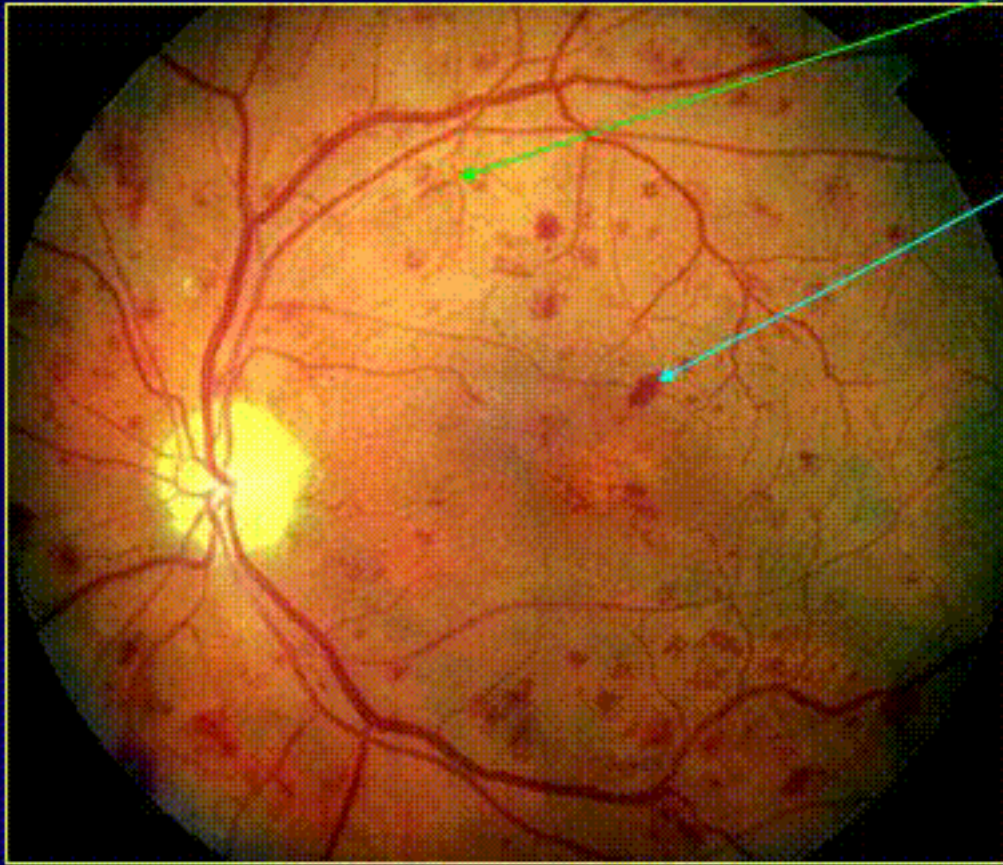
ESSUDATI COTONOSI- MICROANEURISMI



Adattata da "Retinopatia Diabetica"
Del Prof. B. Lumbroso

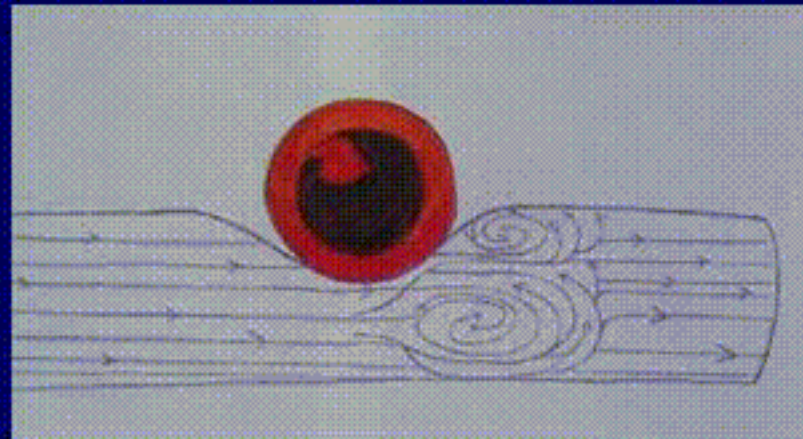
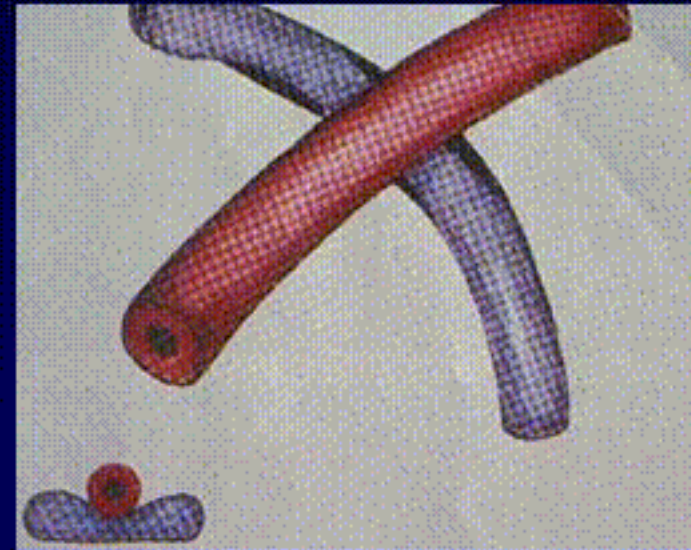
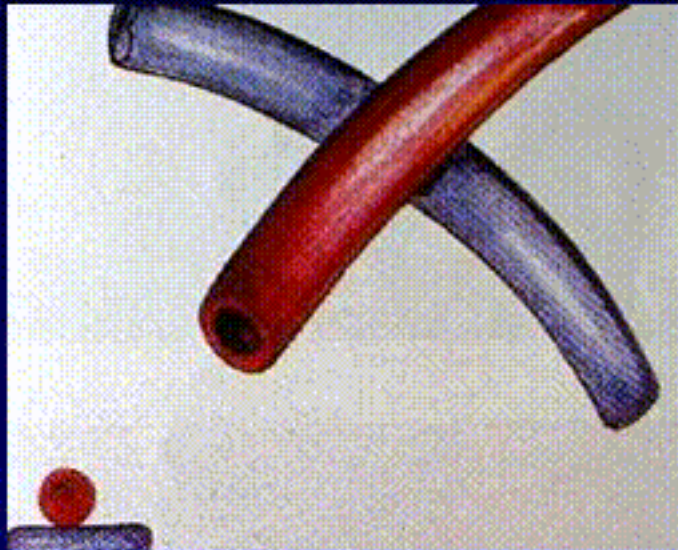


EMORRAGIE A FIAMMA / PETECCHIE

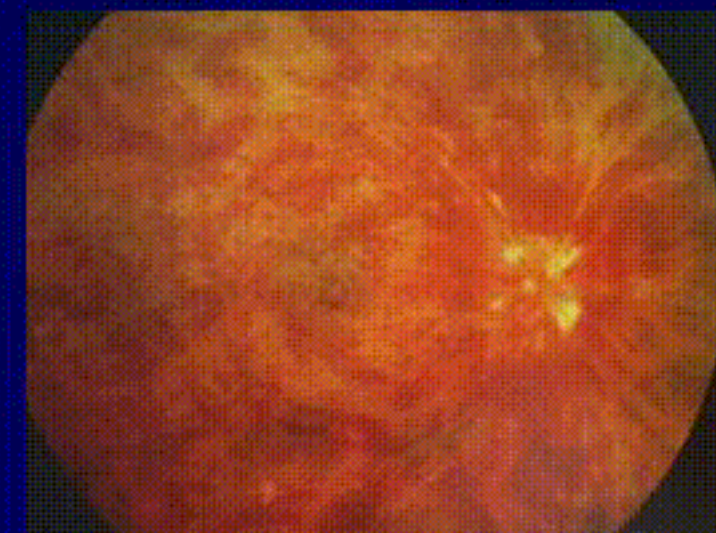
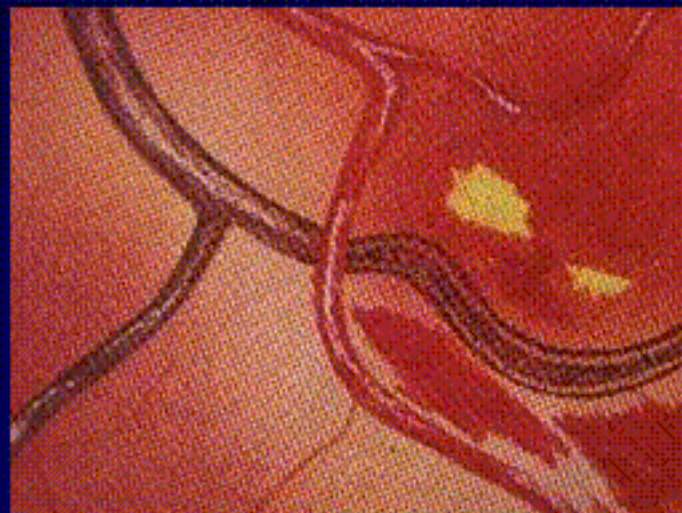


Adattato da "Retinopatia Diabetica"
Del Prof. G. Lumbroso

SEGNO DELL'INCROCIO A/V



SEGNO DELL' INCROCIO A/V



OVCR vs OVBR

ACQUIRED RISK FACTORS

Factors	OVCR % (n=43)	OVBR % (n=43)	p (CI=95%)	OR
Hypertension 11.4) (pa > 140/90)	50.0 (20/40)	80.9 (34/42)	0.003*	4.25 (1.58-
Diabetes Glu > 126 mg/dl)	12.0 (3/25)	32.2 (10/31)	0.12**	3.49 (0.84-14.5)
Smoking (> 10 sig/die)	42.1 (16/38)	50.0 (20-40)	0.48*	1.38 (0.56-3.36)
BMI >25	59.2 (16/27)	76.0 (19/25)	0.19*	2.18 (0.66-7.20)

* χ^2 -test , **Fisher's test

OVCR vs OVBR

ACQUIRED RISK FACTORS

Factors	OVCR	OVBR	p*
Cholesterolemia (mg/dl)	209.8	222.6	0.2
Triglyceridemia (mg/dl)	105.8	129.7	0.08
Hmocysteinaemia (μmol/l)	14.4	14.2	0.9

*t-test

OVCR vs OVBR

GENETIC POLYMORPHISMS

Factors	OVCR % (n=43) (CI=95%)	OVBR % (n=43)	p	OR
F V Leiden 5.3) (+/-)	6.9 (3/43)	6.9 (3/43)	1*	1 (0.2-
F II G20210A (0.1-2.8) (+/-)	9.3 (4/43)	4.5 (2/43)	0.7*	1.9
MTHFR 677 TT (+/+)	20.9 (9/43)	16.3 (7/43)	0.6**	0.5 (0.3-2.2)

IL FONDO NELLE MALATTIE CARDIO-CIRCOLATORIE

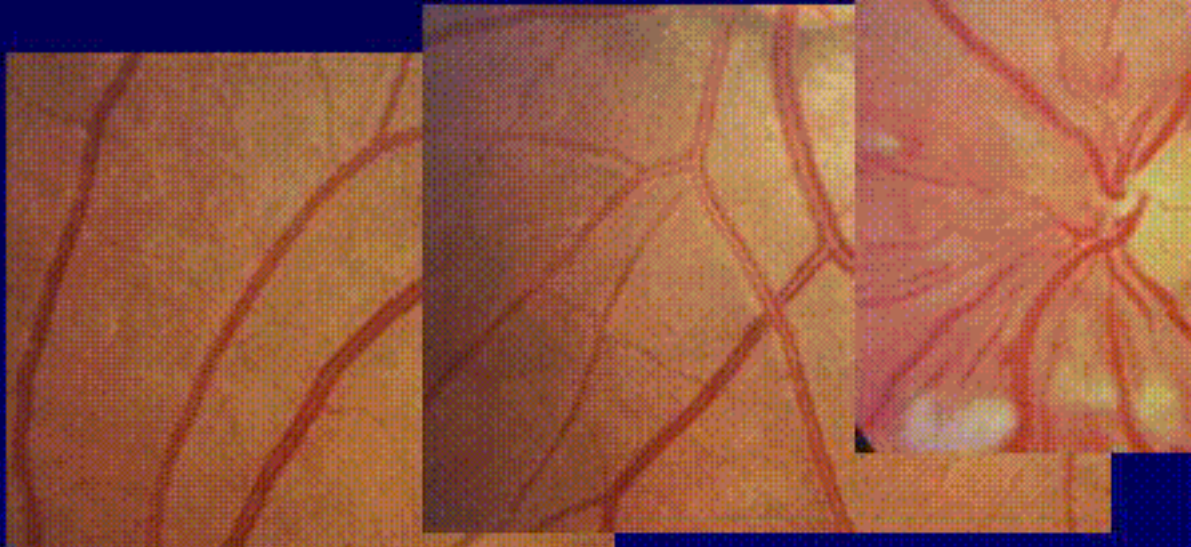
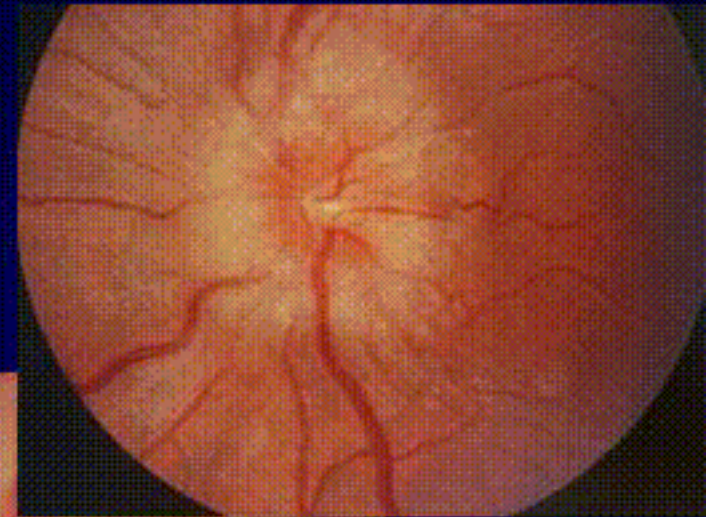
- IPERTENSIONE
- DIABETE
- IPERCOLESTEROLEMIA
- ARTERIOSCLEROSI DA FUMO

RETINOPATIA IPERTENSIVA

- I STADIO: ARTERIE A FIL DI RAME
 - II STADIO: ARTERIE A FIL D'ARGENTO
 - III STADIO: + EMORRAGIE/ ESSUDATI
 - IV STADIO: EDEMA DELLA PAPILLA
-
- **RIDUZIONE DEL CALIBRO DELLE ARTERIE RETINICHE**- Retinal microvascular abnormalities and incident stroke: Atherosclerosis Risk in the Communities Study- Lancet 2001;358:1114-40

RETINOPATIA IPERTENSIVA

- ARTERIE A FIL DI RAME
- ARTERIE A FIL D'ARGENTO
- EMORRAGIE / ESSUDATI COTONOSI
- EDEMA PAPILLARE

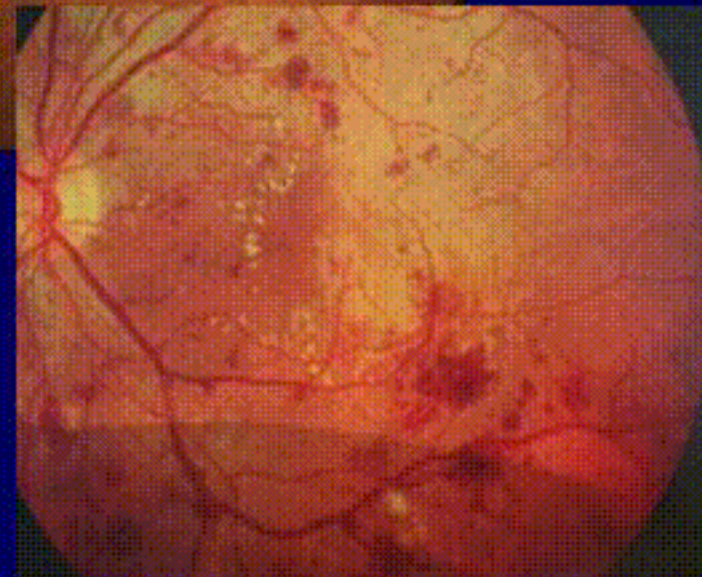
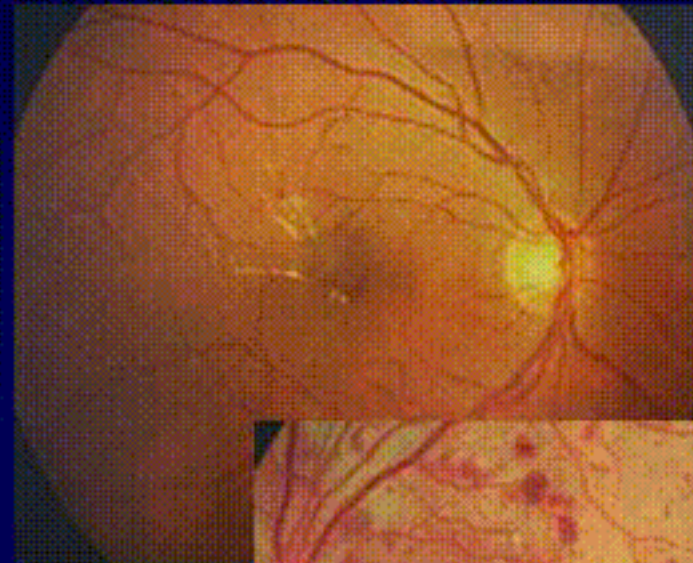


RETINOPATIA DIABETICA



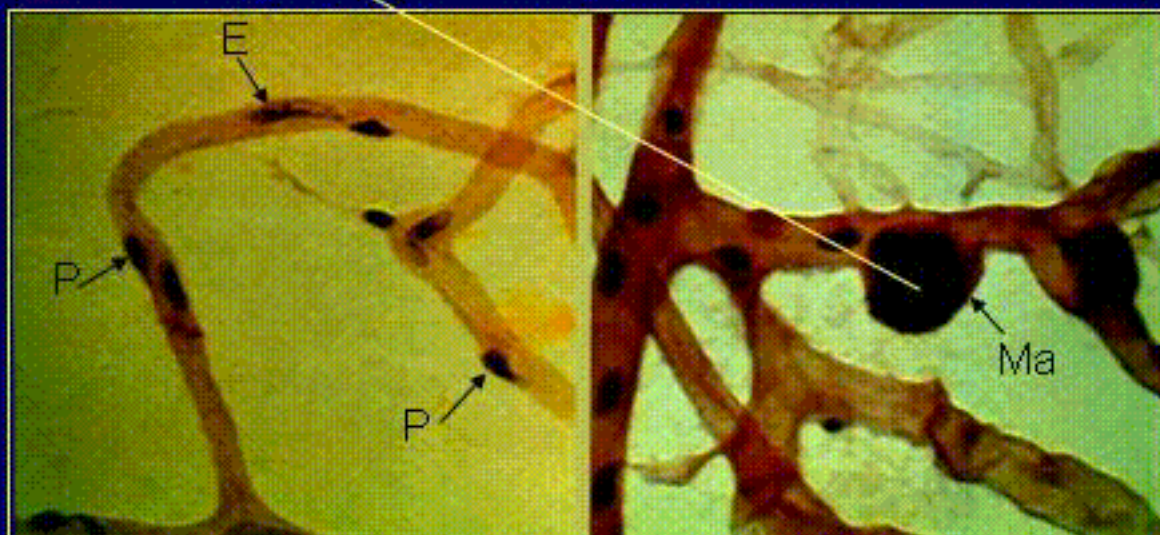
RETINOPATIA DIABETICA NON PROLIFERANTE

- PRERETINOPATIA:
- LIEVE: MICROANEURISMI, ESSUDATI DURI/COTONOSI-5
- GRAVE: EMORRAGIE PROFONDE, ESSUDATI DURI/COTONOSI+5

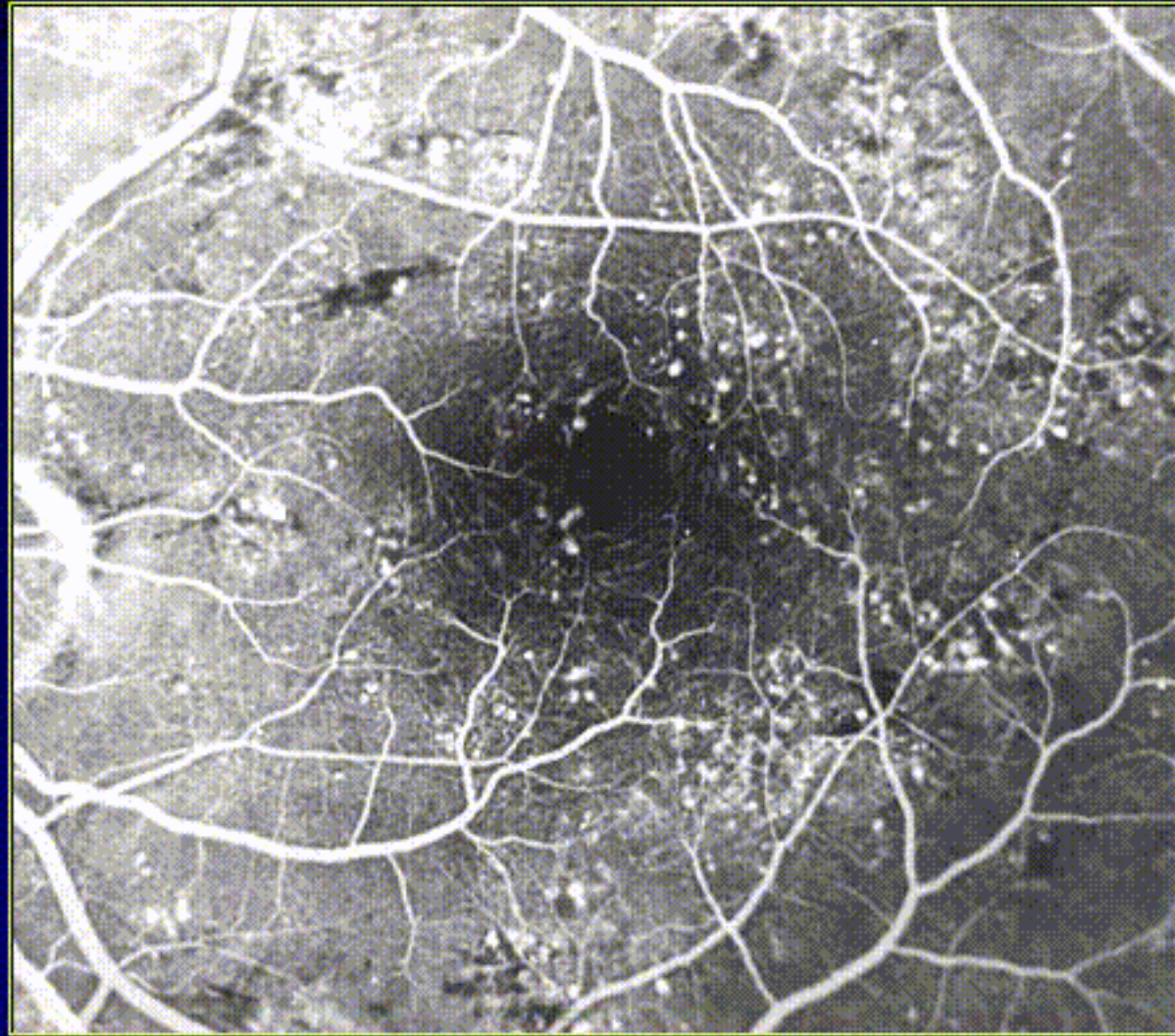




Fluorangiografia
di retinopatia
diabetica LIEVE
non proliferante

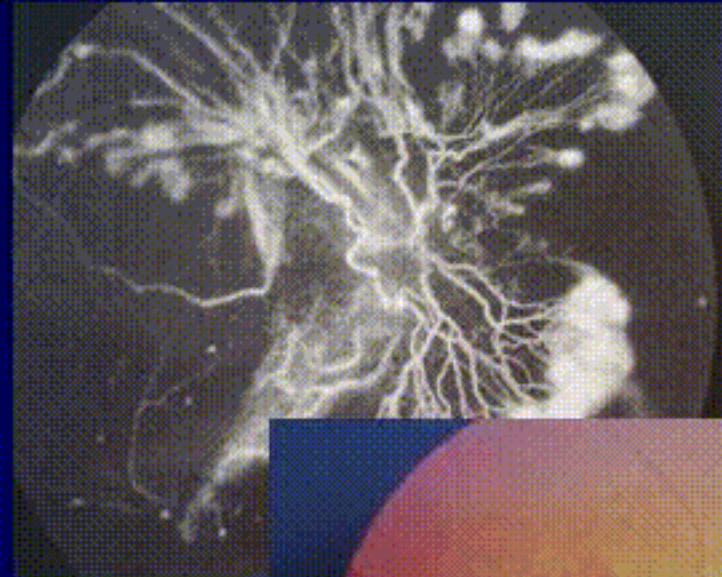


Fluorangiografia di retinopatia diabetica non proliferante GRAVE

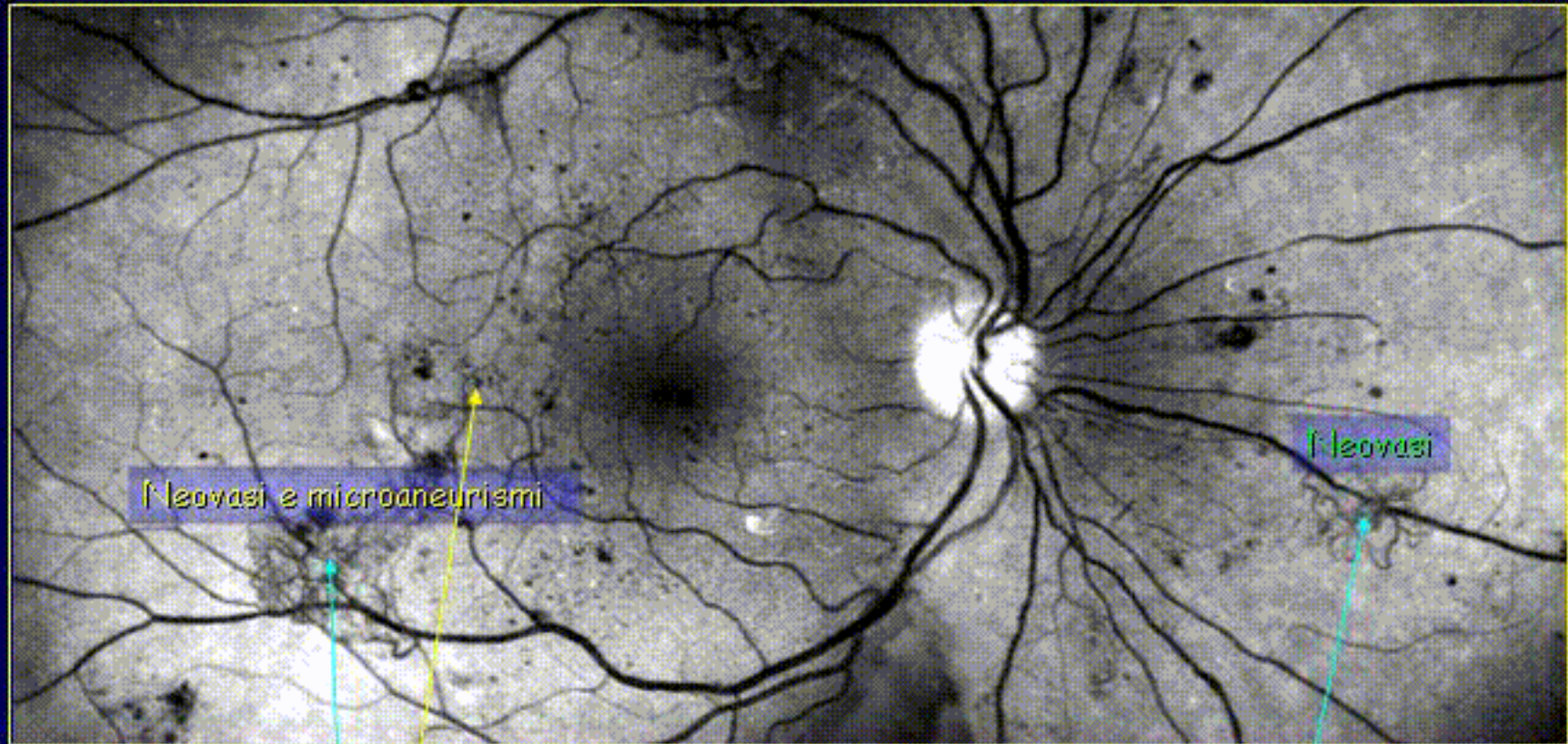


RETINOPATIA DIABETICA PROLIFERANTE

- NEOVASI SUL DISCO
- NEOVASI IN PERIFERIA



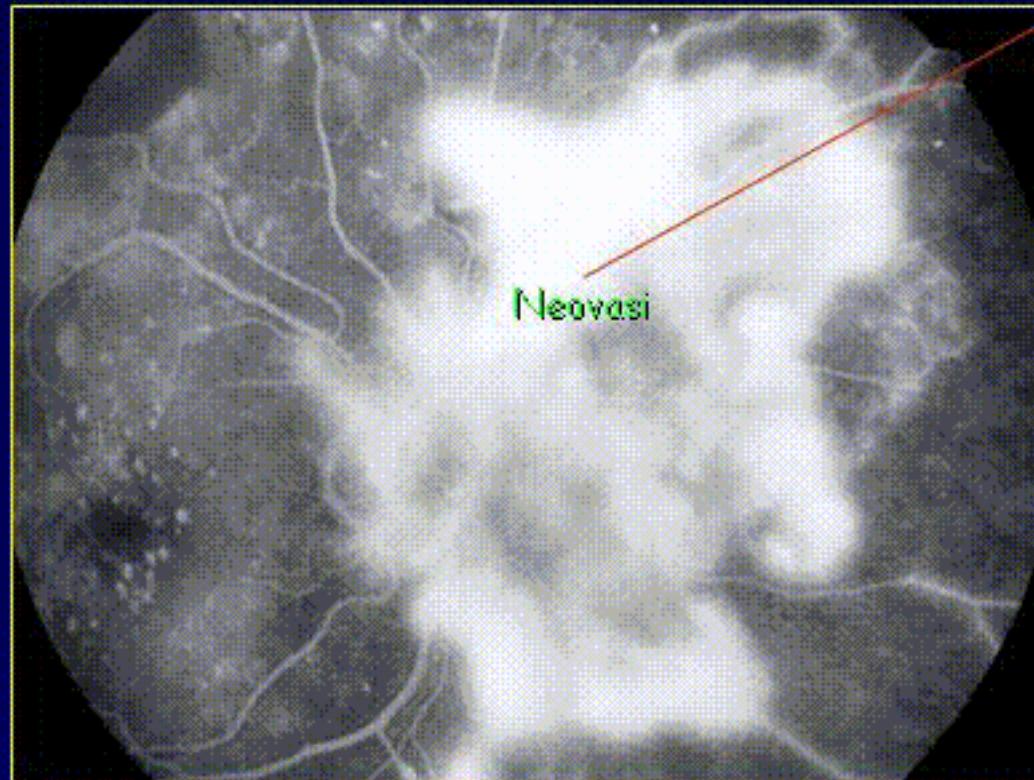
Retinografia di retinopatia diabetica proliferante



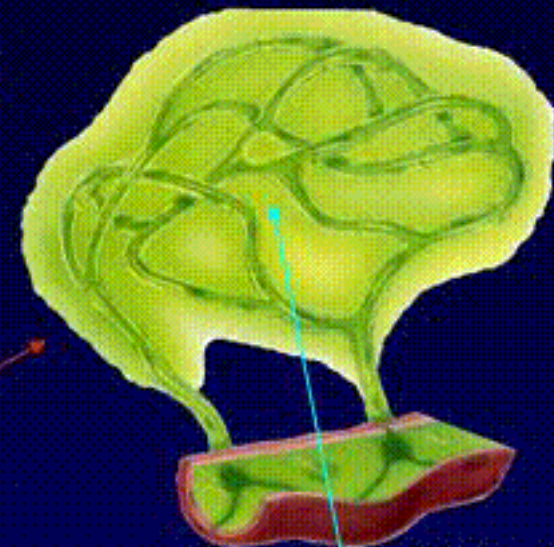
Adattato da: "Retinopatia Diabetica"
Del Prof. B. Lumbroso



Retinopatia diabetica proliferante (fluorangiografia)



Neovasi

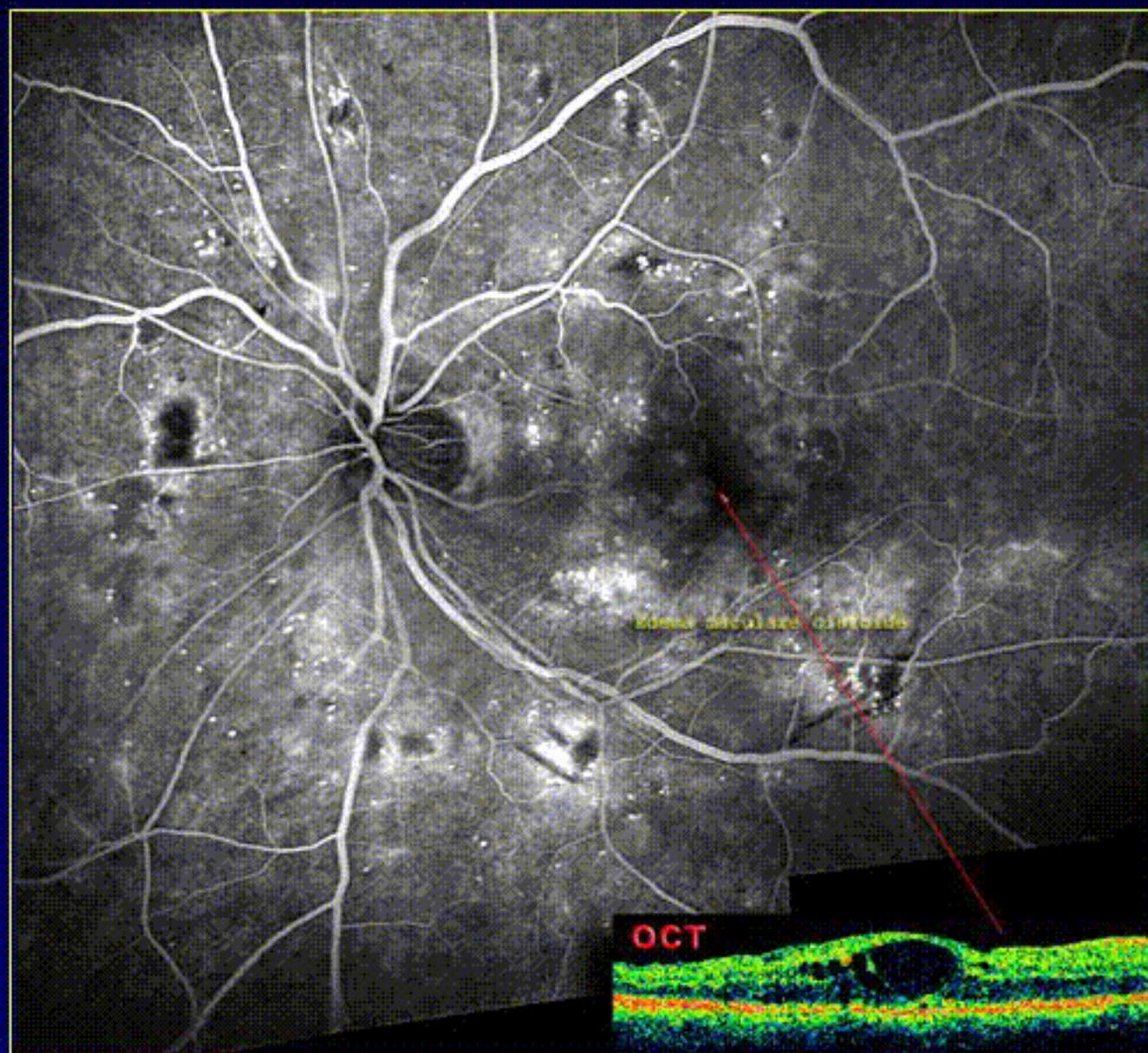


Adattata da: "Retinopatia Diabetica"
Del Prof. B. Lumbroso

(In verde diffusione
di fluoresceina)

TRATTAMENTO

- EDEMA: LASER FOCALE / INTRAVITREALE DI TRIAMCINOLONE
- ISCHEMIA: LASER/ PANRETINICA





L'iniezione intraoculare di triamcinolone è una tecnica recentemente introdotta per il trattamento di tutte le forme di edema maculare.

Il farmaco si inietta direttamente nella cavità vitreale.

L'iniezione è leggermente dolorosa. Può essere preceduta da una leggera anestesia locale.

Effetti indesiderati che si verificano più frequentemente sono la progressione della cataratta e l'aumento della pressione intraoculare.

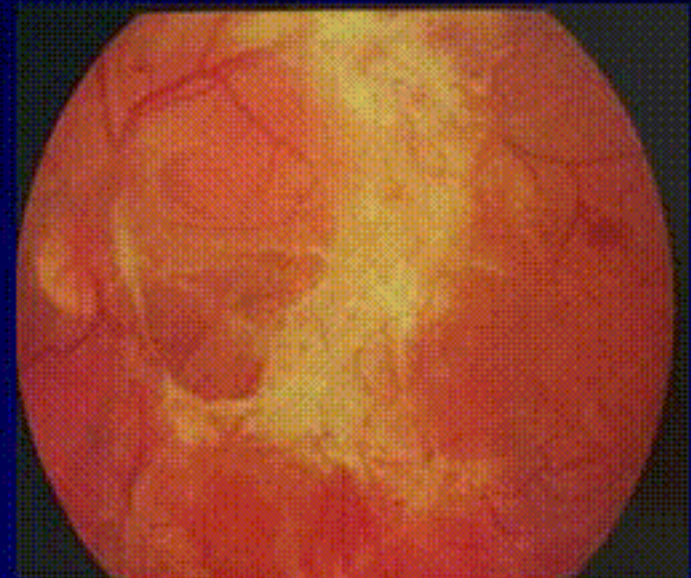
Le settimane successive all'iniezione il paziente potrà riferire la presenza di annebbiamenti secondari alla formazione di cristalli del farmaco che fluttuano dentro l'occhio. Di solito dopo circa 3 settimane questi disturbi cessano.

Fotocoagulazione laser panretinica



RETINOPATIA DIABETICA AVANZATA

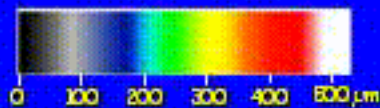
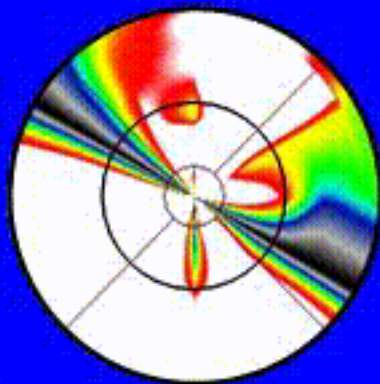
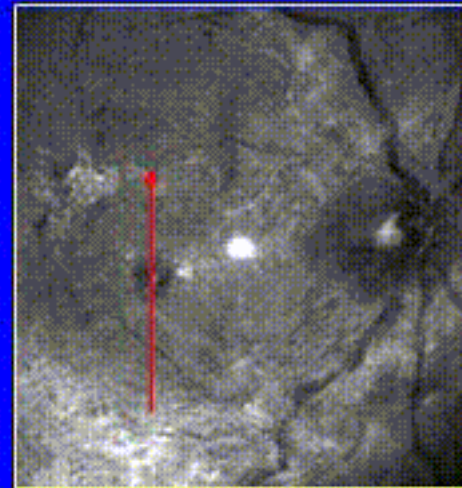
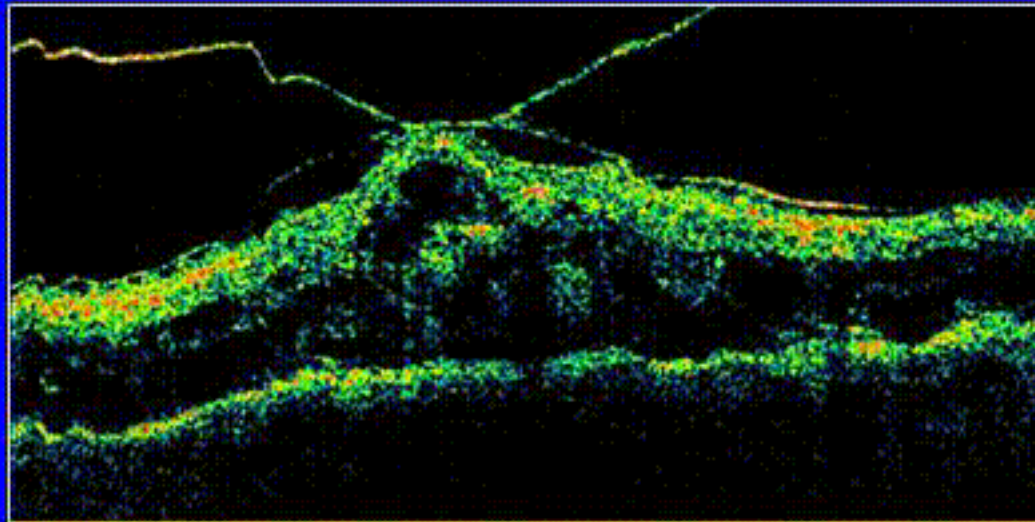
- GLAUCOMA
NEOVASCOLARE
- DISTACCO DI
RETINA
- EMORRAGIA
DEL VITREO



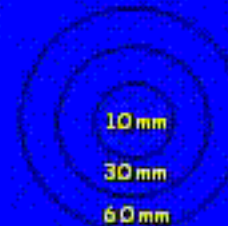
Fluorangiografia di retinopatia diabetica proliferante parzialmente trattata



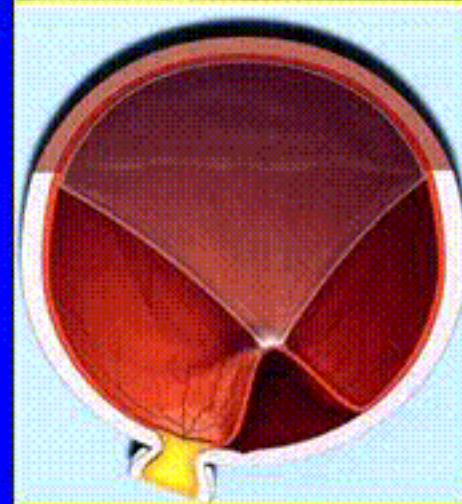
Retinal Map Analysis (trazione ad ali di gabbiano)



- 3,5 mm
- 6,0 mm



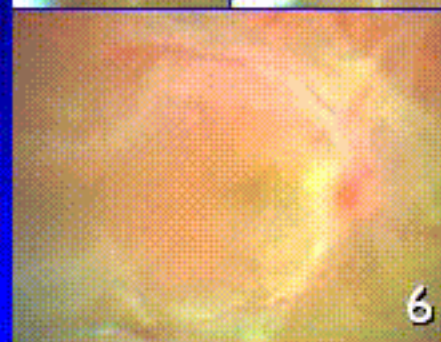
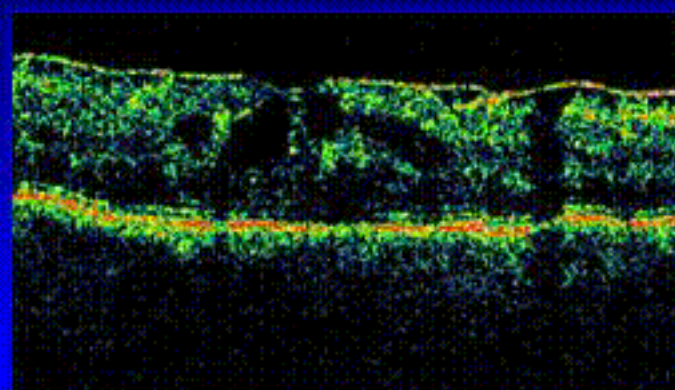
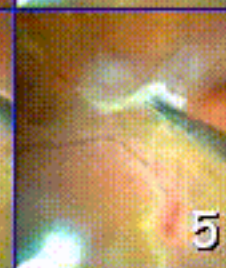
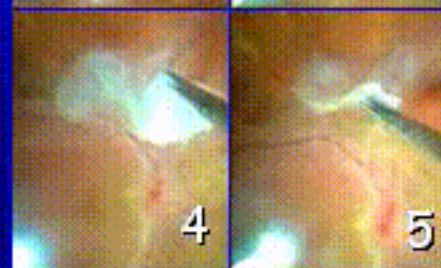
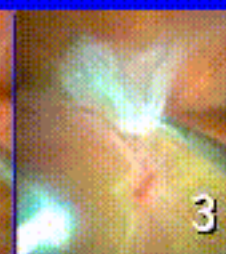
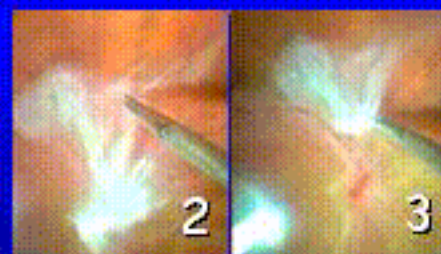
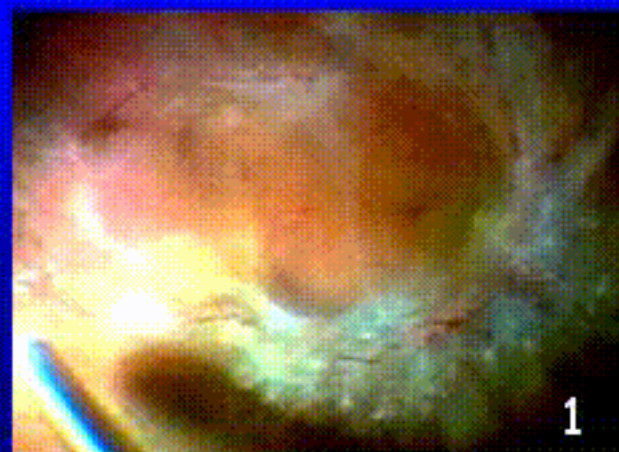
Map Diameters



Center 554 ± 328 micron
Total Volume $16,94 \text{ mm}^3$

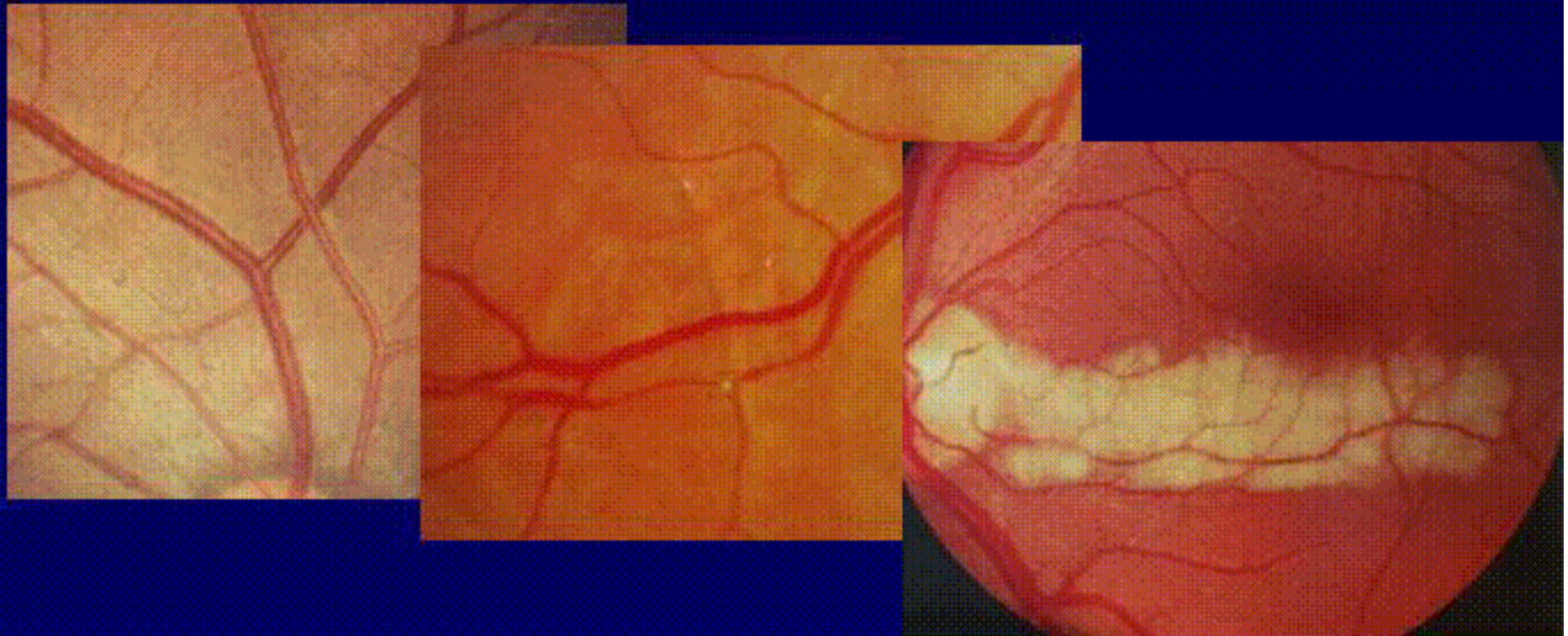
Membrana epiretinica (asportazione chirurgica)

Fasi dell'intervento



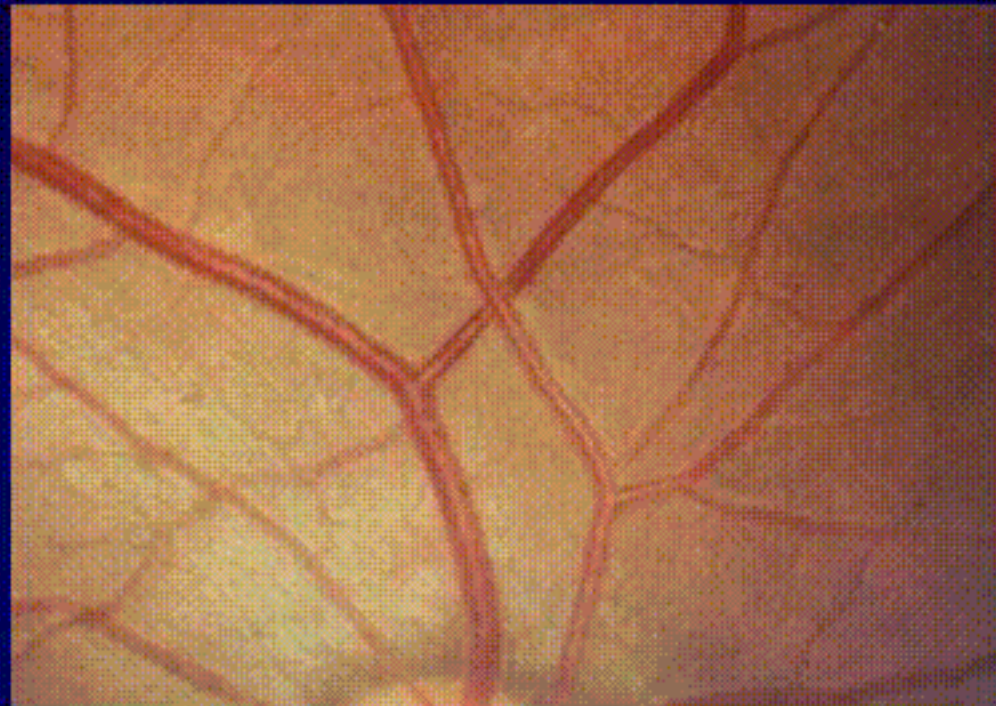
ARTERIOSCLEROSI DA IPERCOLESTEROLEMIA

- ACCENTUAZIONE DEL RIFLESSO
PERIARTERIOSO



ARTERIOSCLEROSI DA FUMO DI SIGARETTA

- ACCENTUAZIONE DEL RIFLESSO
PERIARTERIOSO



GRAZIE