

Angiographische Diagnostik bei AMD

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Bedeutungswandel der FLA

- vor 10 Jahren: Diabetes, Gefäßverschlüsse, Uveitis im Vordergrund
- heute: AMD häufigste Indikation
- nicht nur primäre Diagnose,
- sondern auch:

Bedeutungswandel der FLA

- Größenmessung der CNV
- Verlaufskontrolle nach Therapie
- Nachweis gegenüber der KV und Krankenkassen
- Korrelation mit anderen Untersuchungsverfahren (ICGA, OCT)

Morphologische Vielfalt

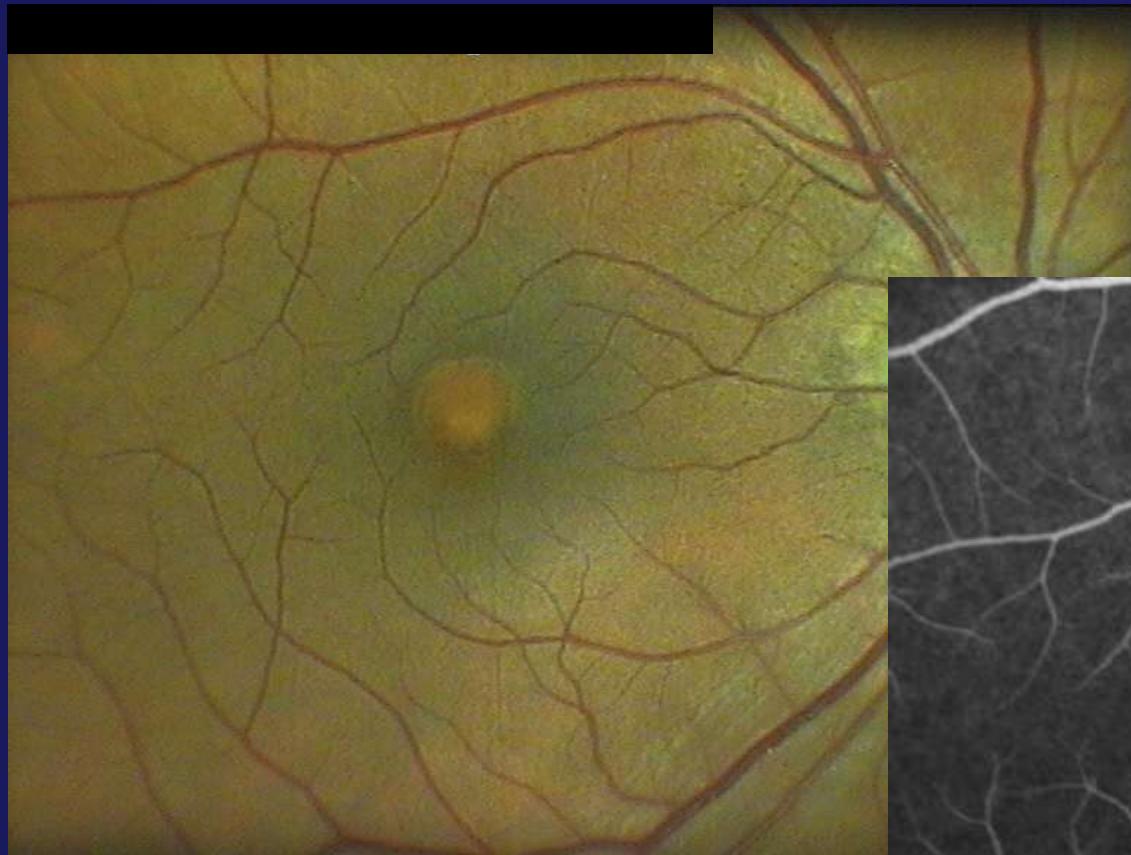
- angiographischer Typ der Läsion
- Größe und Lage der Läsion
- Begleitveränderungen
- Therapieeffekte

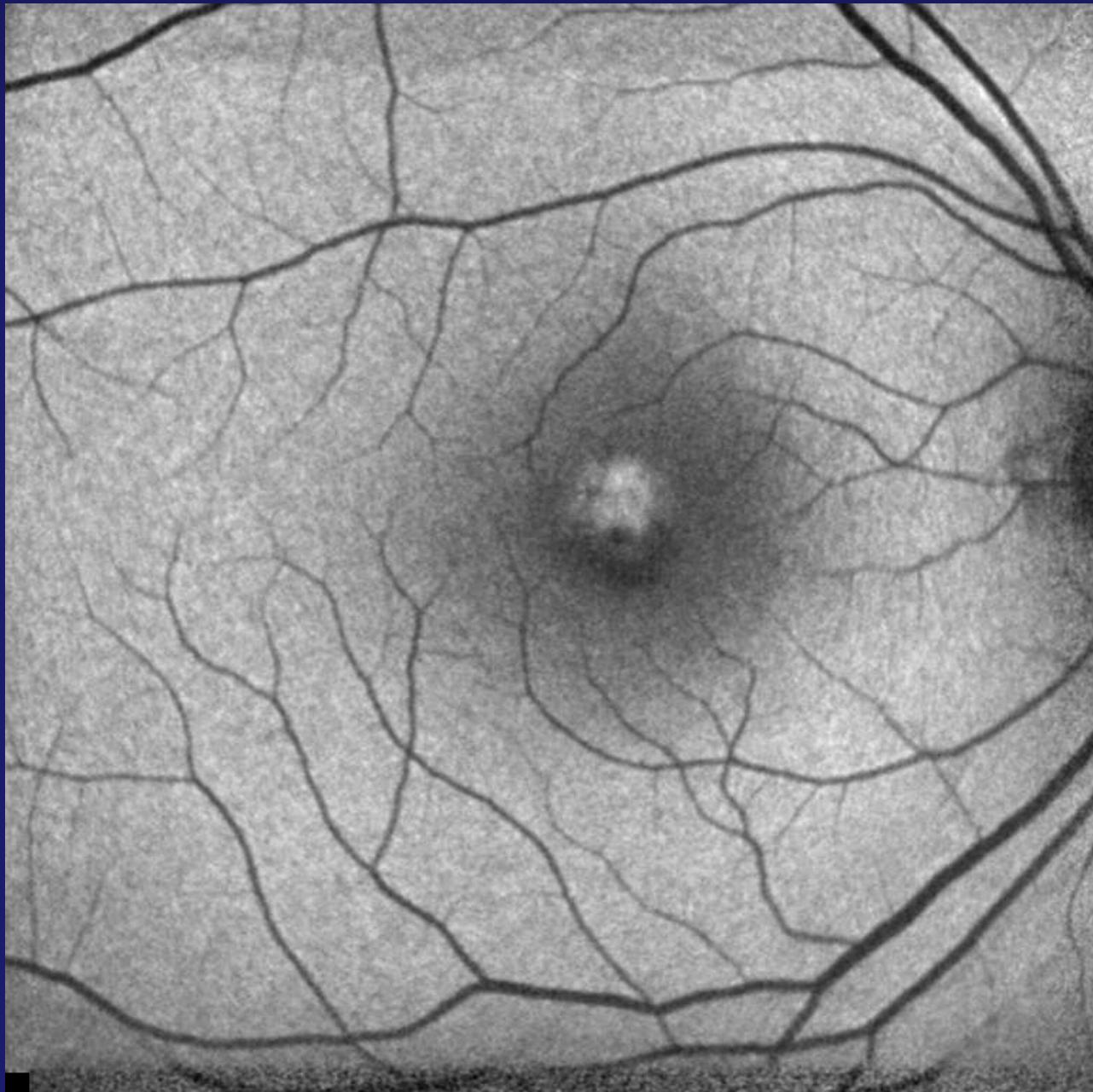
Bildgebende Diagnostik bei AMD

- Farbphotographie
- Autofluoreszenz
- Fluoreszein-Angiographie
- Indozyanalingrün-Angiographie
- Optische Kohärenz-Tomographie

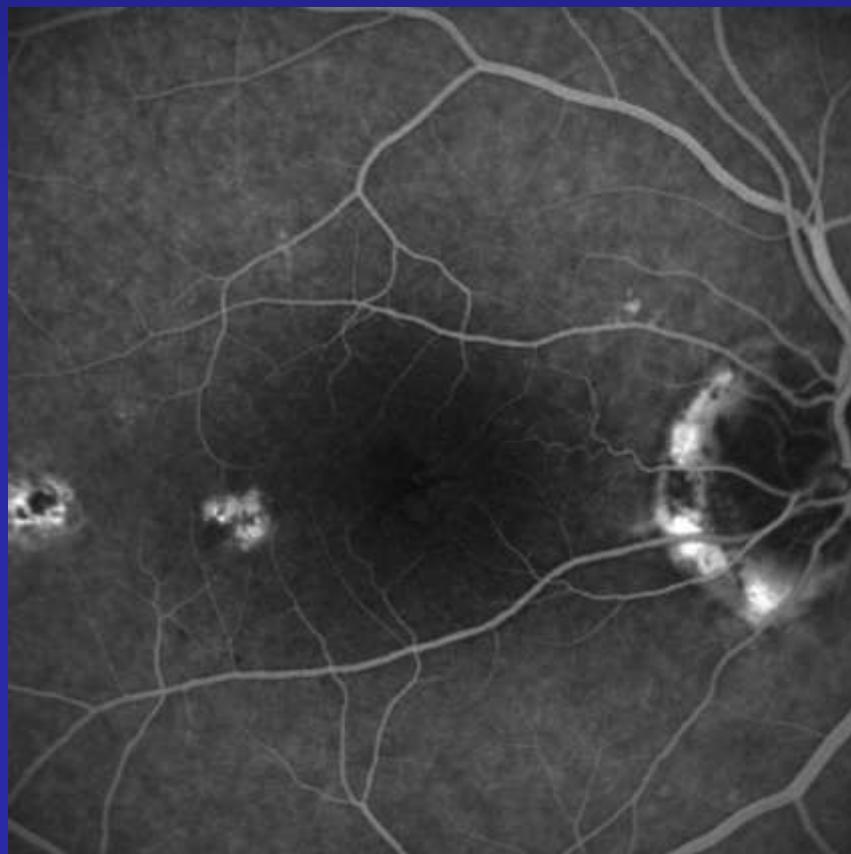
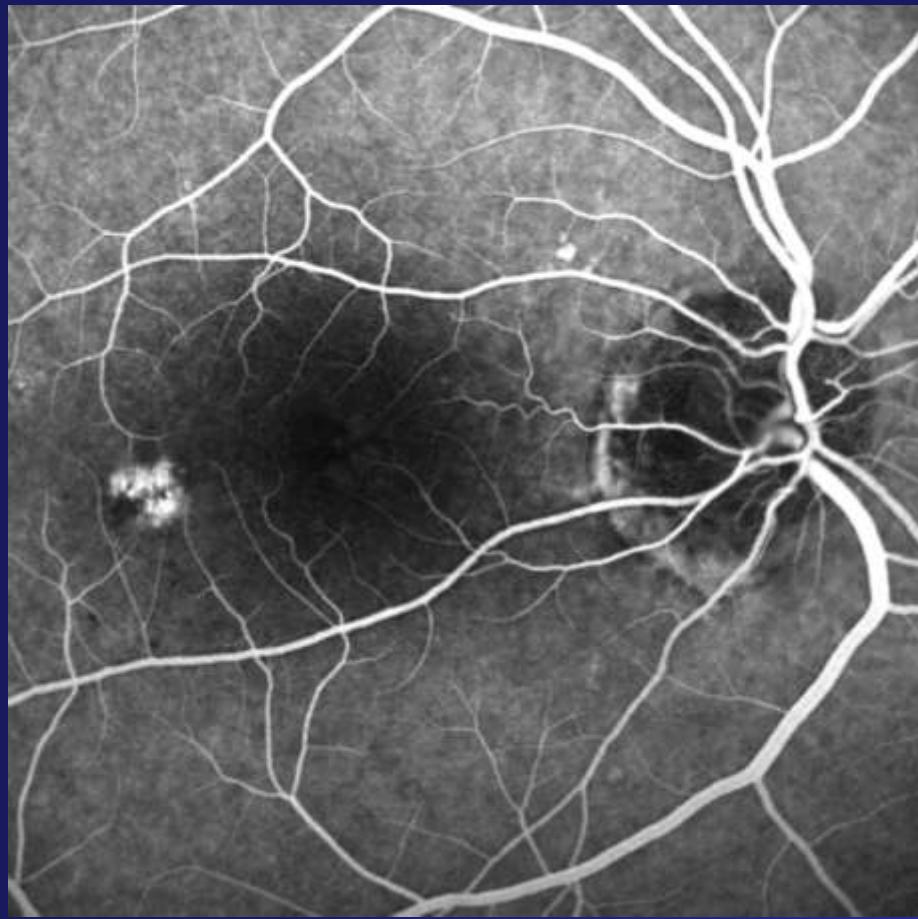


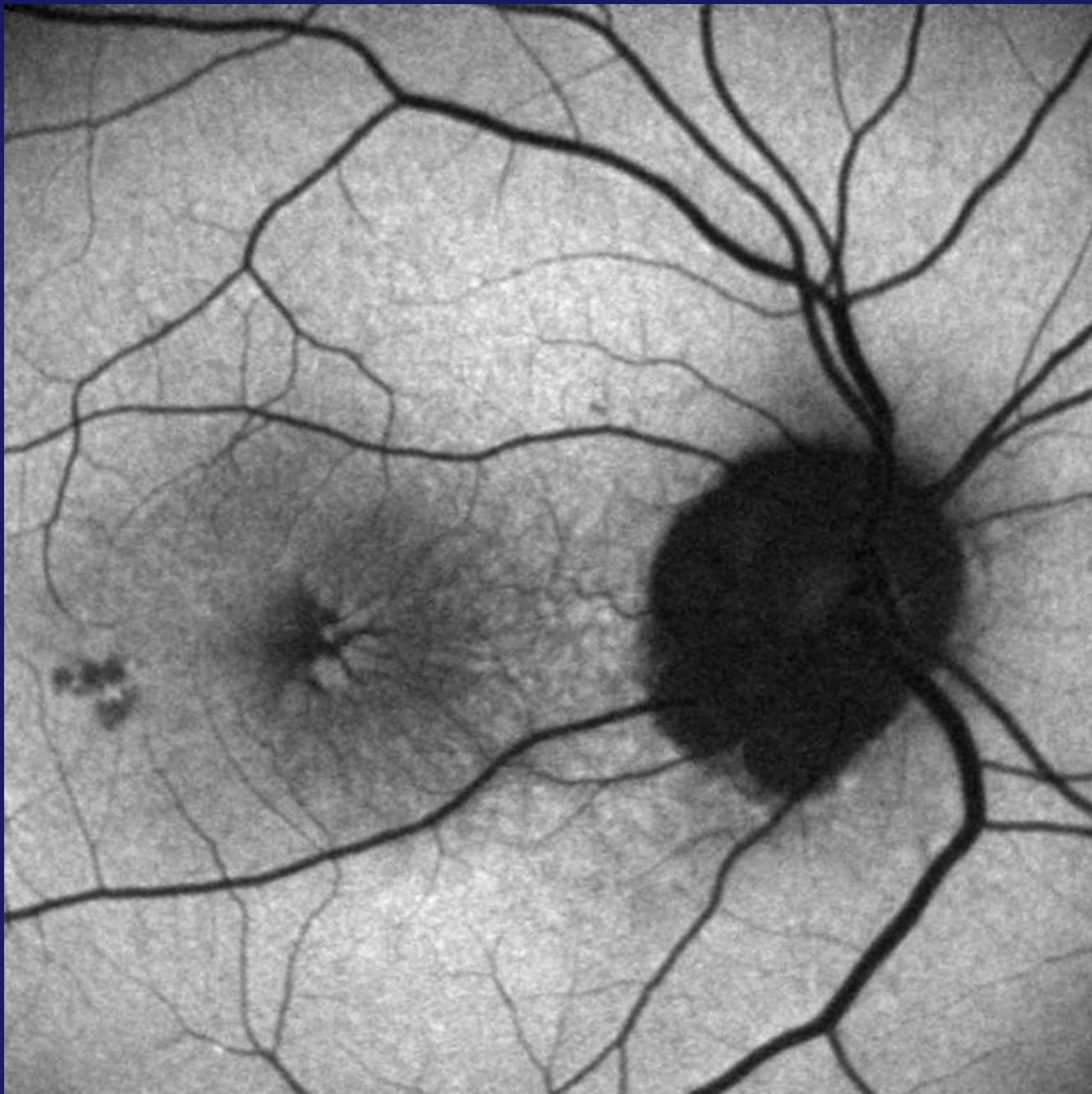
Autofluoreszenz bei Lipofuszinzyste





Lipofuszinzyste

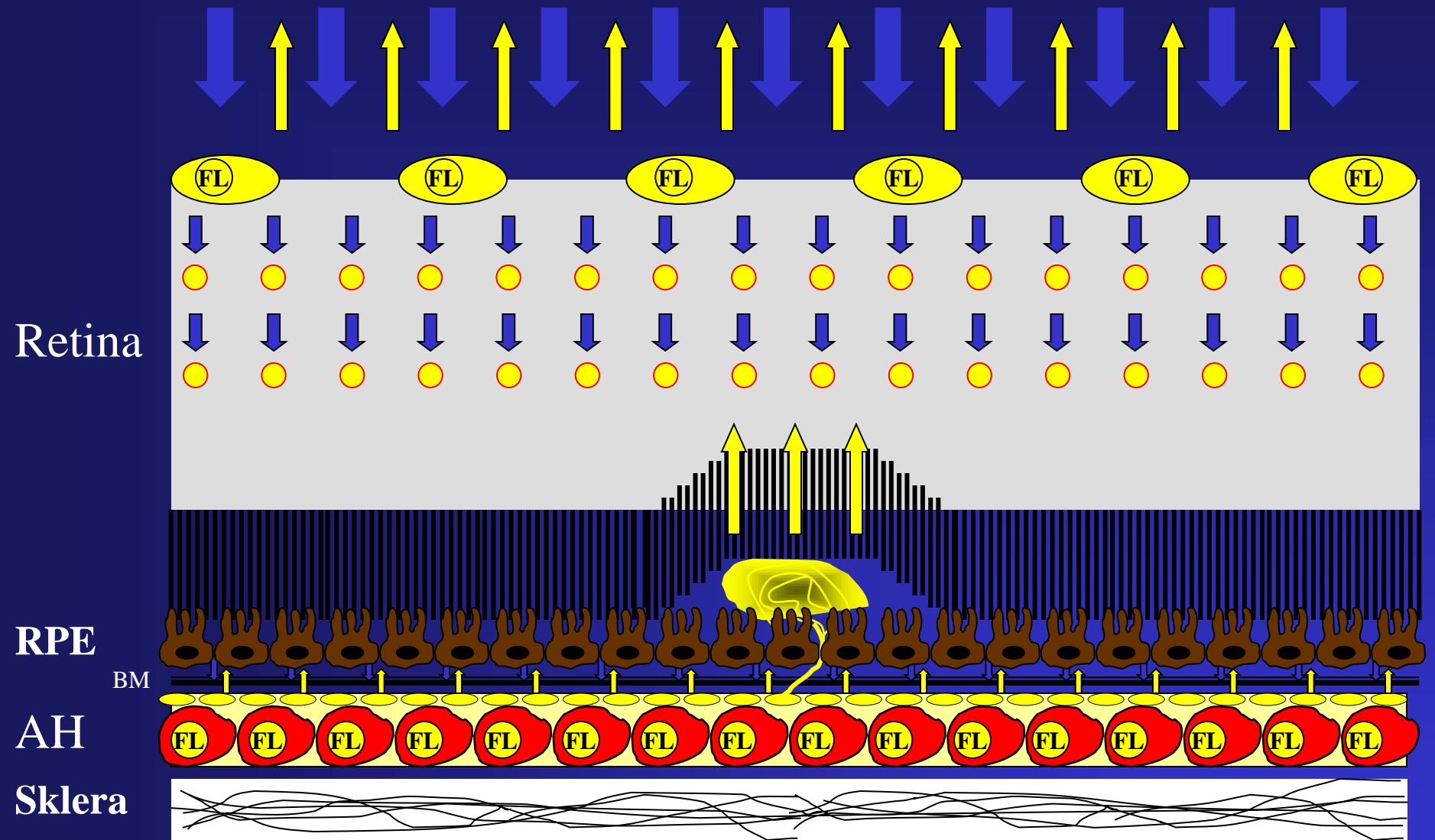




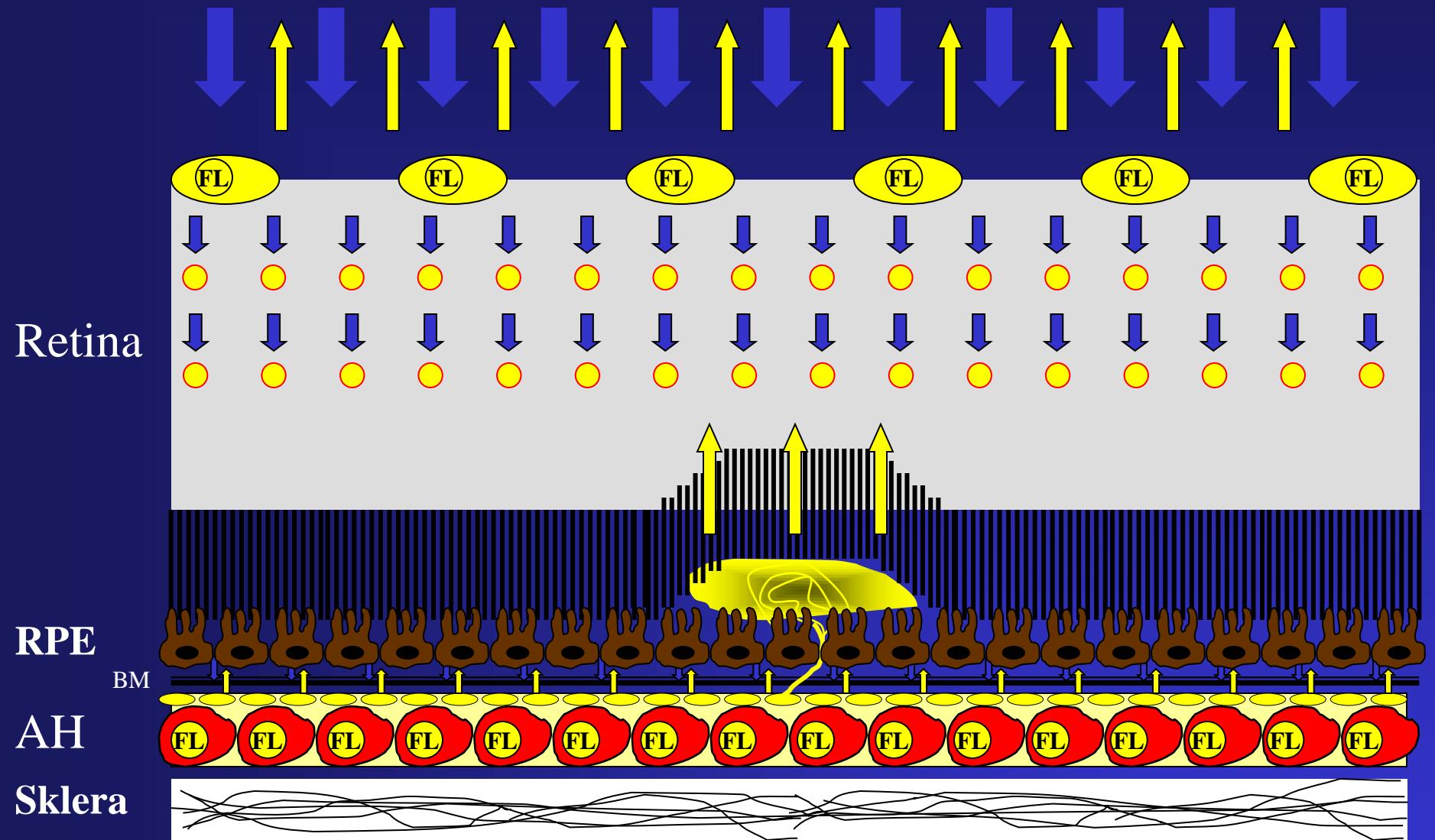
Nomenklatur

Leckage = Hyperfluoreszenz durch
Farbstoffaustritt in:

- einen Hohlraum = Pooling
- solides Gewebe = Staining

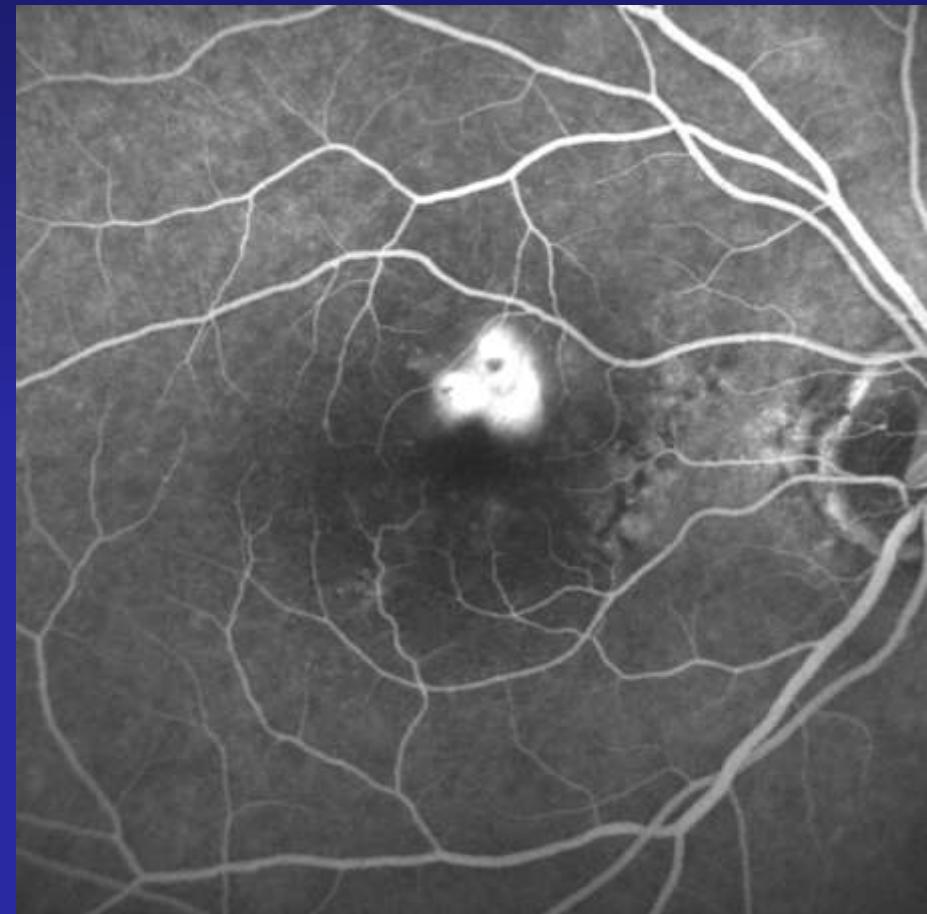


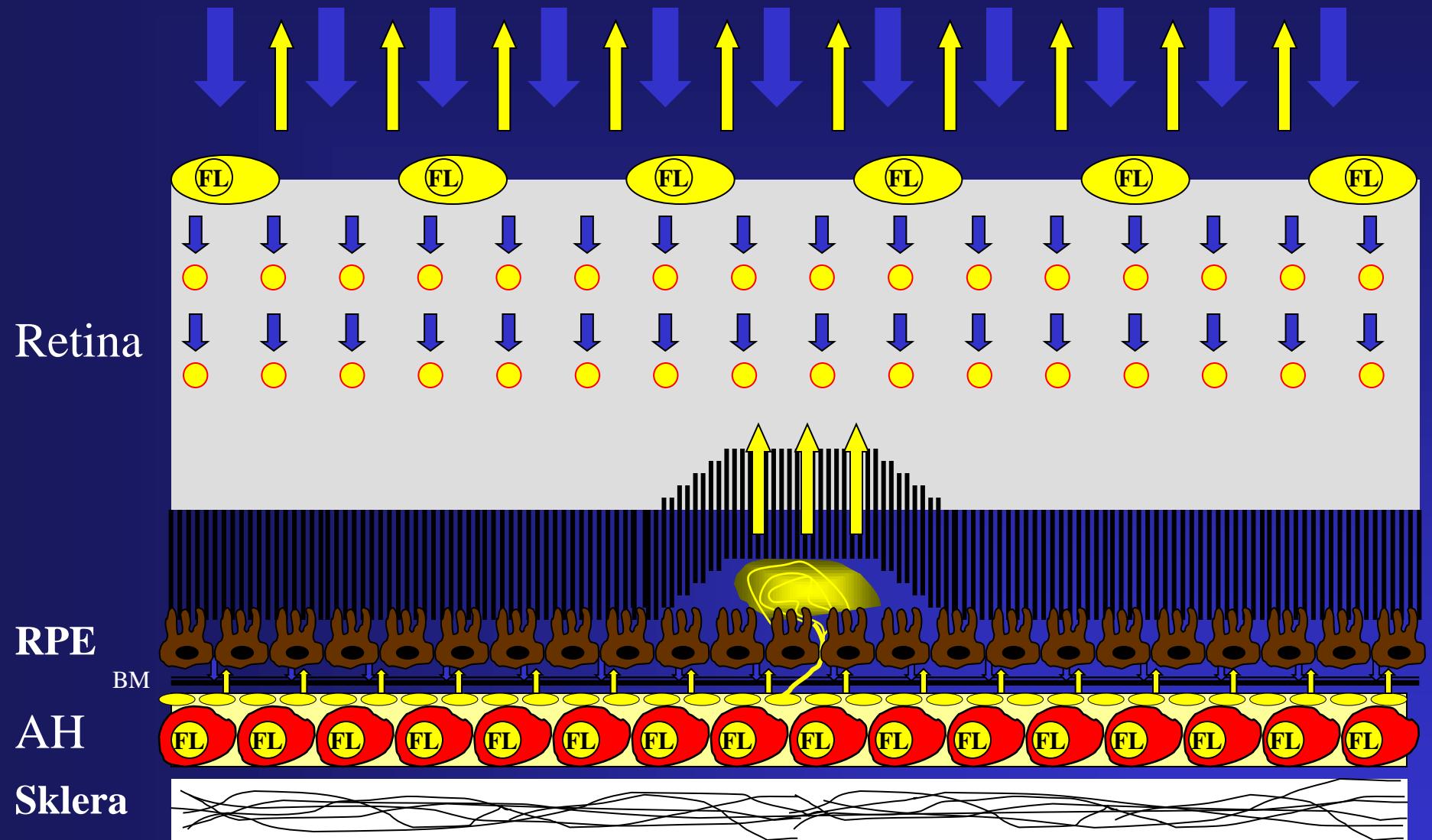
Pooling bei frischer CNV - Frühphase



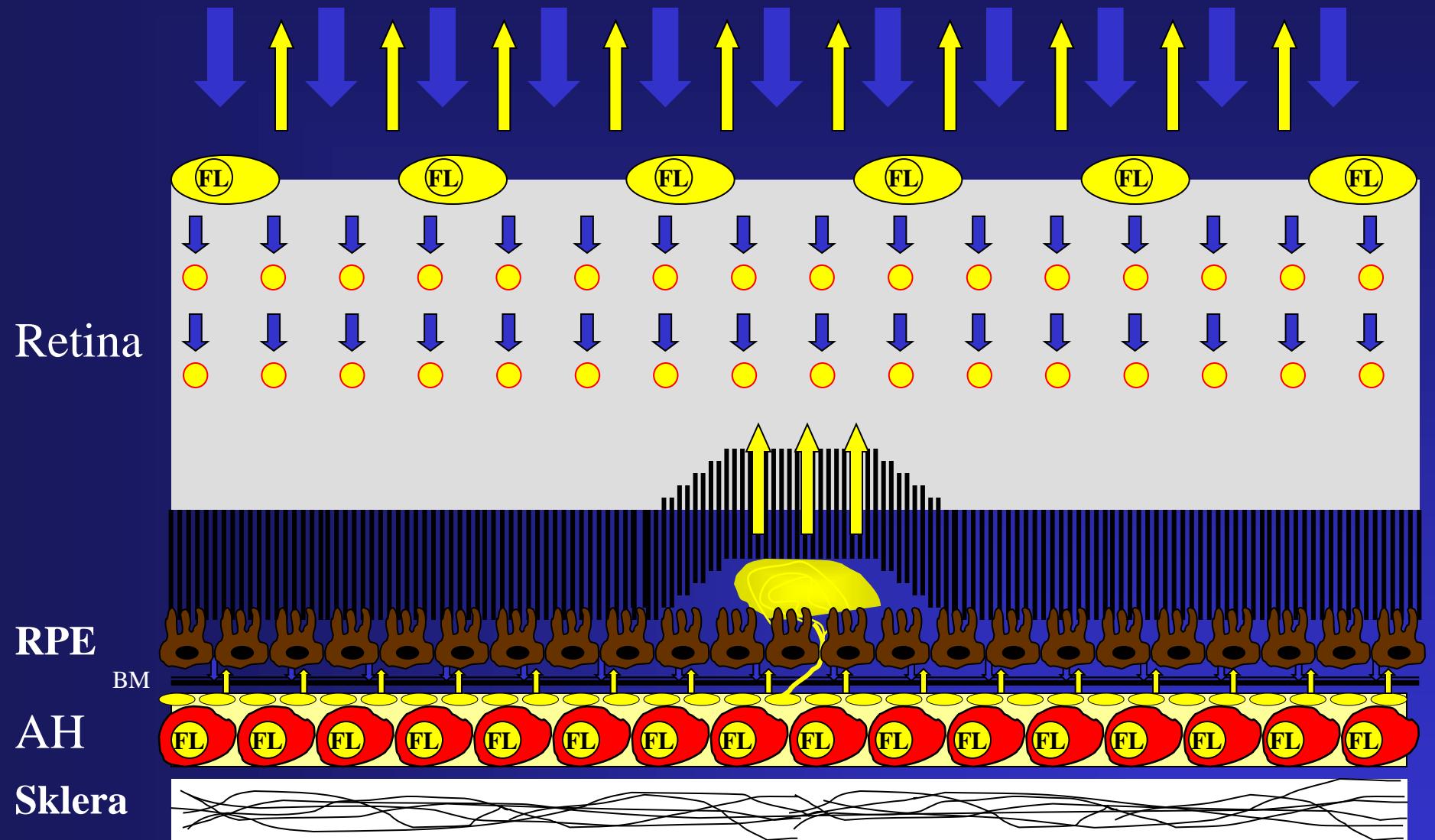
Pooling bei frischer CNV - Spätphase

Pooling bei frischer CNV



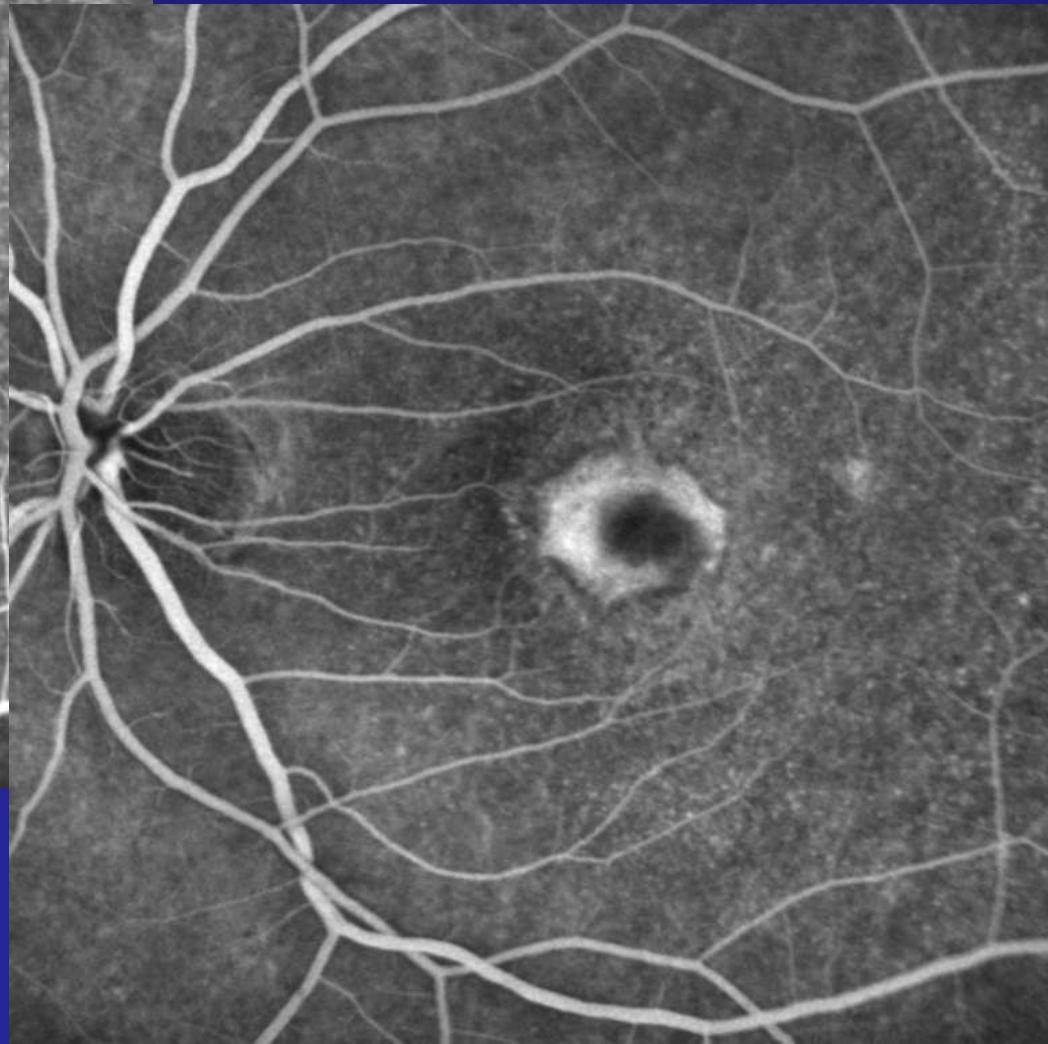
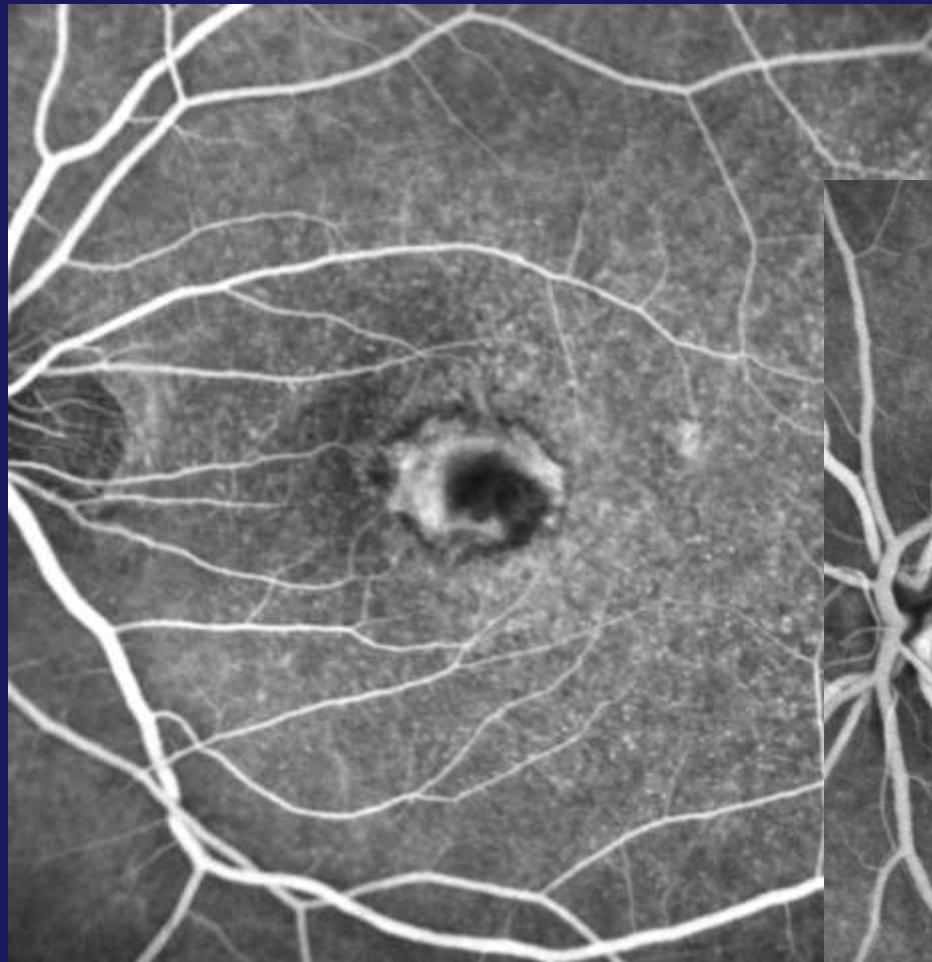


Staining bei behandelter CNV - Frühphase



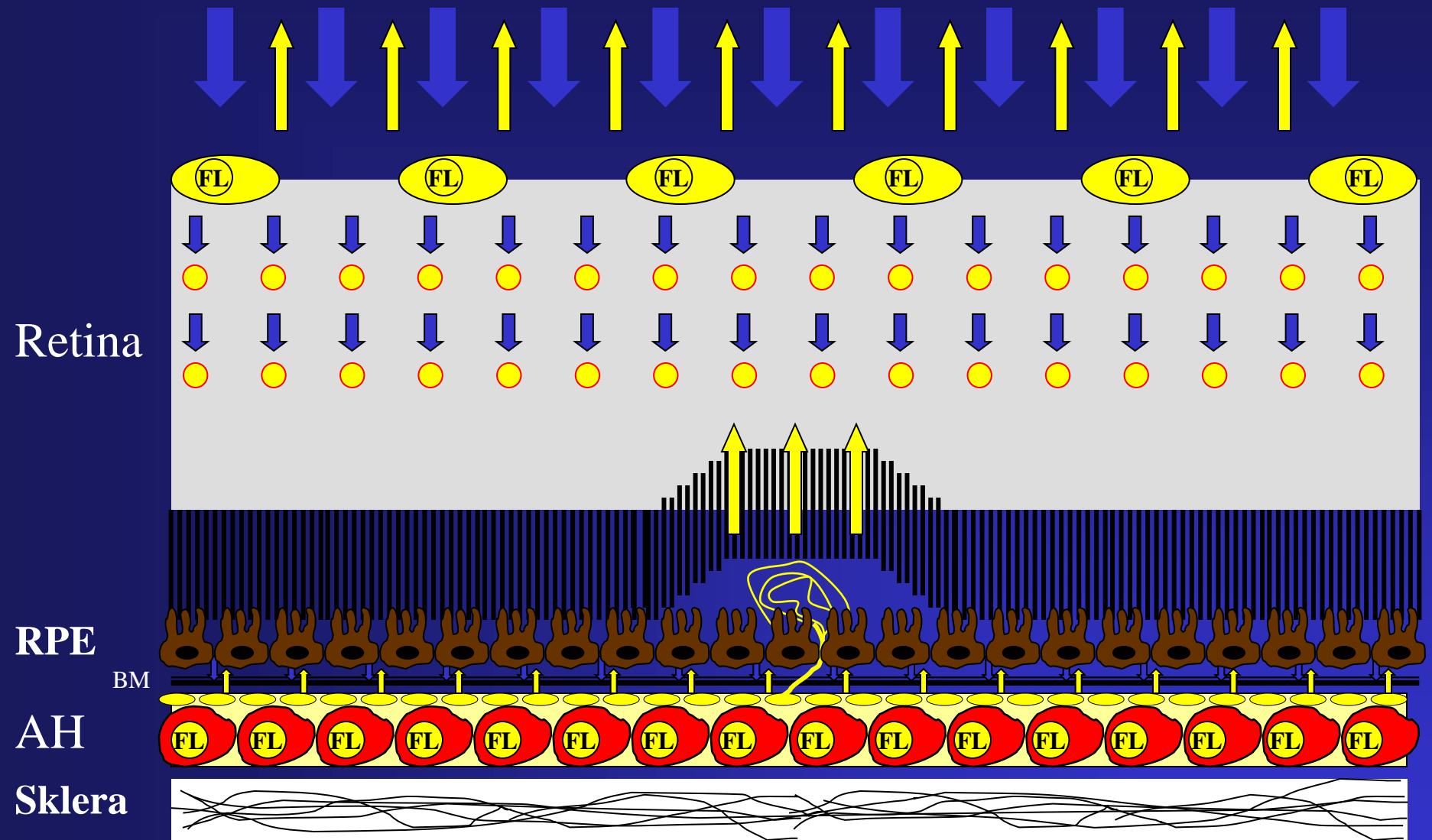
Staining bei behandelter CNV - Spätphase

Staining bei therapiertem CNV

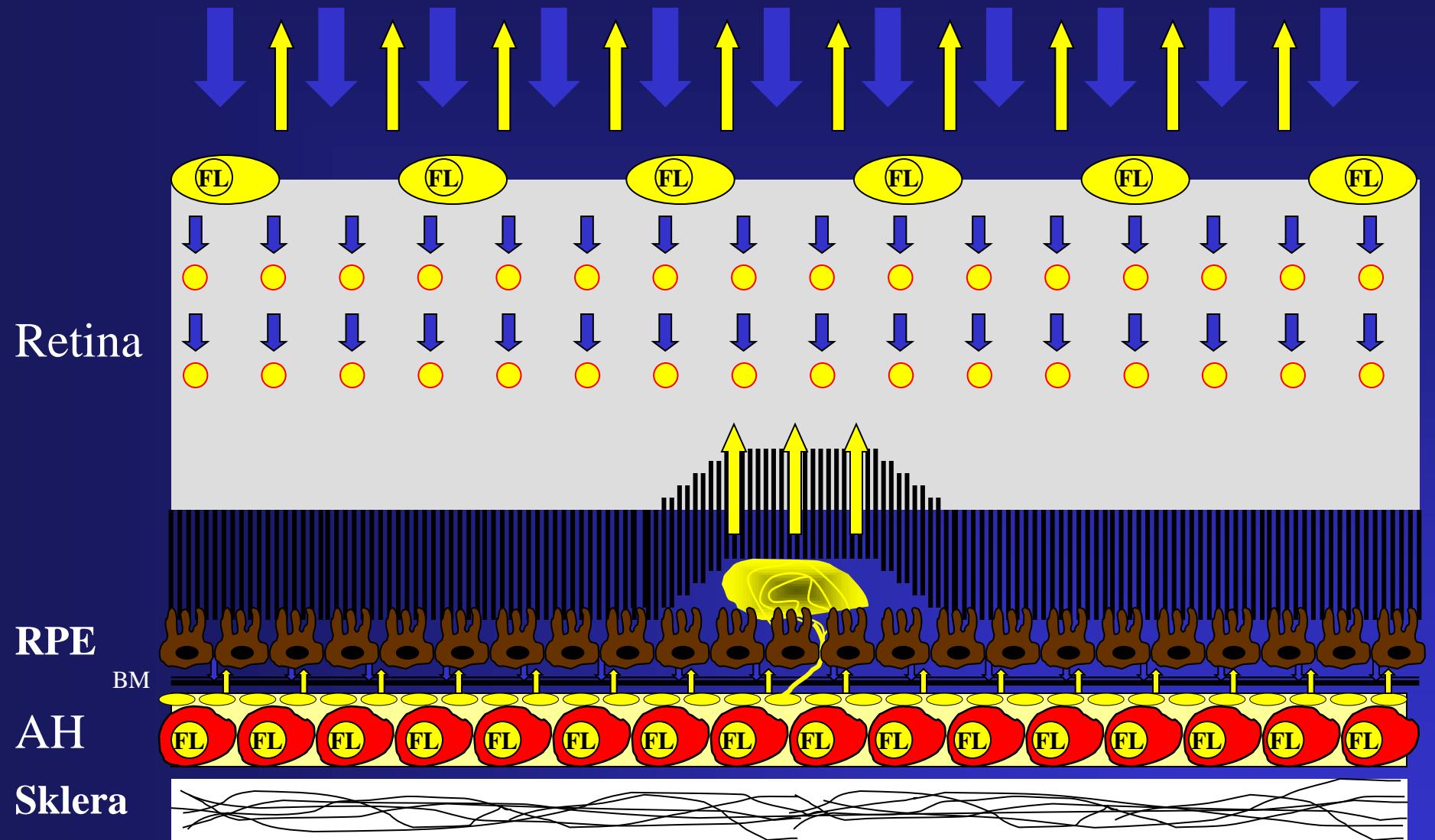


Klassifikation der CNV-Anteile

- präpigmentepithelial (= klassisch)
- subpigmentepithelial (= okkult)
- gemischt



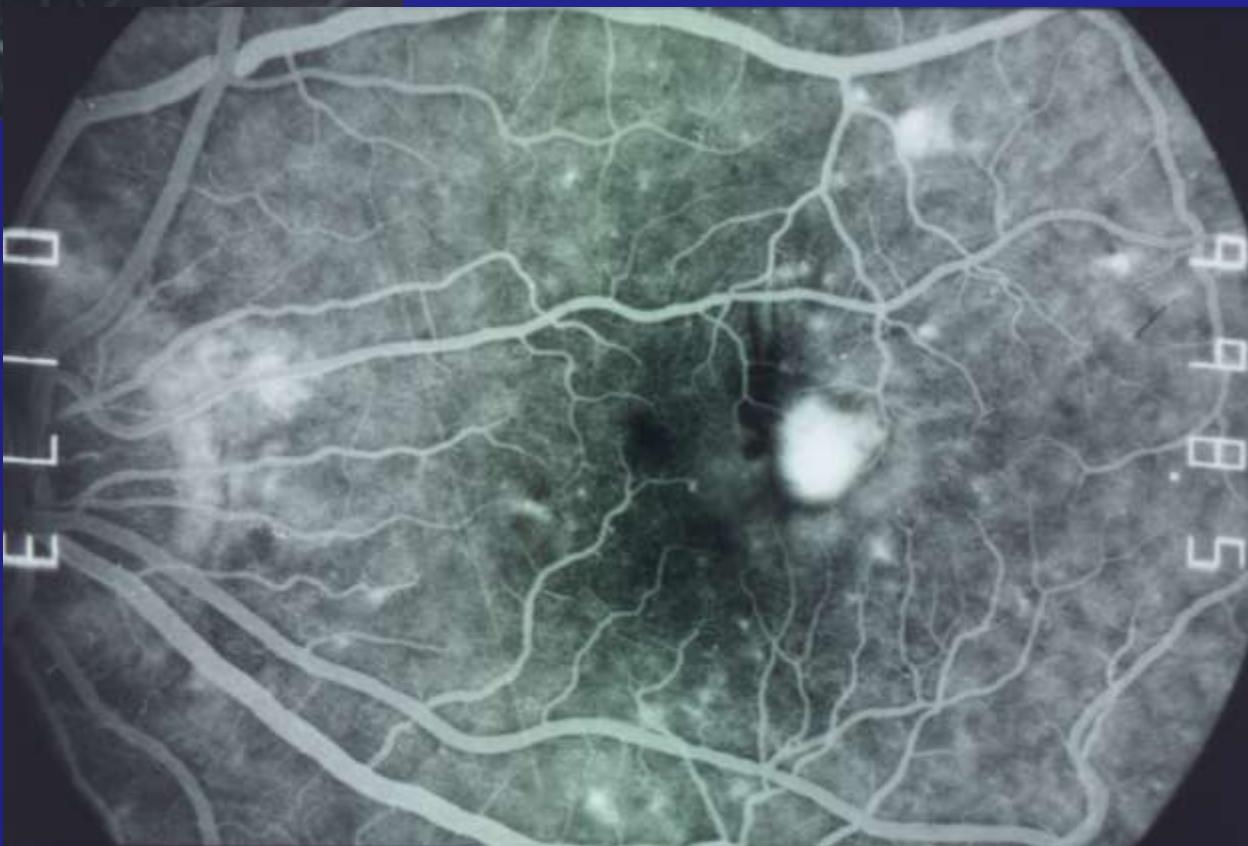
Klassische CNV - Frühphase



Klassische CNV - Spätphase



Leckage bei CNV



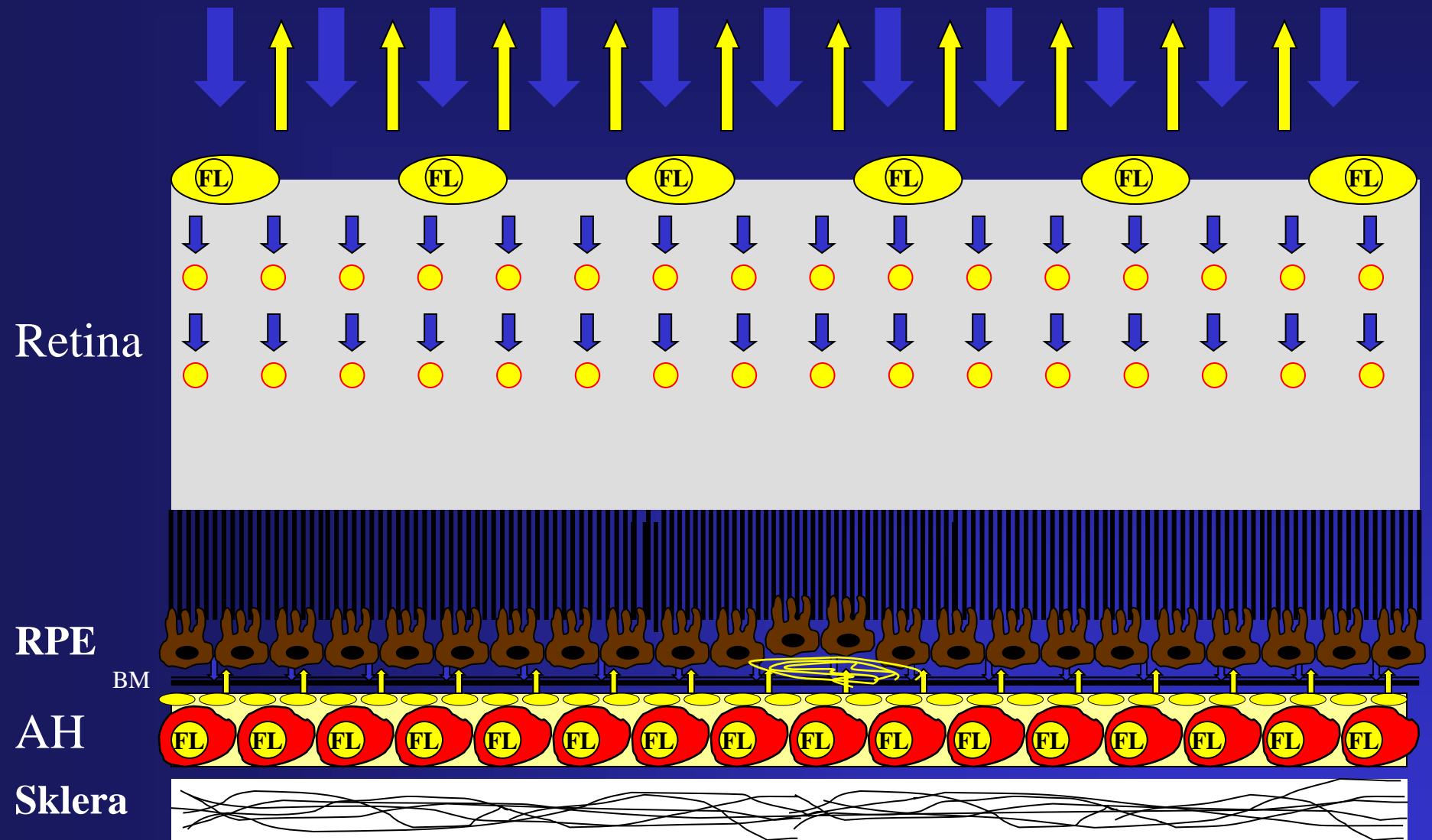
Okkulte CNV – 3 Typen

1.) Subpigmentepitheliale CNV **ohne**
Pigmentepithelabhebung

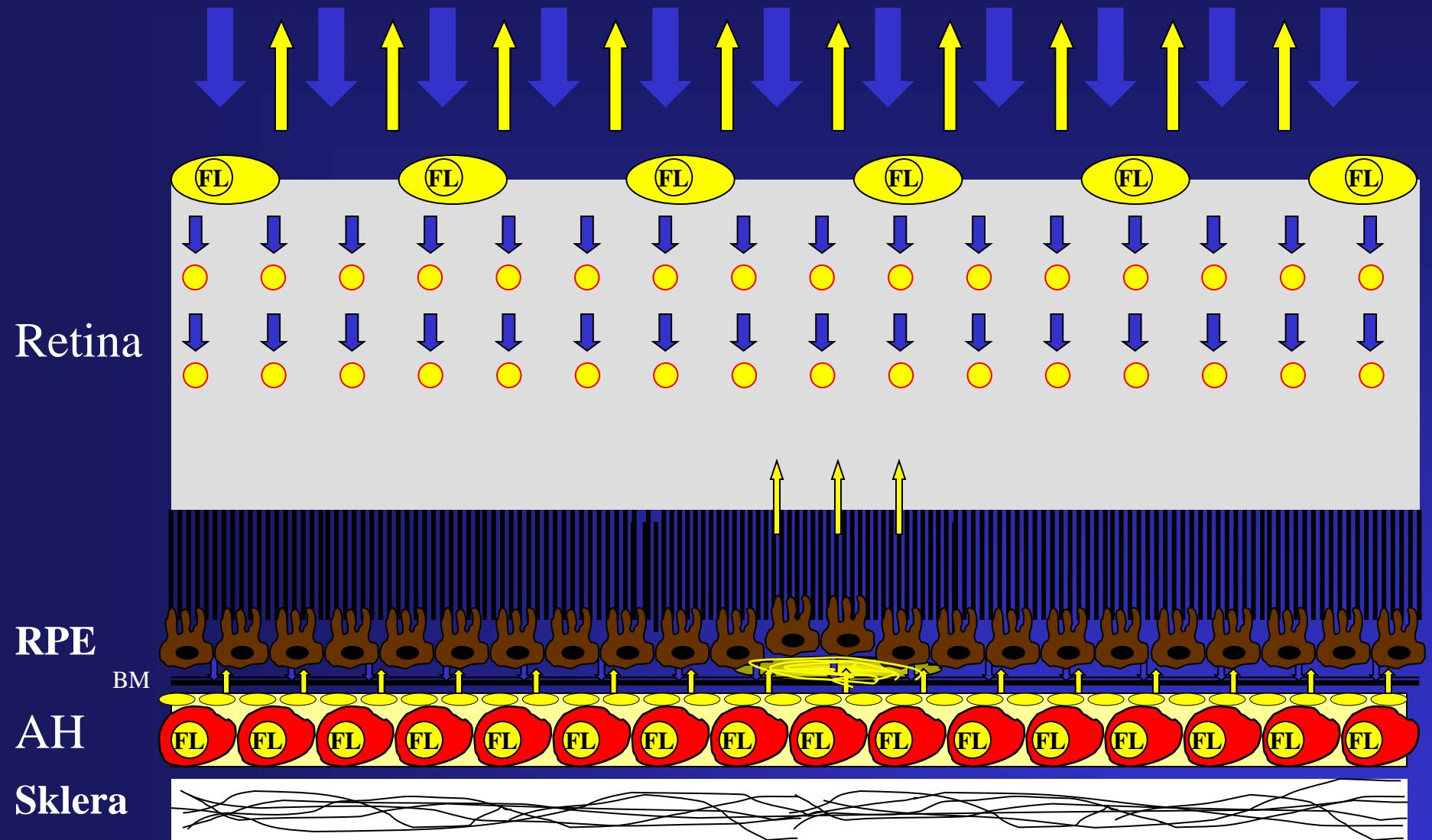
= „late leakage of unknown origin“

2.) Subpigmentepitheliale CNV **mit** Pigmentepithelabhebung
= vaskularisierte Pigmentepithelabhebung

3.) Potentiell klassische CNV
= verdeckt durch eine Blutung

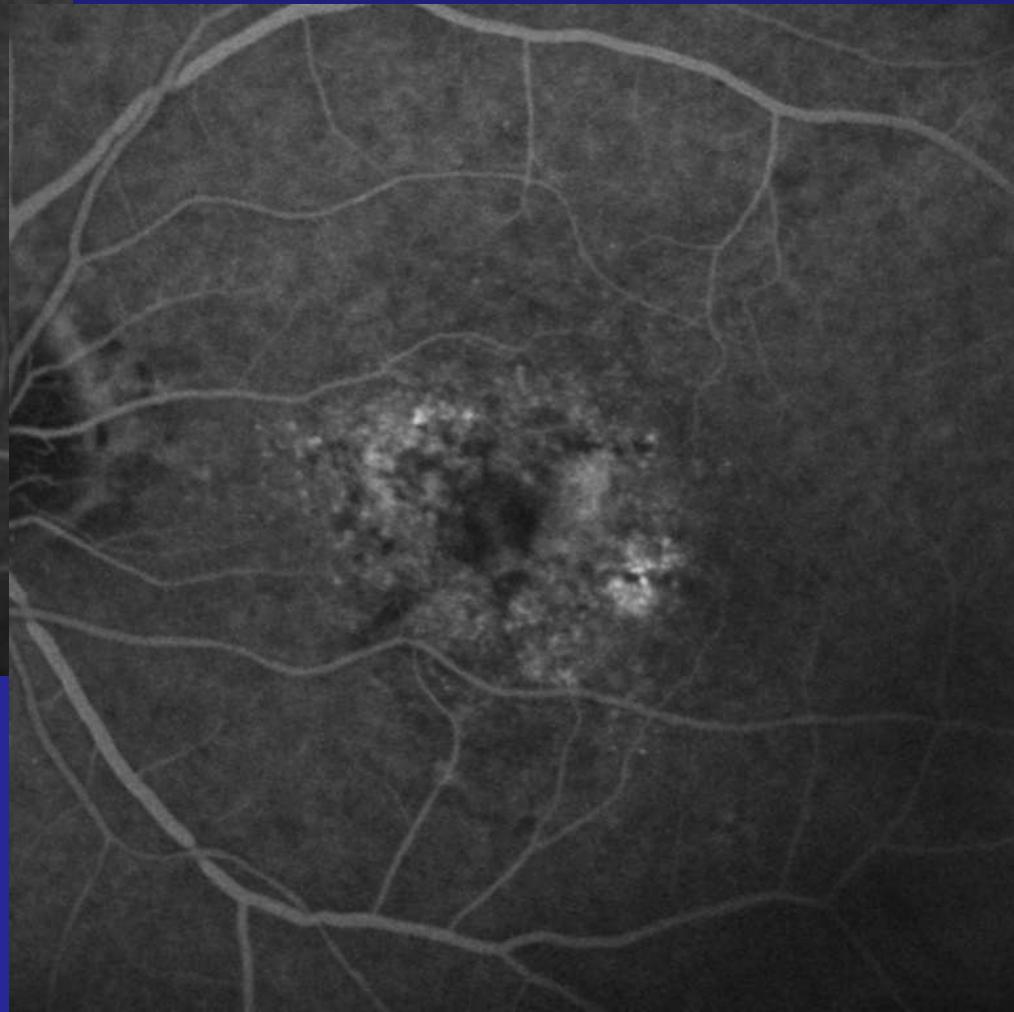
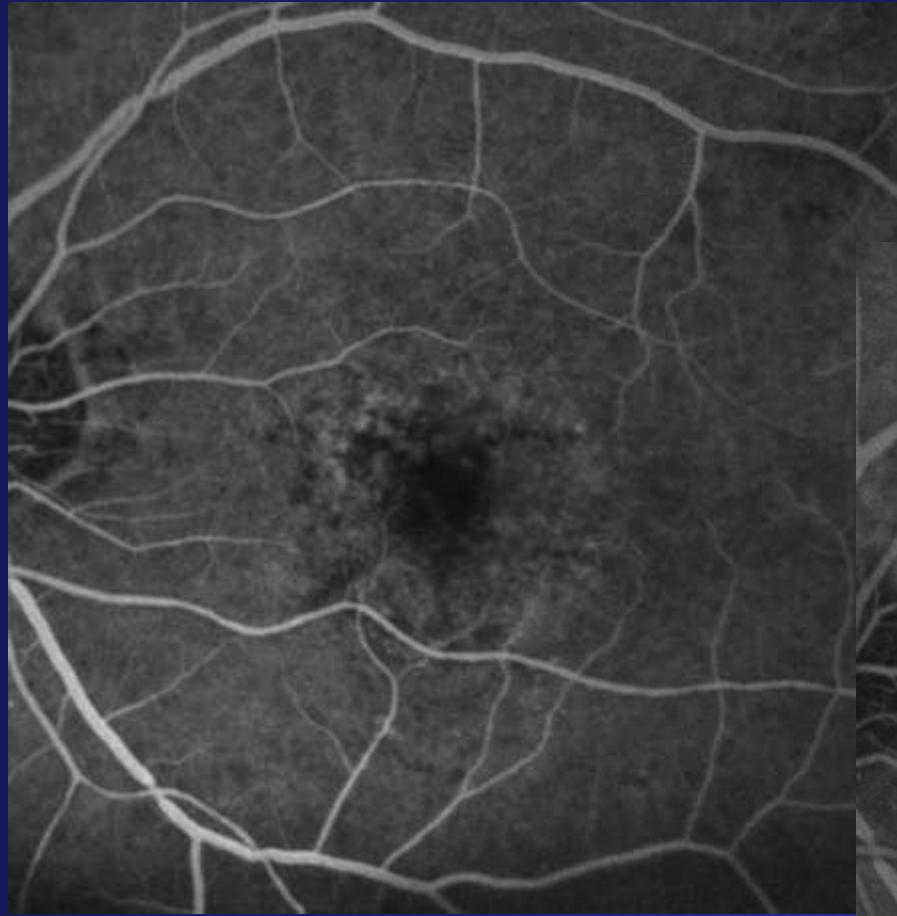


Okkulte CNV (subpigmentepithelial) Frühphase

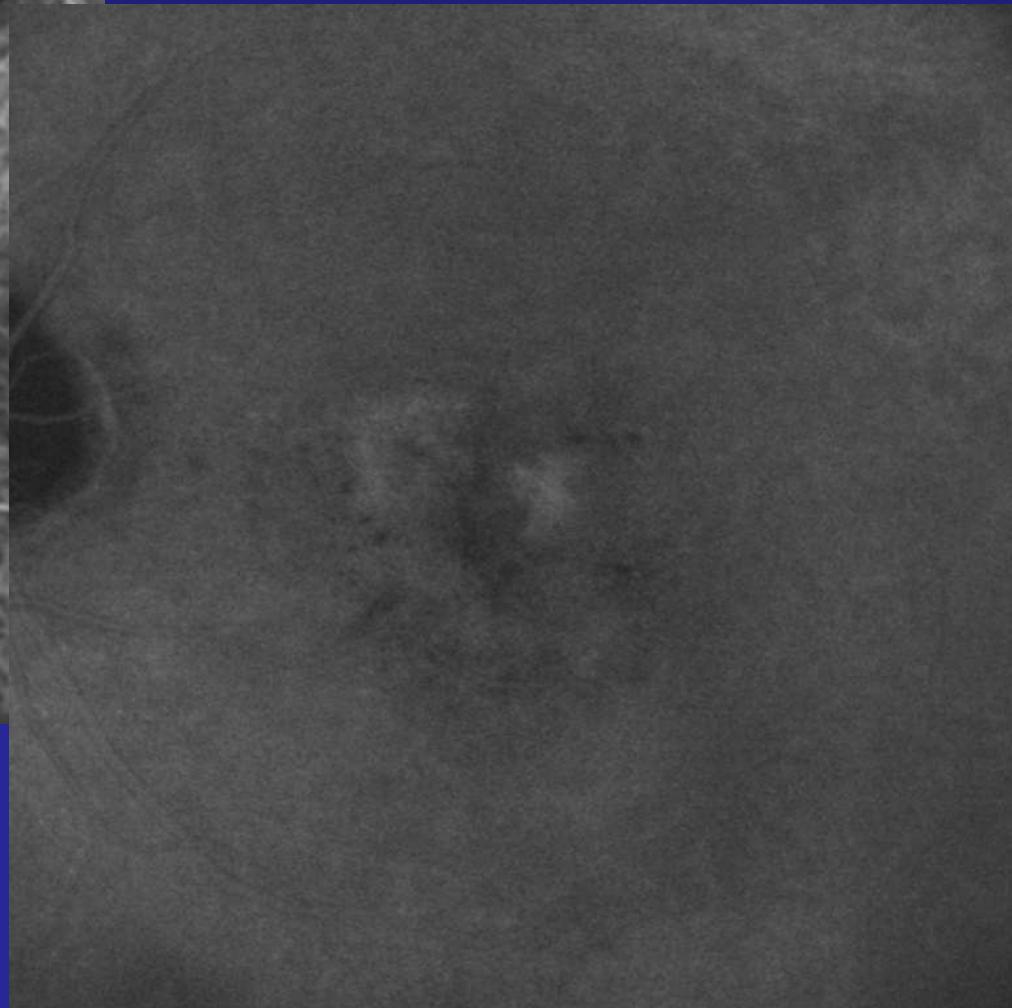
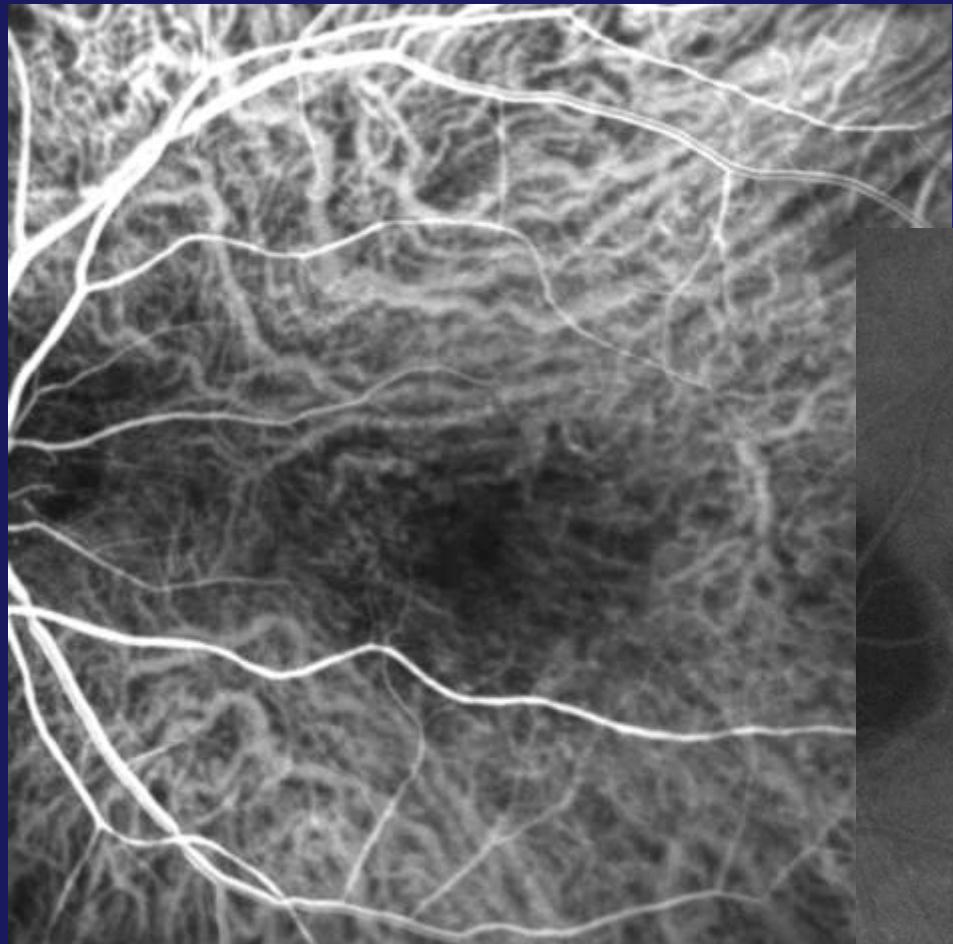


Okkulte CNV (subpigmentepithelial) Spätphase

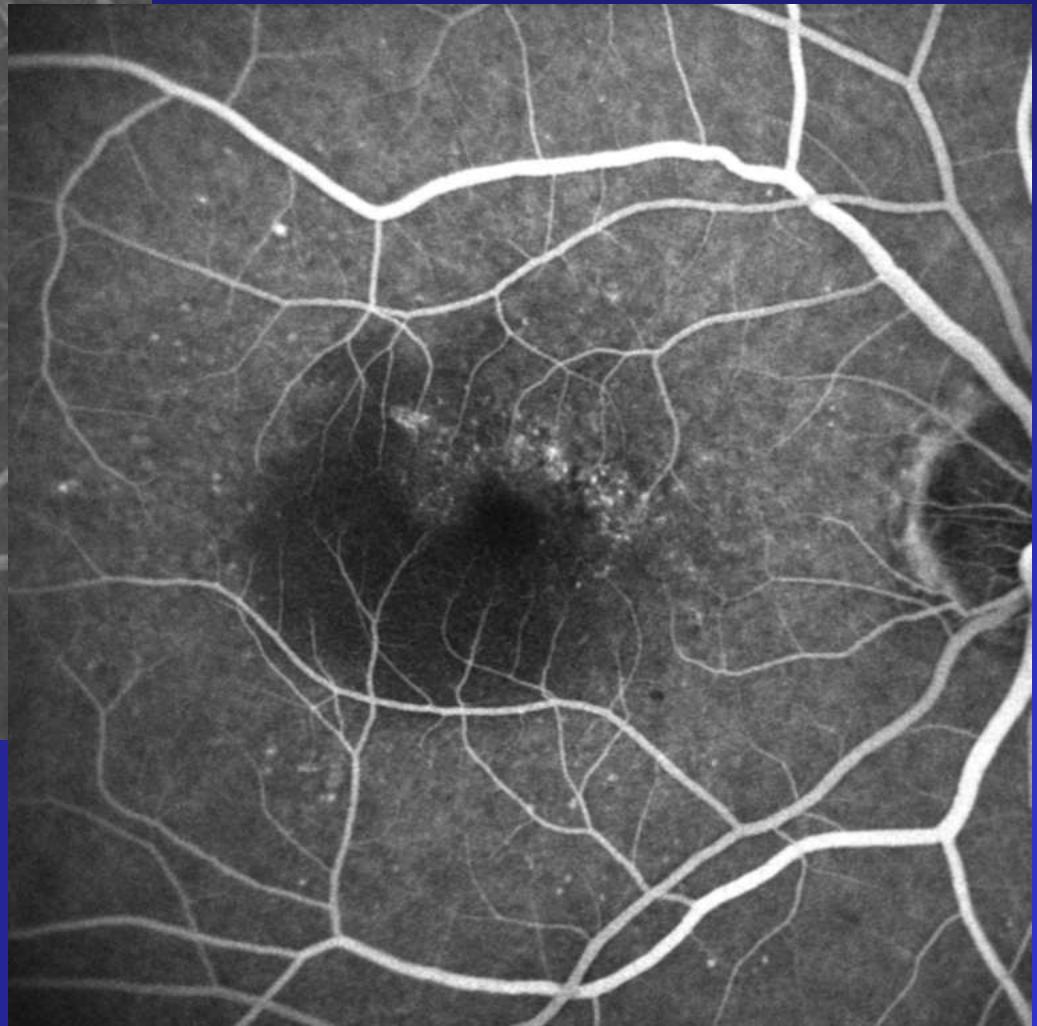
Okkulte CNV vom „late leakage“ Typ



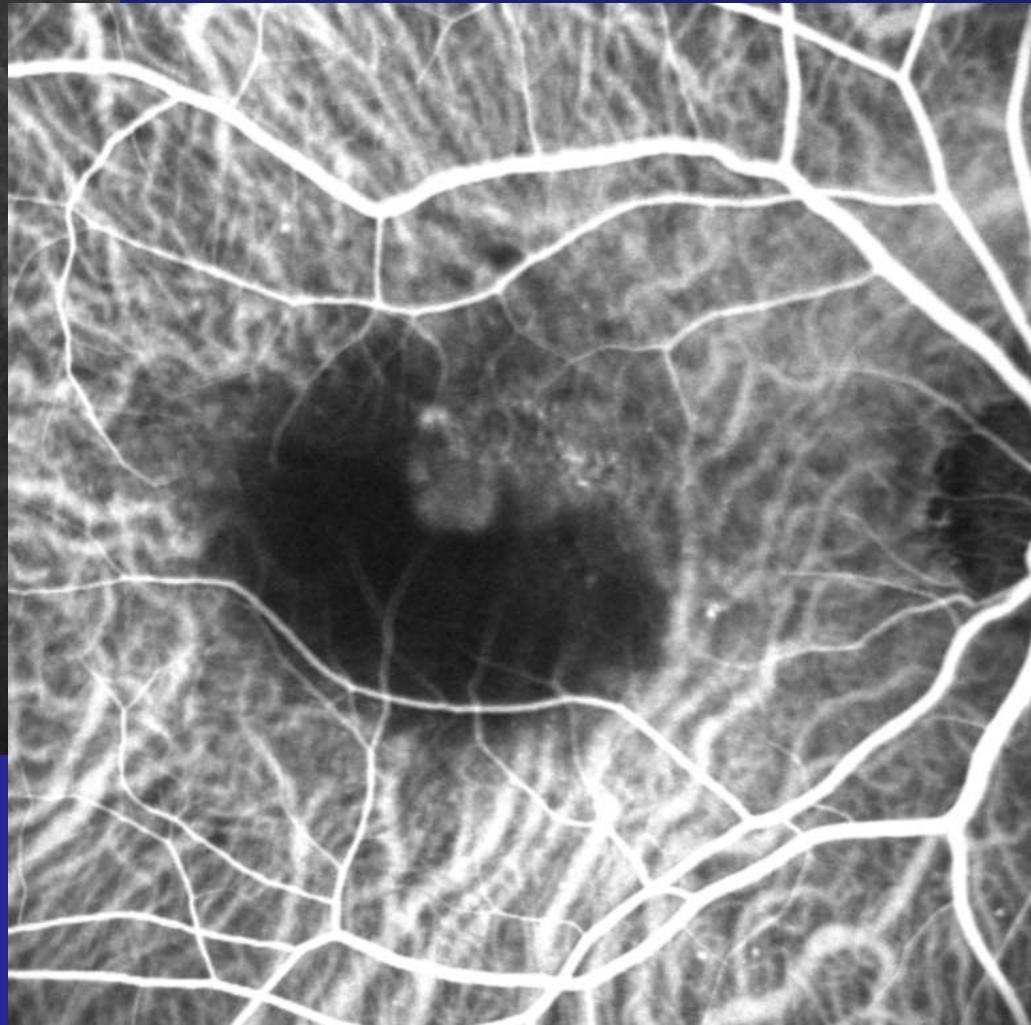
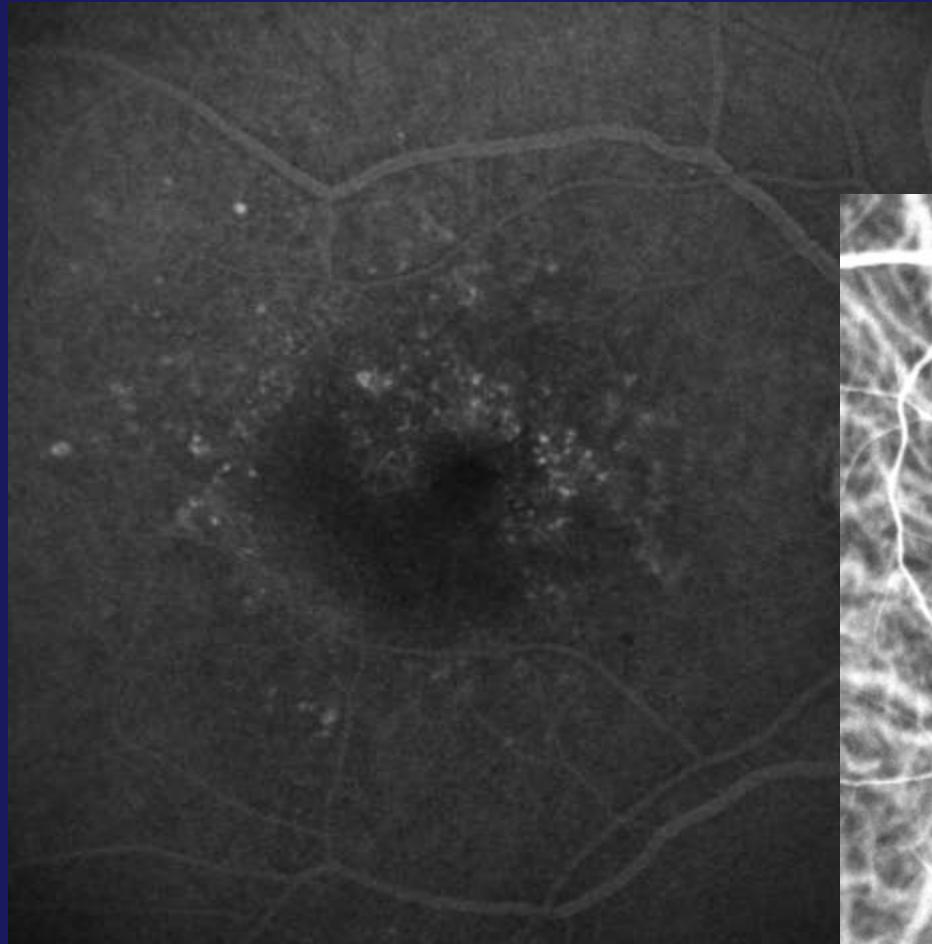
Okkulte CNV vom „late leakage“ Typ



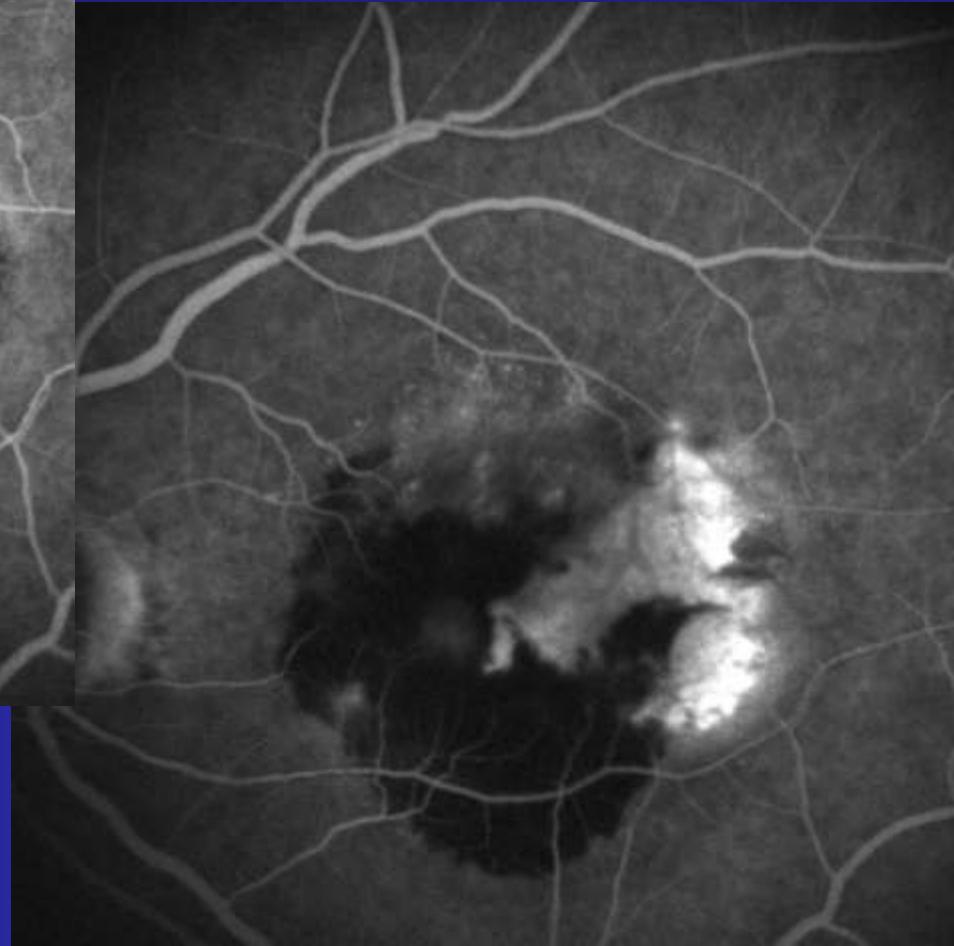
Okkulte CNV – Vaskularisierte Pigmentepithelabhebung



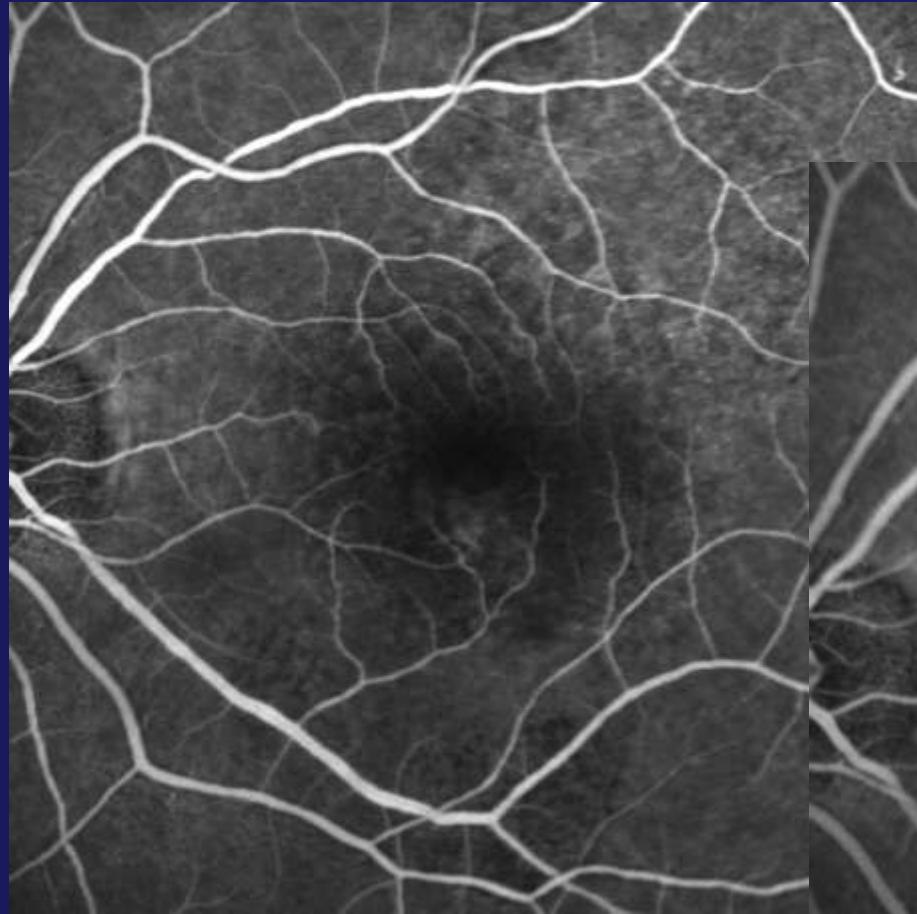
Okkulte CNV – Vaskularisierte Pigmentepithelabhebung



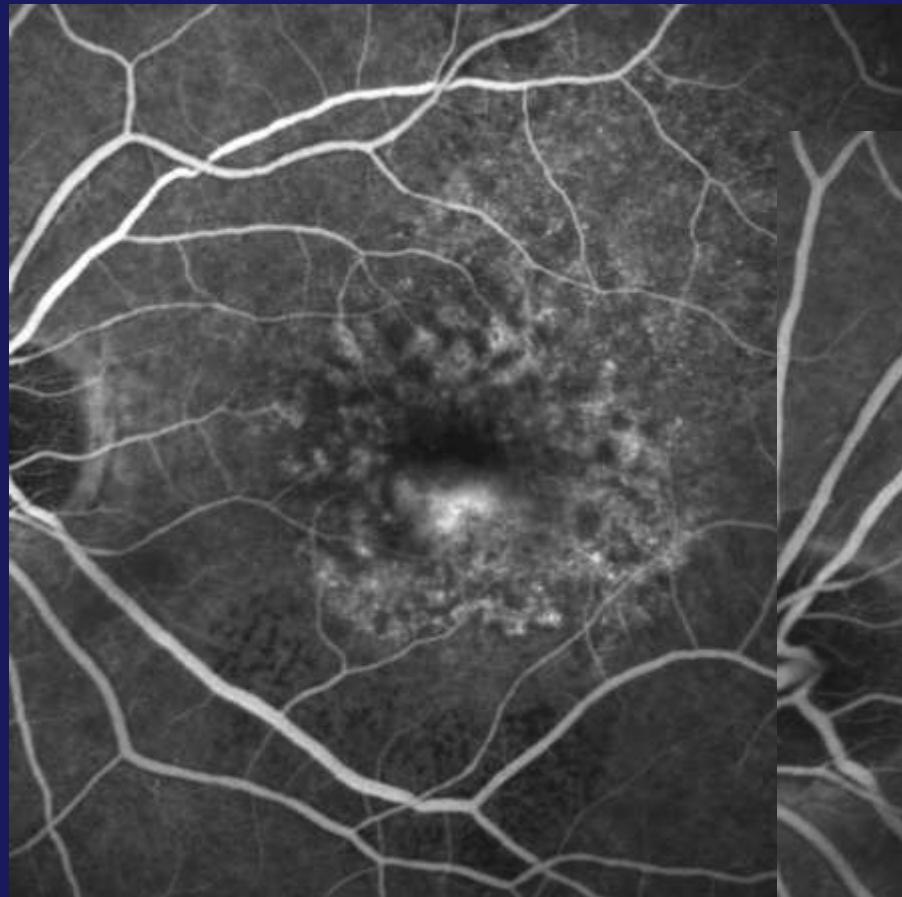
Okkulte CNV – potentiell klassische CNV



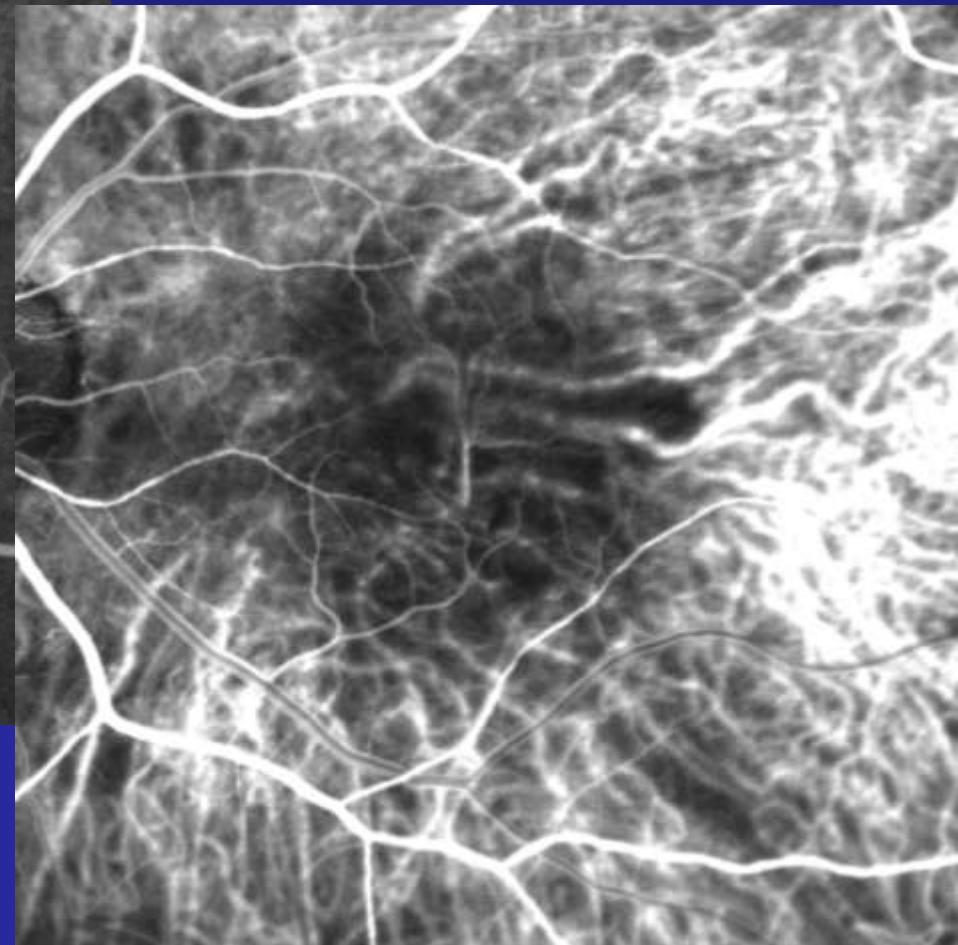
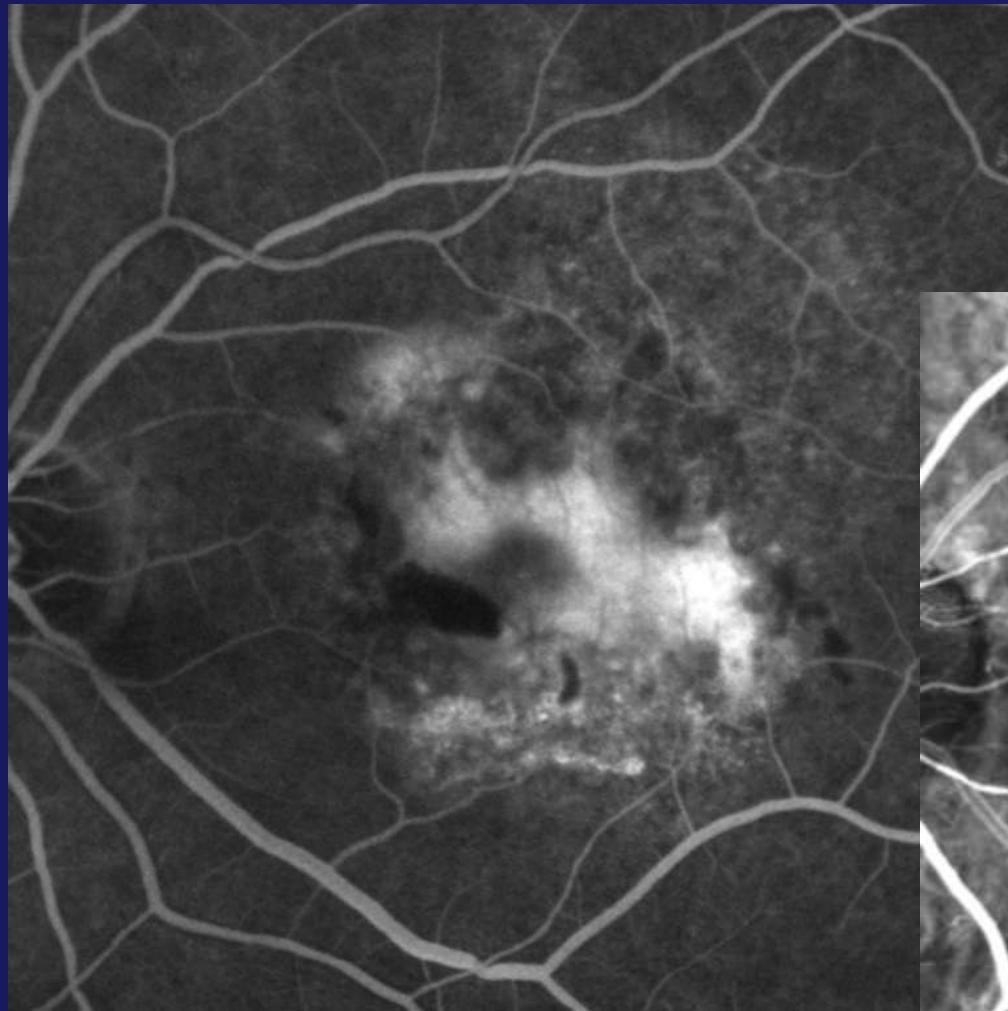
„Gemischte“ CNV - minimal klassisch



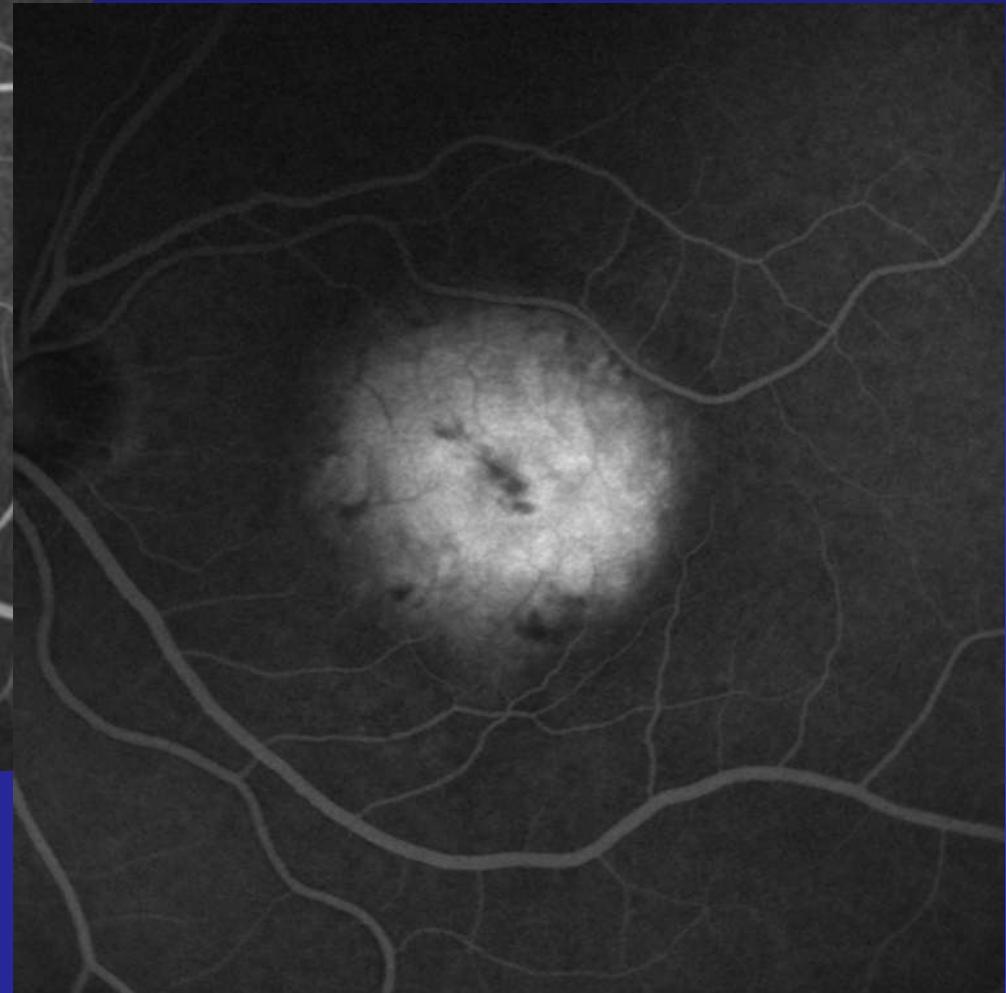
„Gemischte“ CNV - minimal klassisch



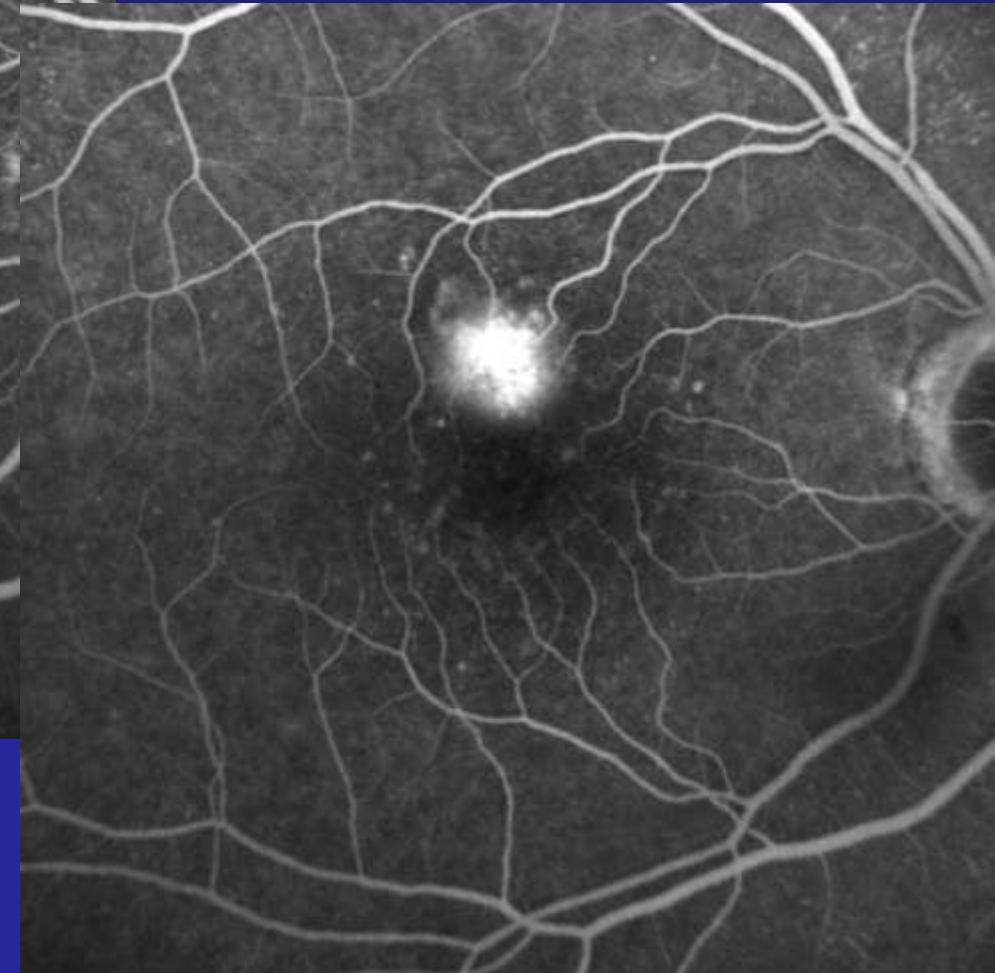
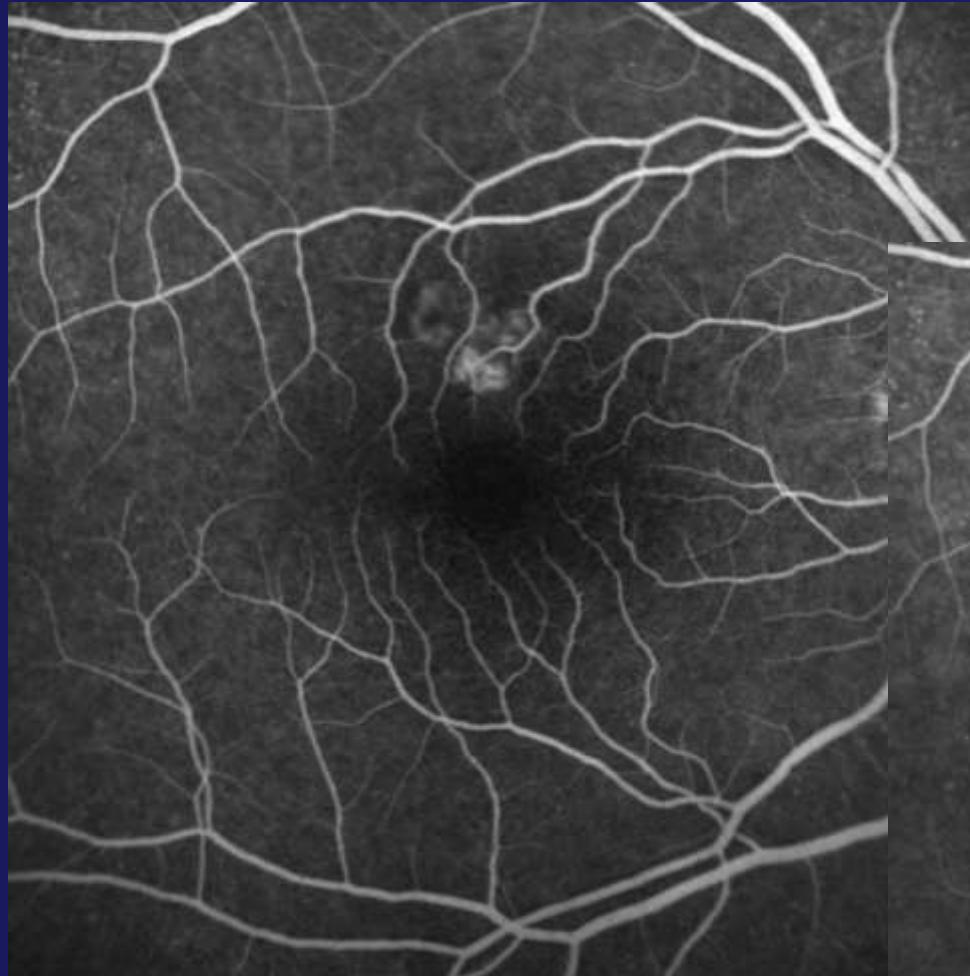
Übergang in vorwiegend klassische CNV



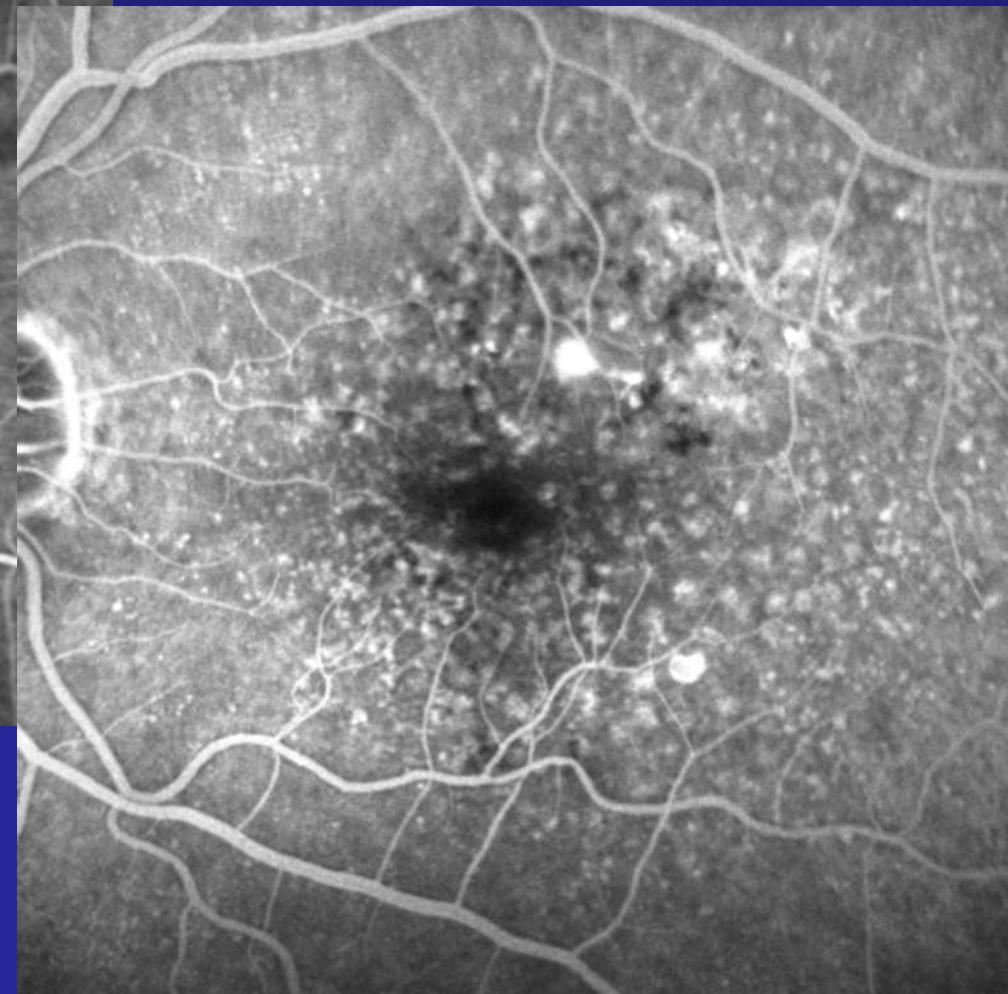
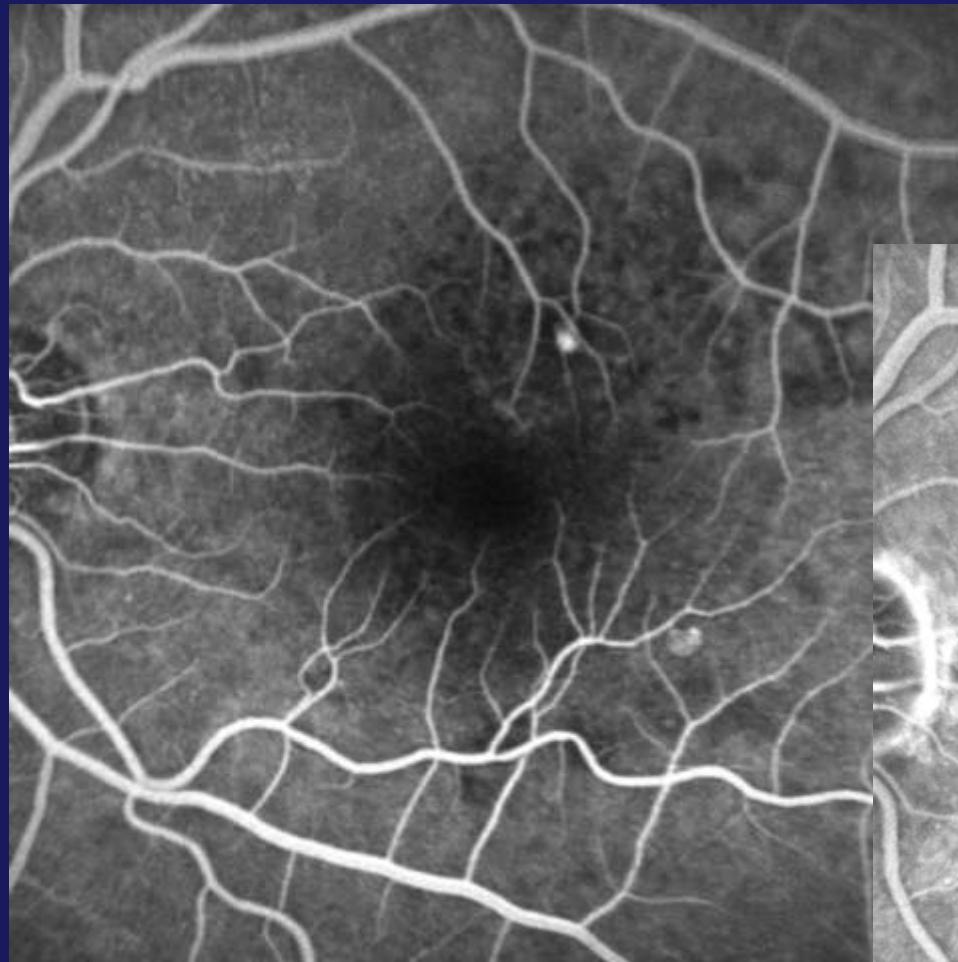
Subfoveale Lage der CNV



Juxtafoveale Lage der CNV

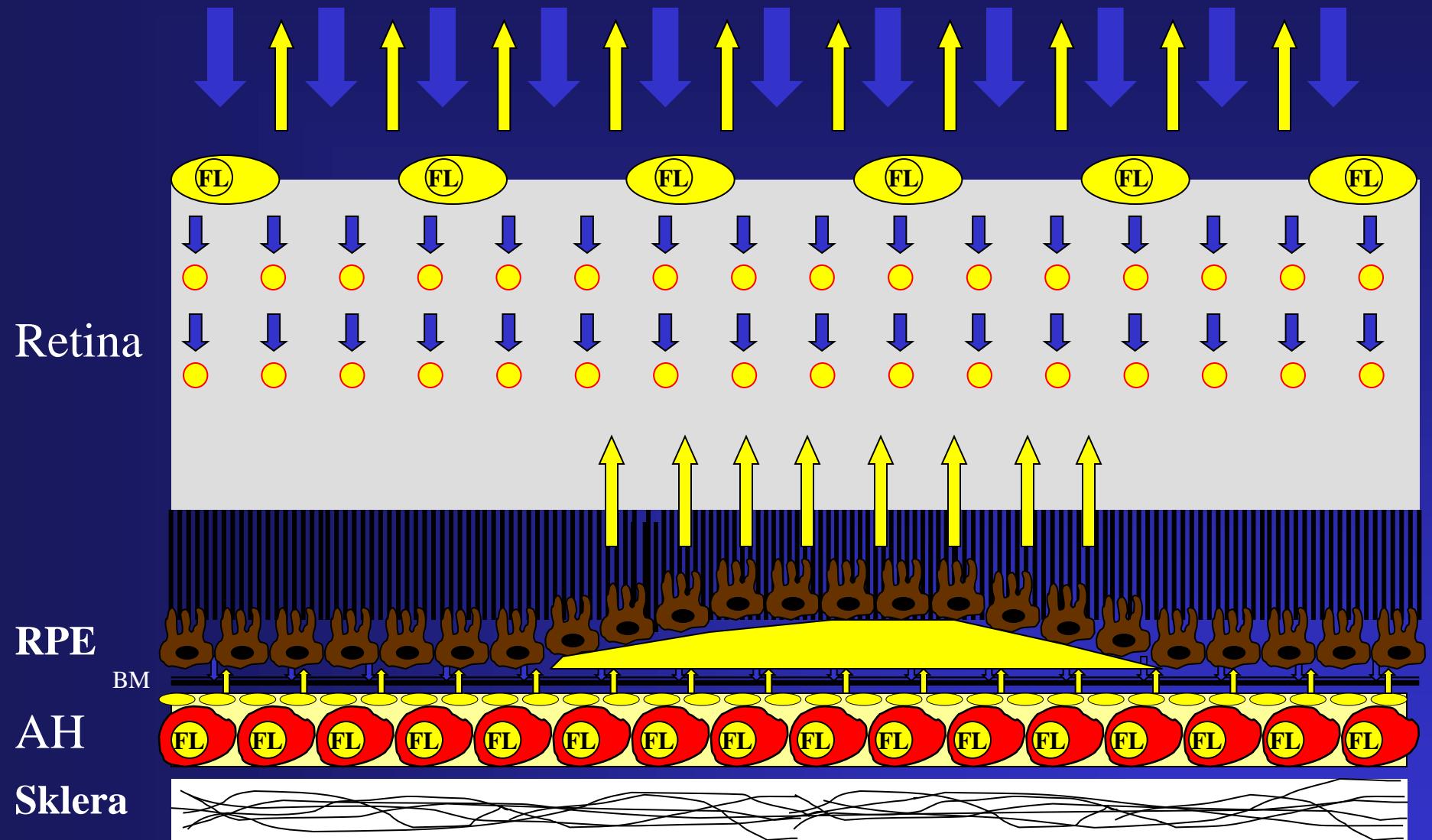


Extrafoveale Lage der CNV



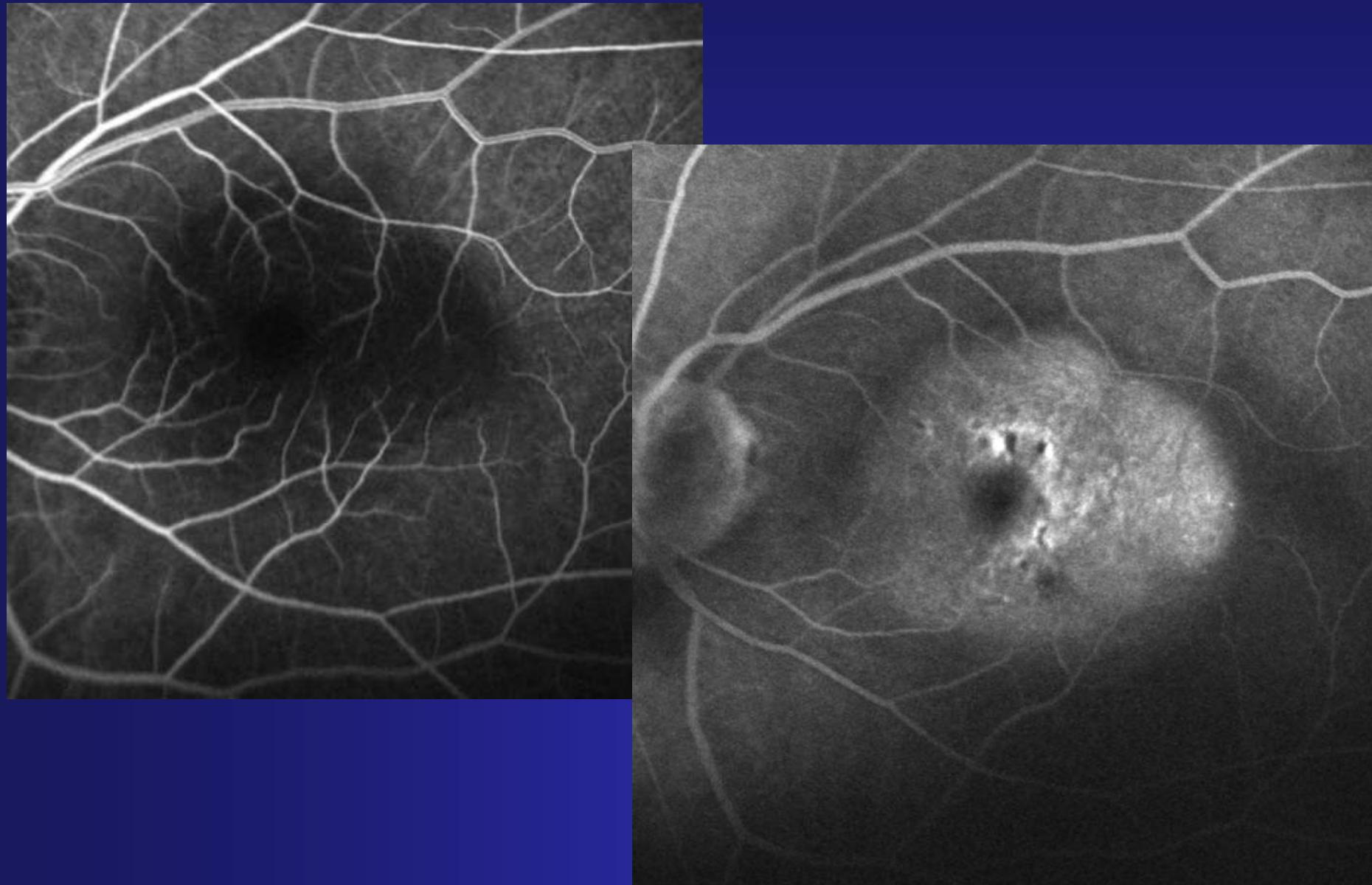
Begleitveränderungen

- Pigmentepithelabhebung
- Blutungen, harte Exsudate
- Zystoides Ödem

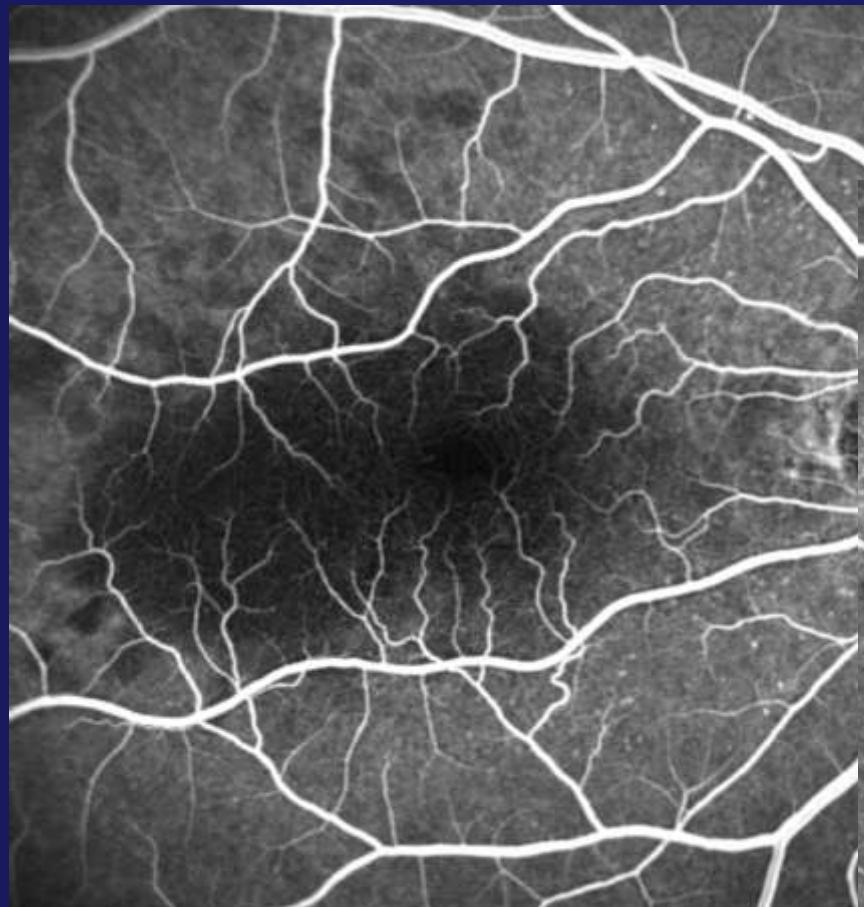


Pooling bei Pigmentepithelabhebung

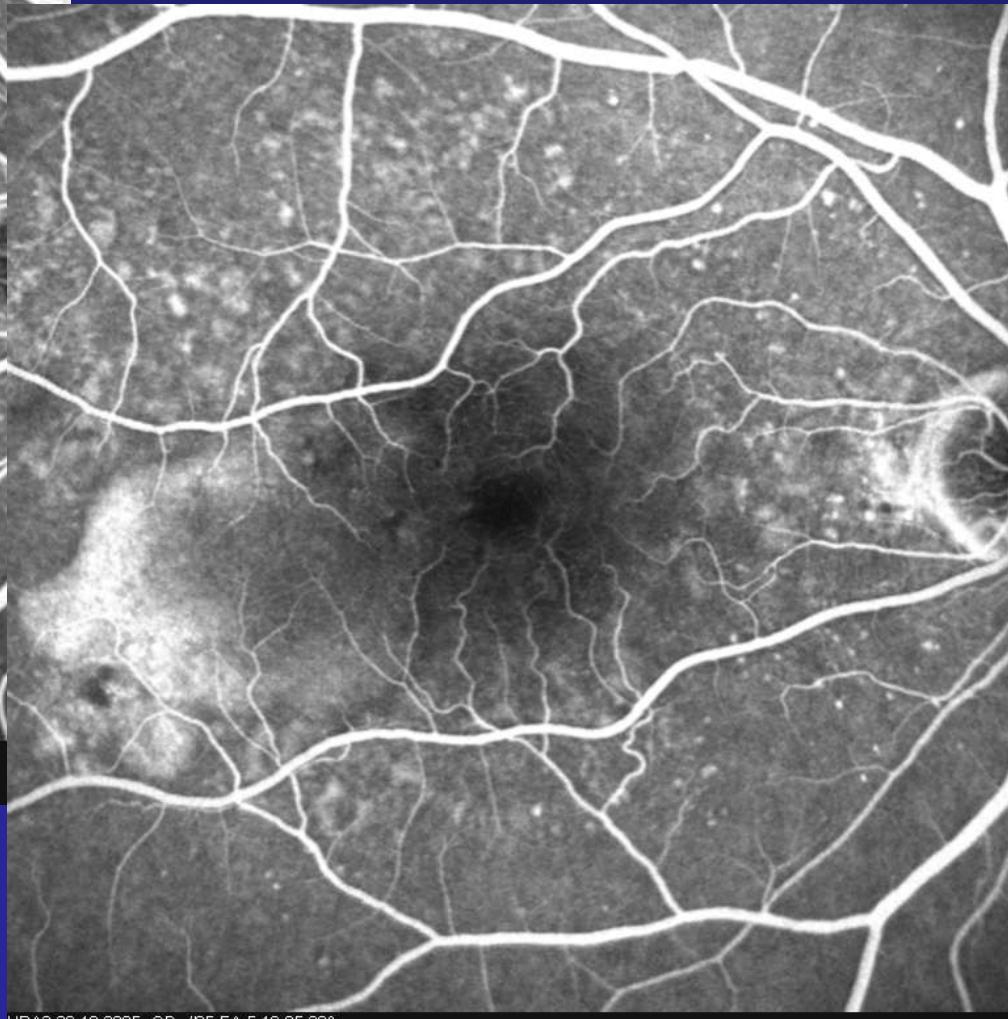
Seröse Pigmentepithelabhebung



„Frische“ seröse Pigmentepithelabhebung



HRA2 26.10.2005, OD, #10 FA 0.28.95 30°
Koschtial, Eva, 05.03.1937, #
Heidelberg Engineering GmbH

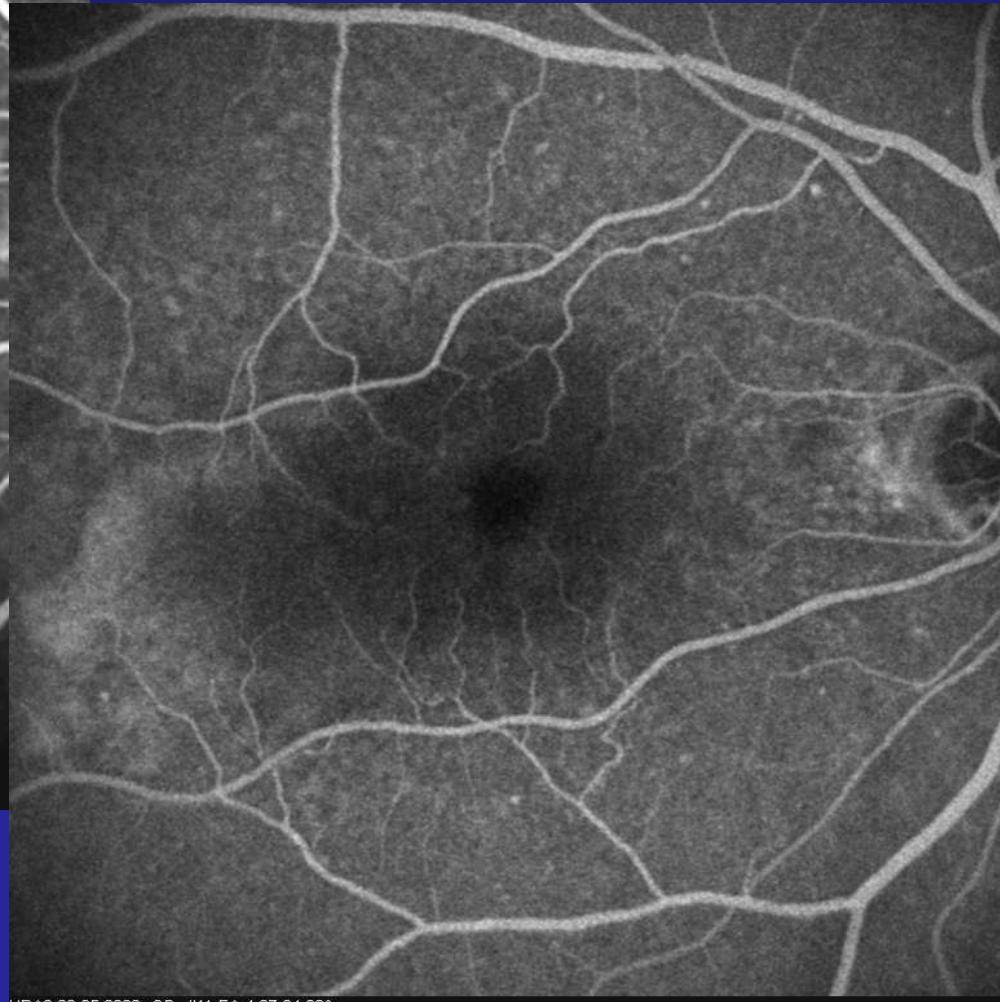


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Heidelberg Engineering GmbH

„Ältere“ seröse Pigmentepithelabhebung

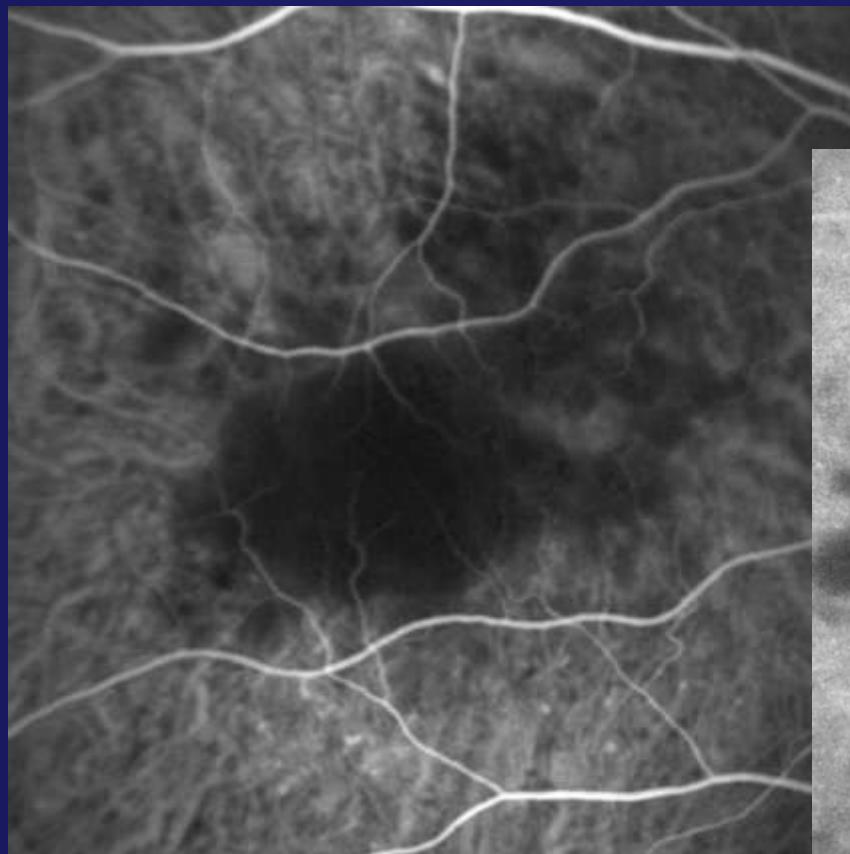


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Heidelberg Engineering GmbH

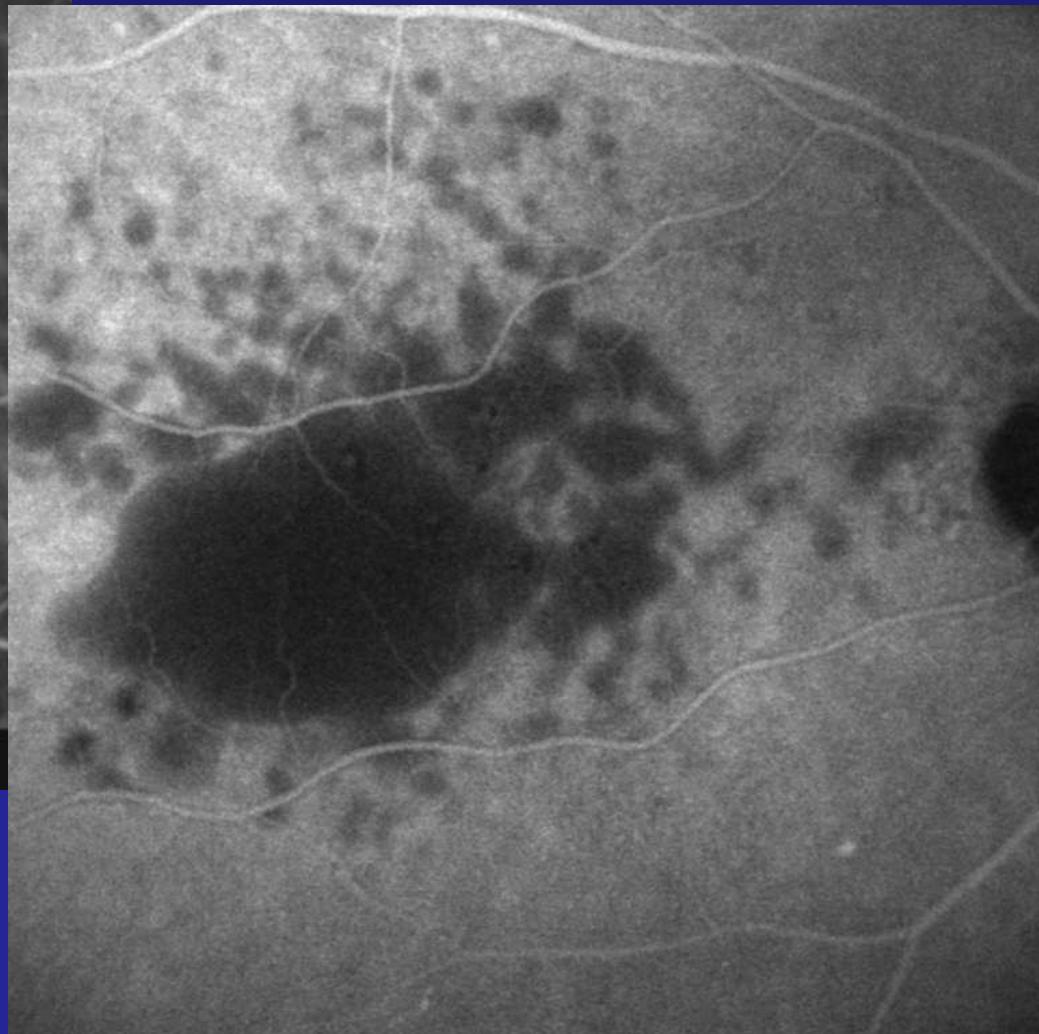


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Koschtial, Eva, 05.03.1937, #
Heidelberg Engineering GmbH

ICGA-Befund „ohne CNV“



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Koschtial, Eva, 05.03.1937, #
Heidelberg Engineering GmbH

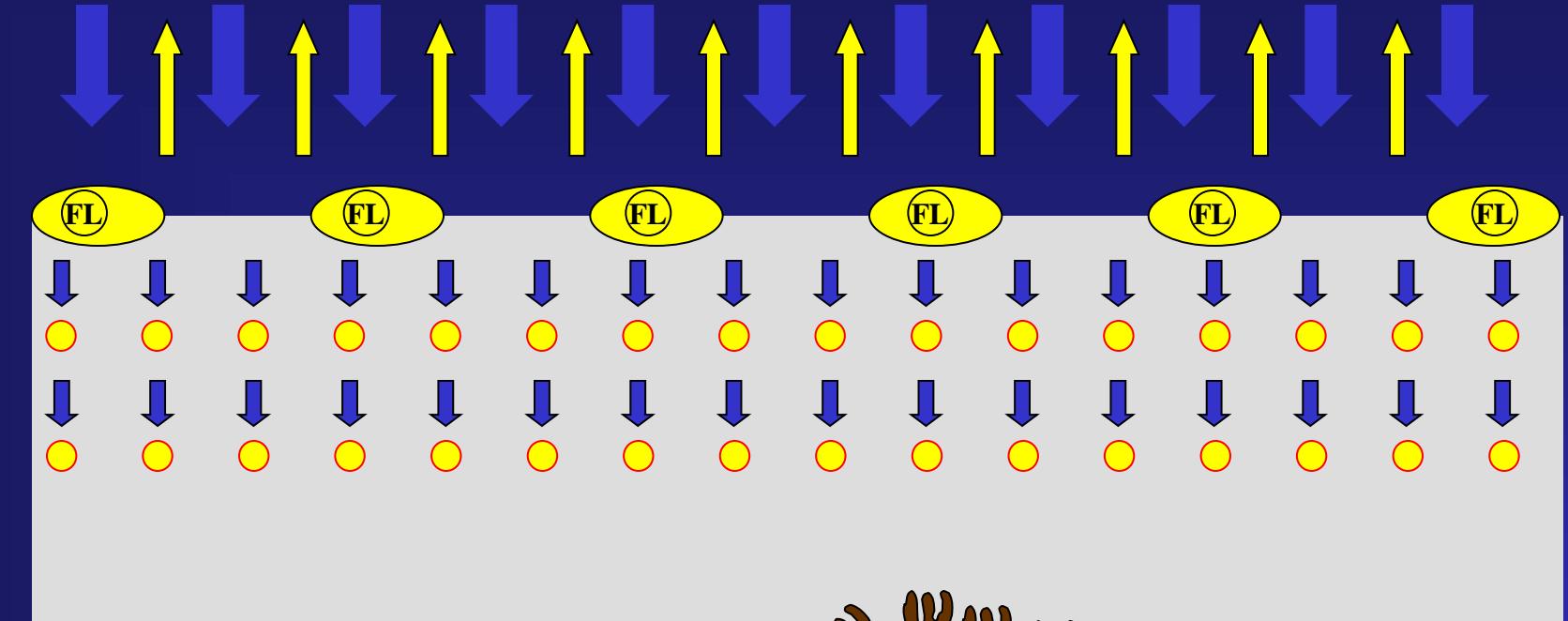


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Heidelberg Engineering GmbH

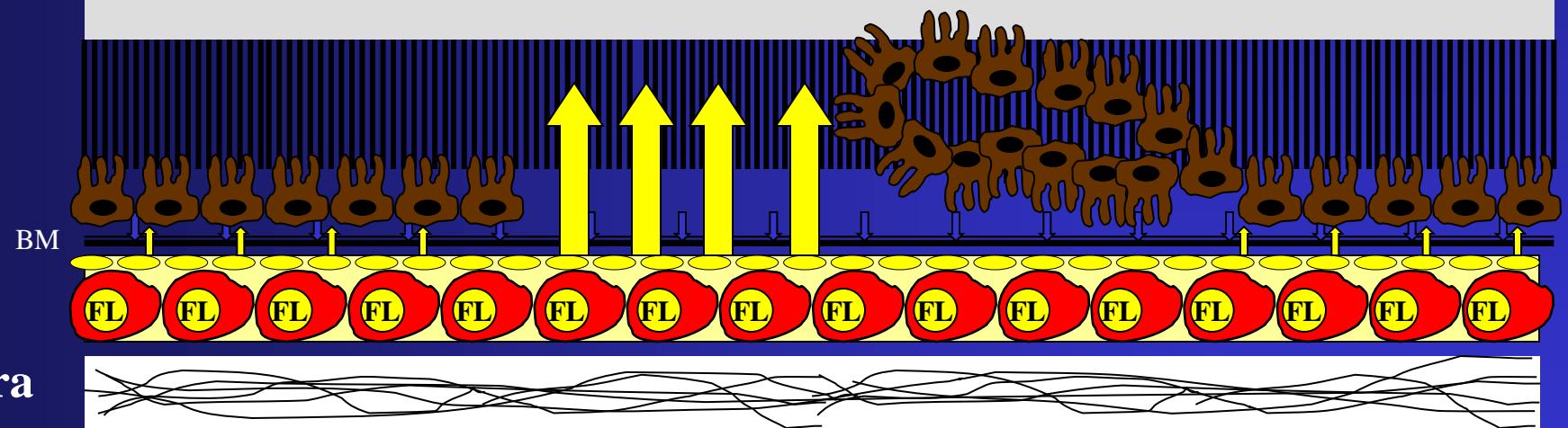
Resorbierte Pigmentepithelabhebung



Retina



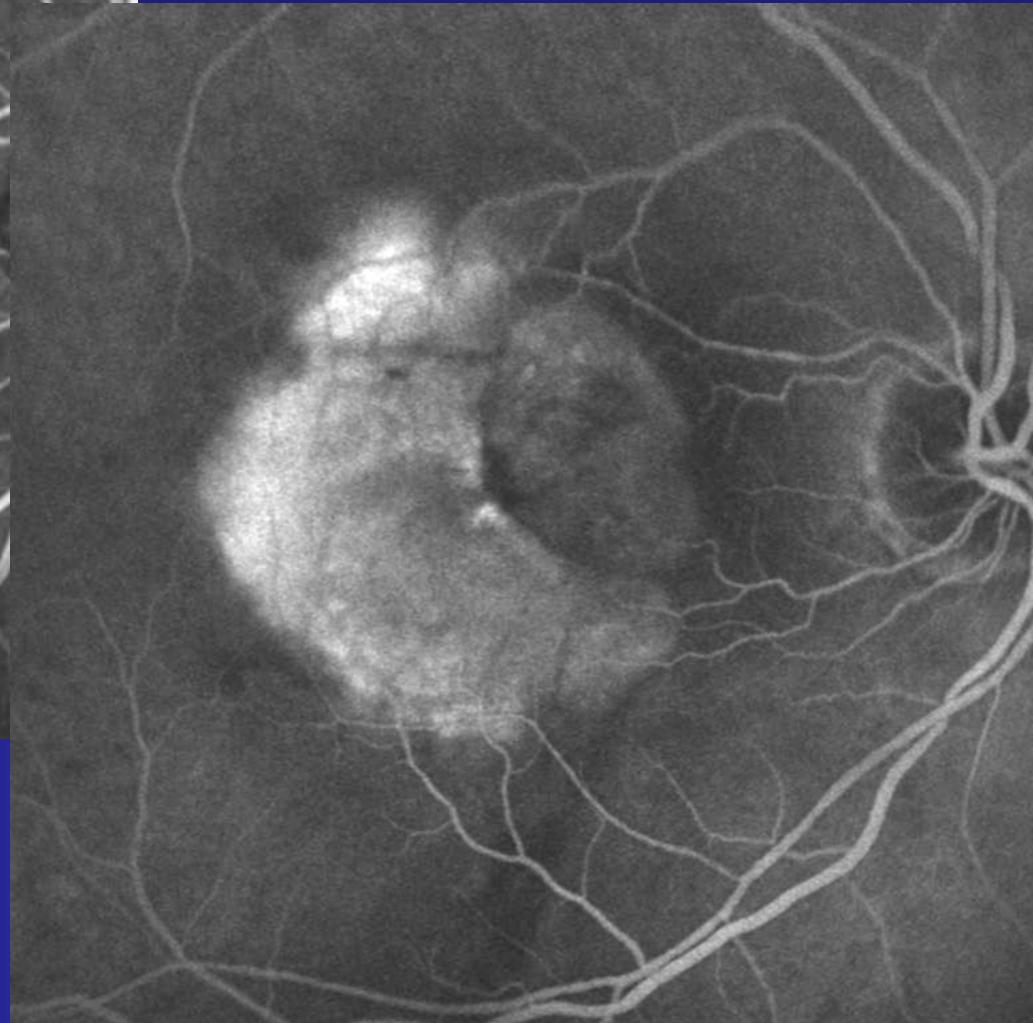
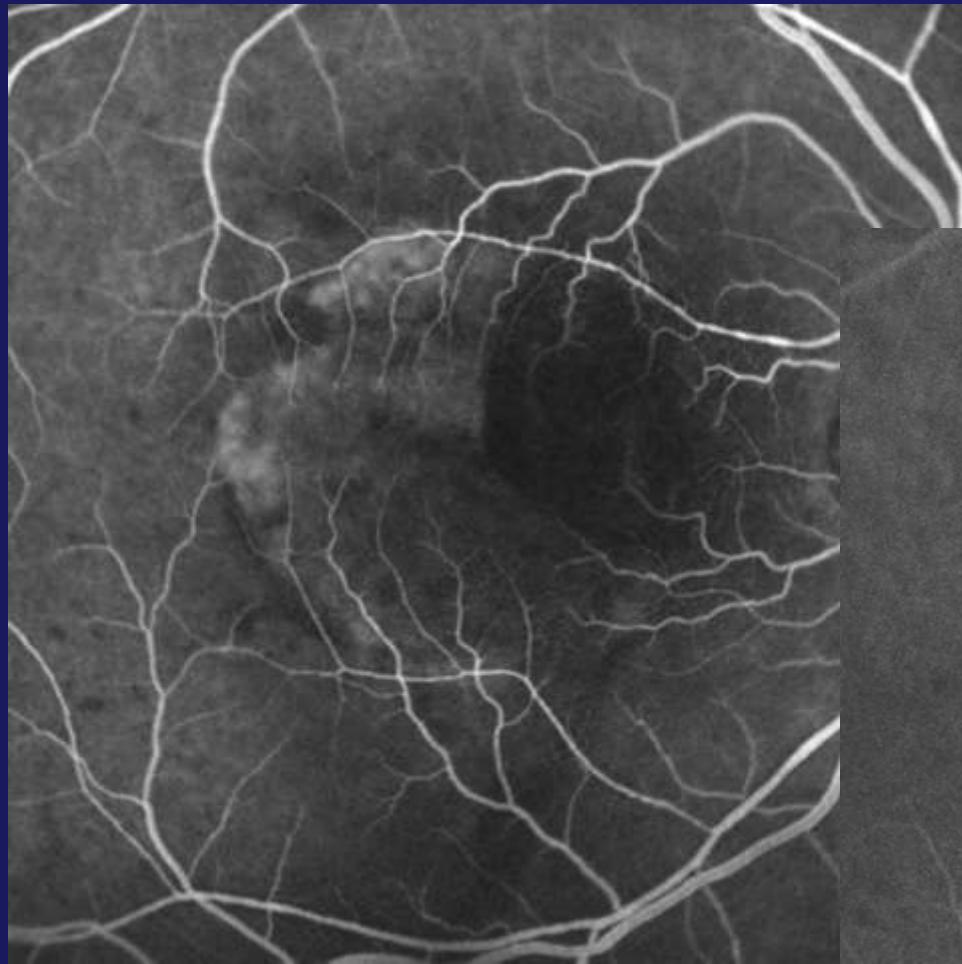
RPE



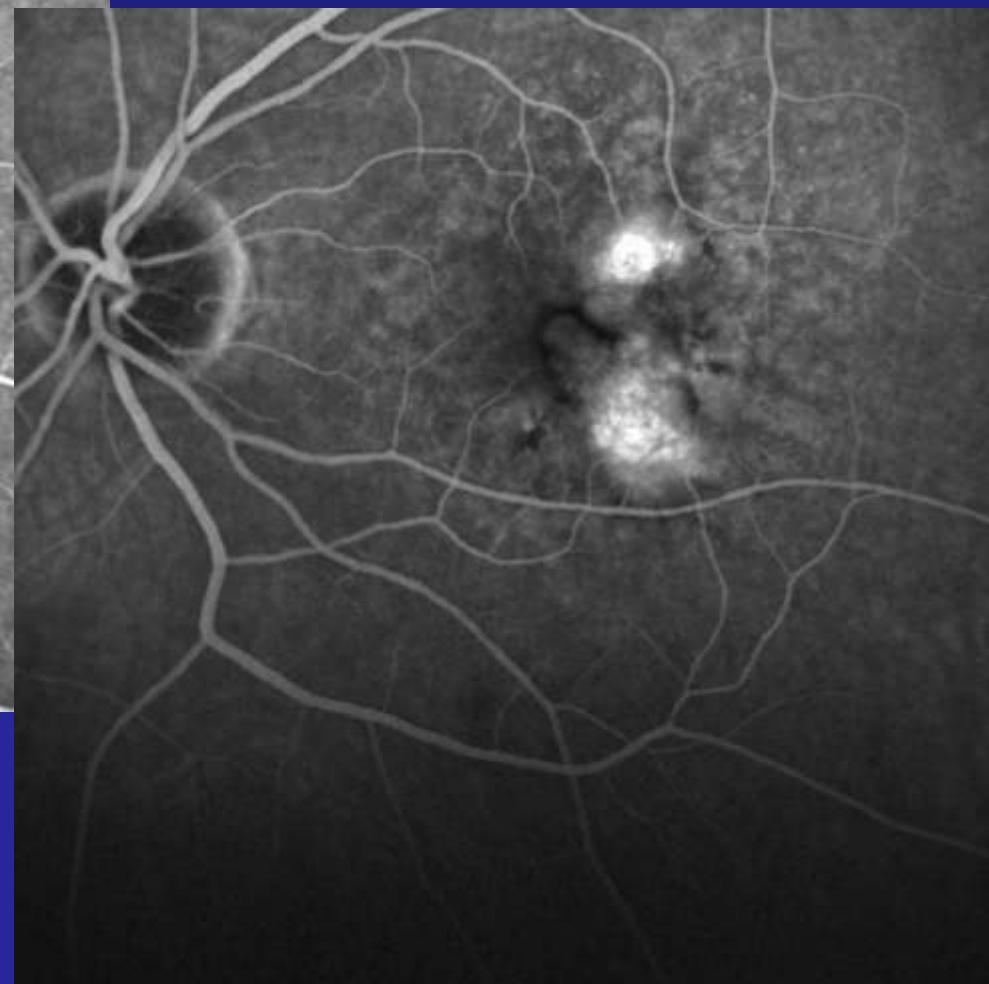
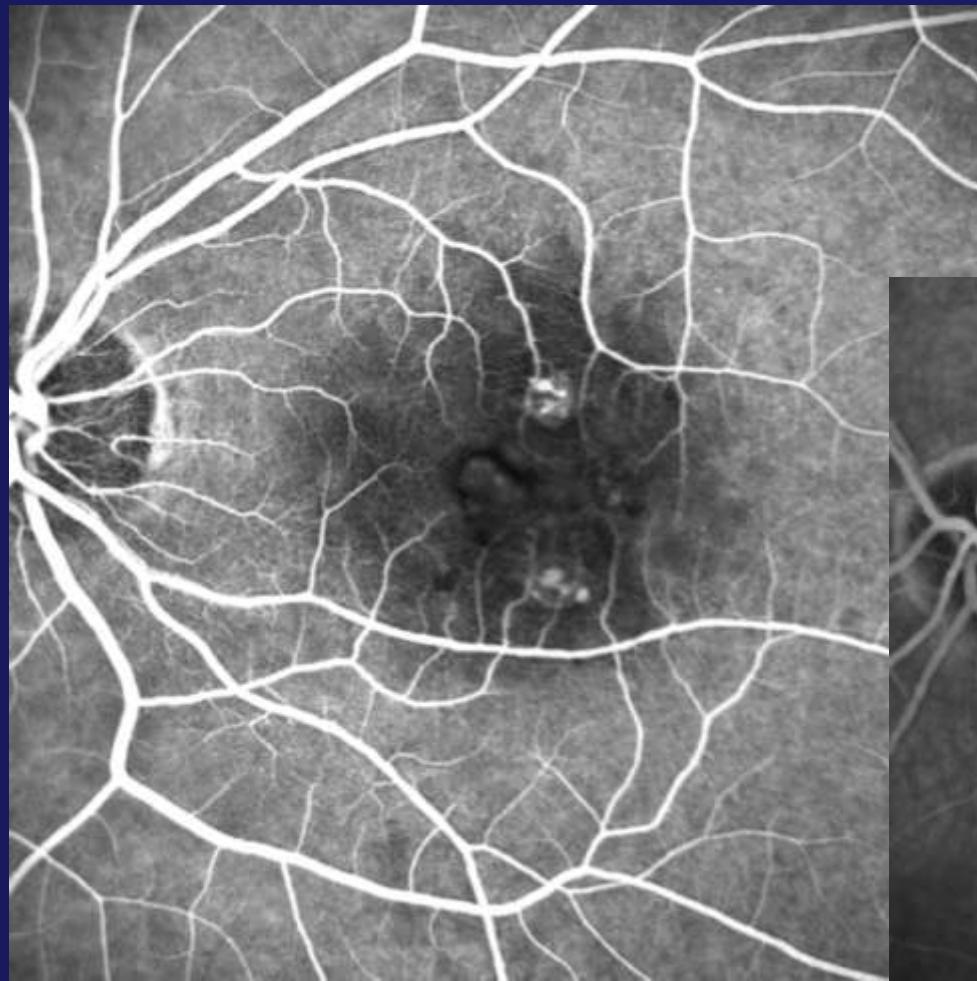
Sklera

Pigmentepithelruptur

Pigmentepithelruptur



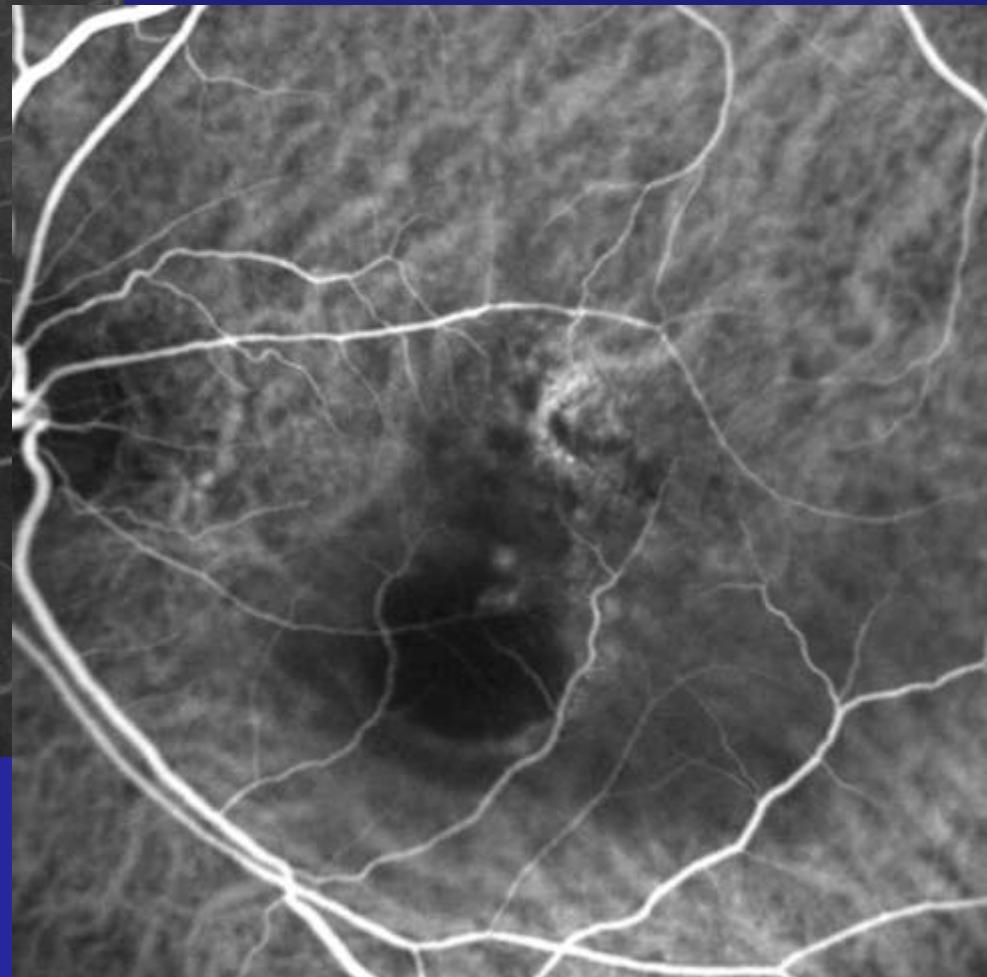
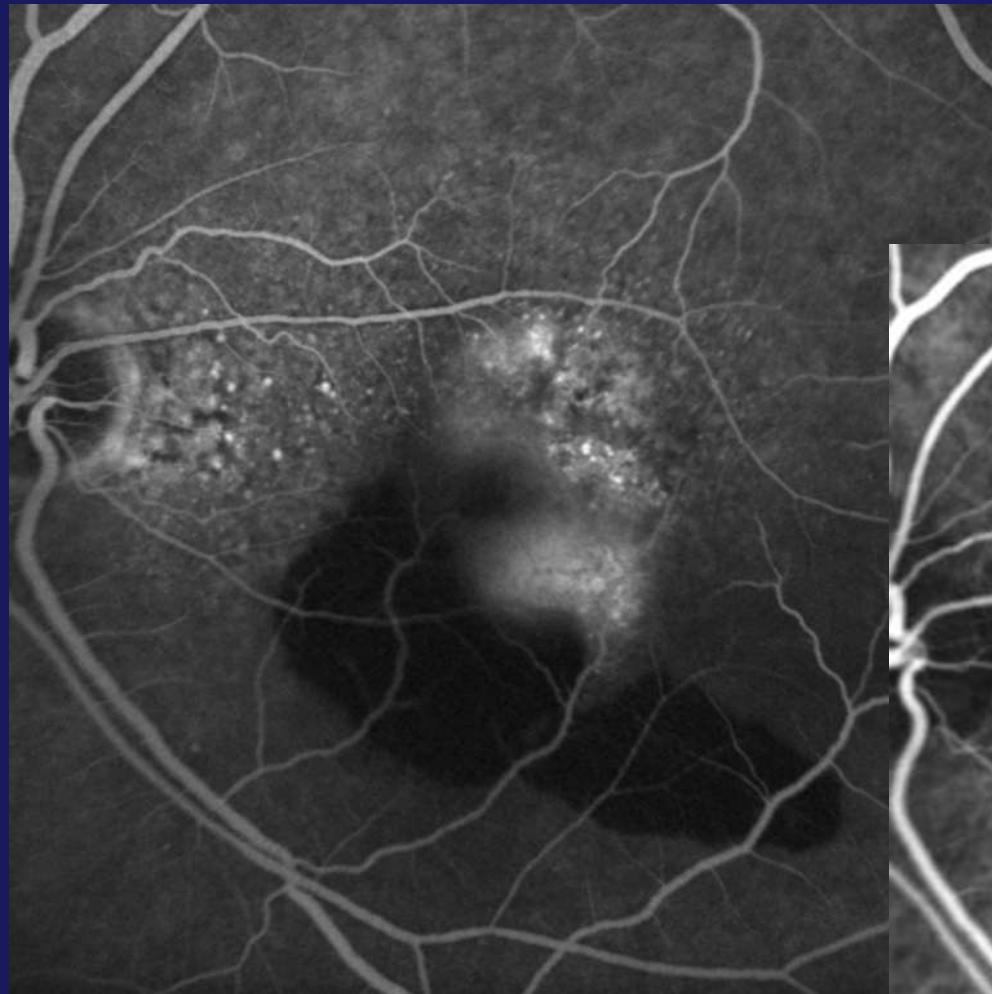
Zystoides Makulaödem



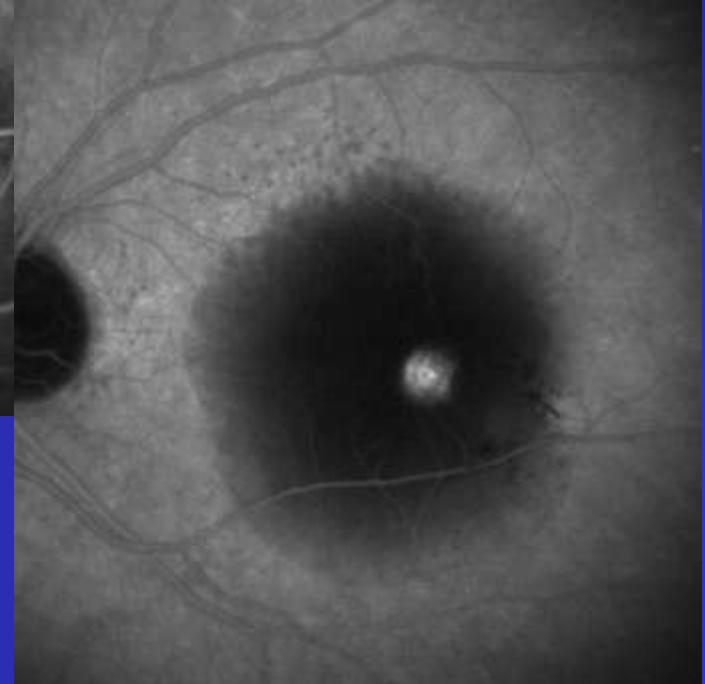
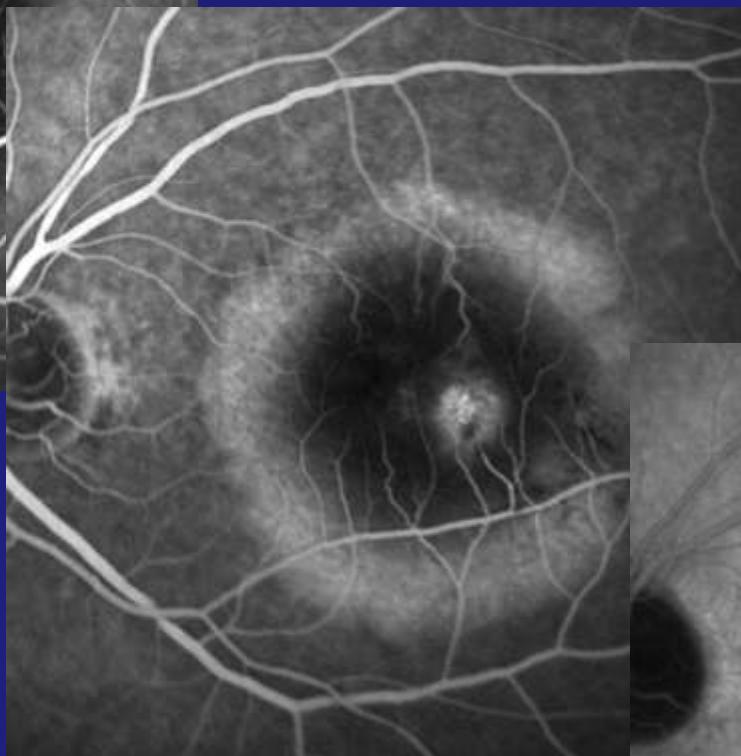
ICGA-Befundung

- Differenzierung Blutung und PE-Abhebung
- „hot spot“- CNV
- „plaque type“-CNV
- „feeder vessel“

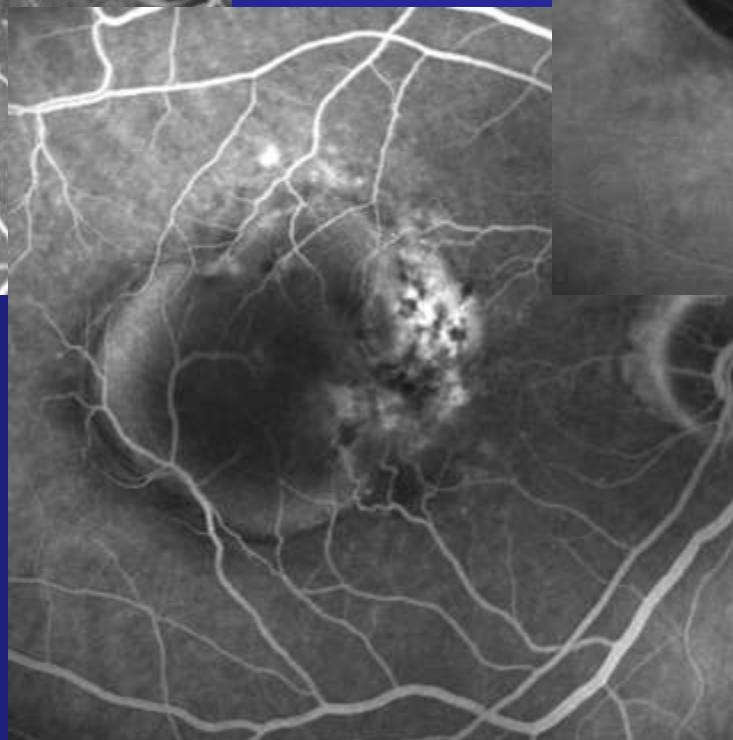
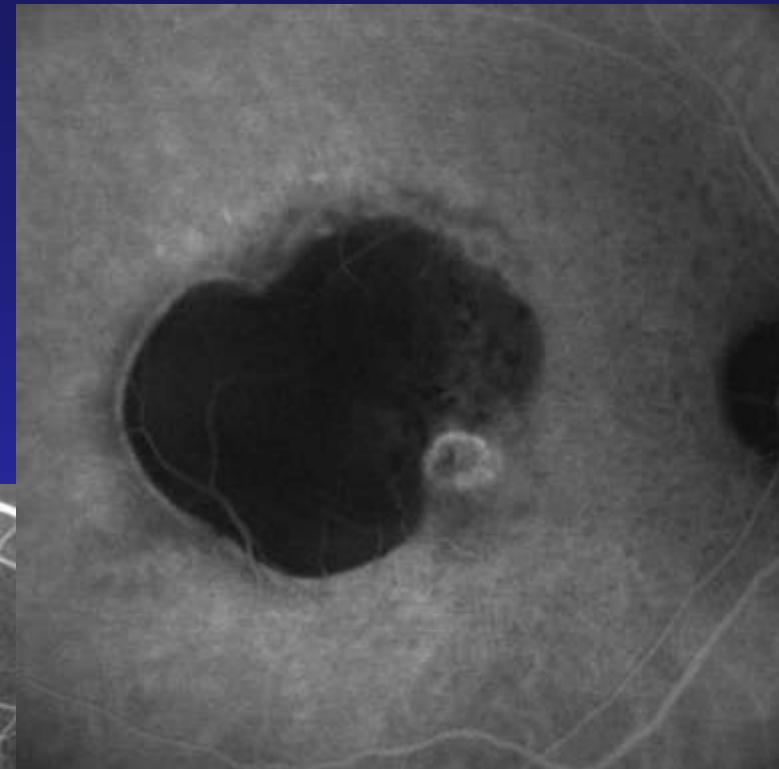
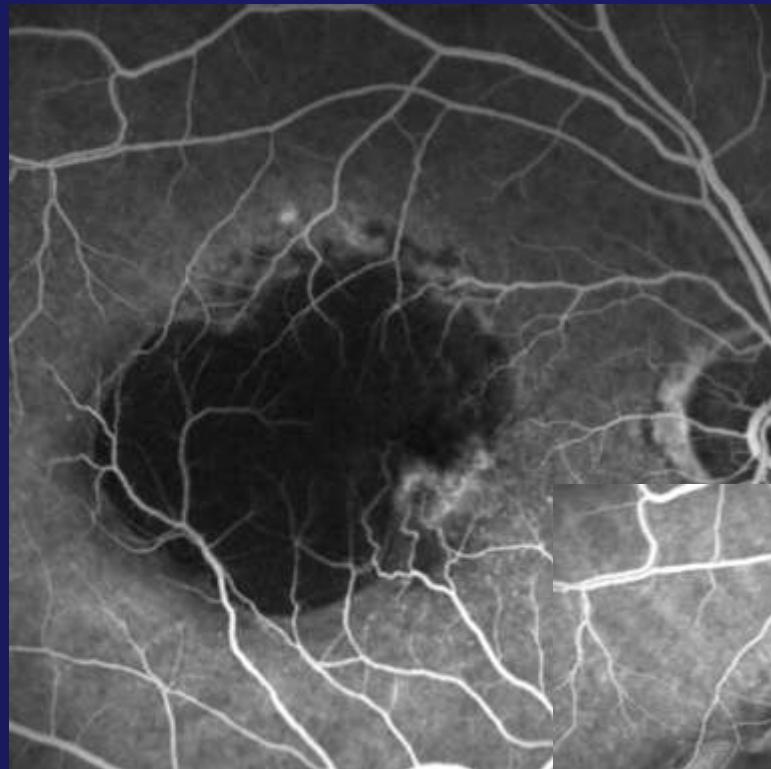
Differenzierung von subretinaler Blutung, PE-Abhebung und sub-pigmentepithelialer Blutung



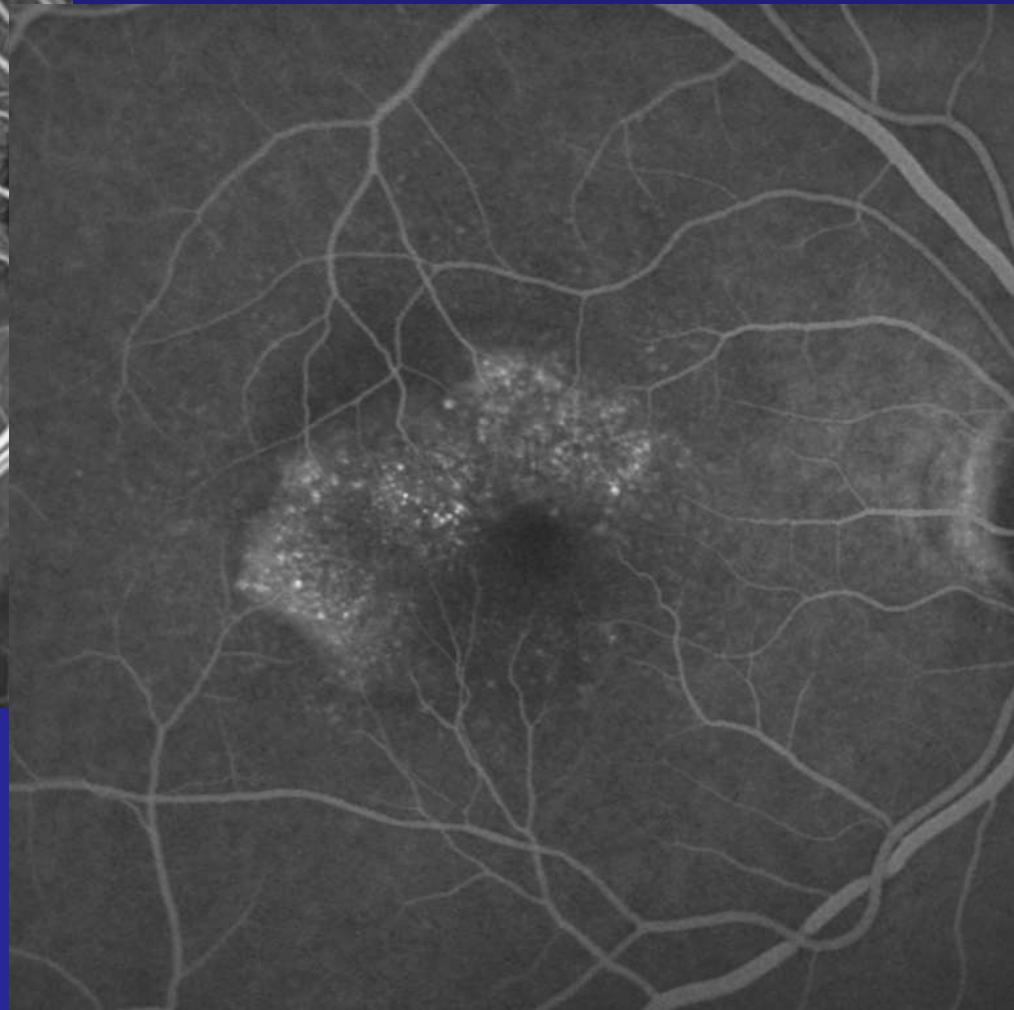
„hot spot“ innerhalb einer PE-abhebung



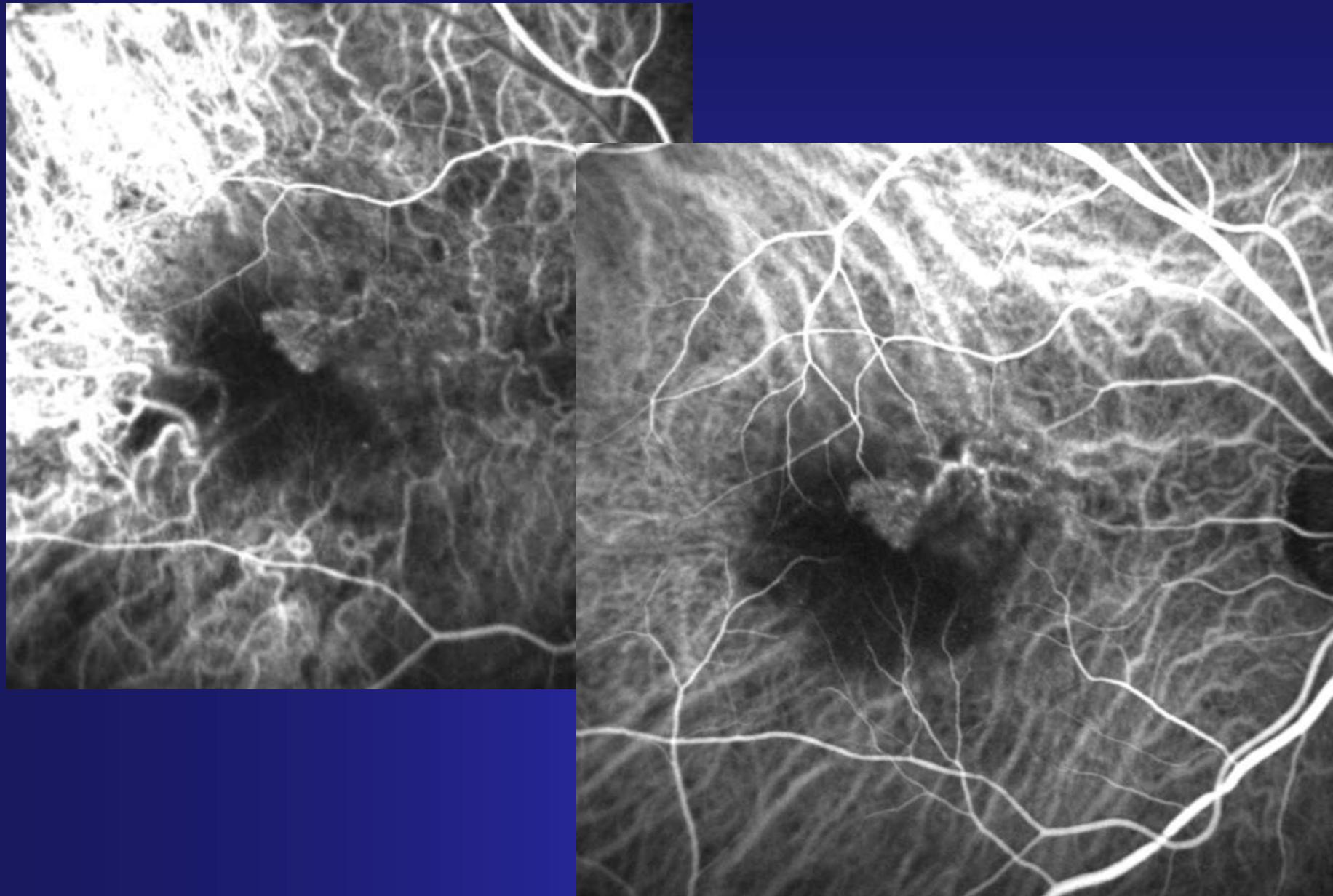
„hot spot“ am Rand einer PE-abhebung



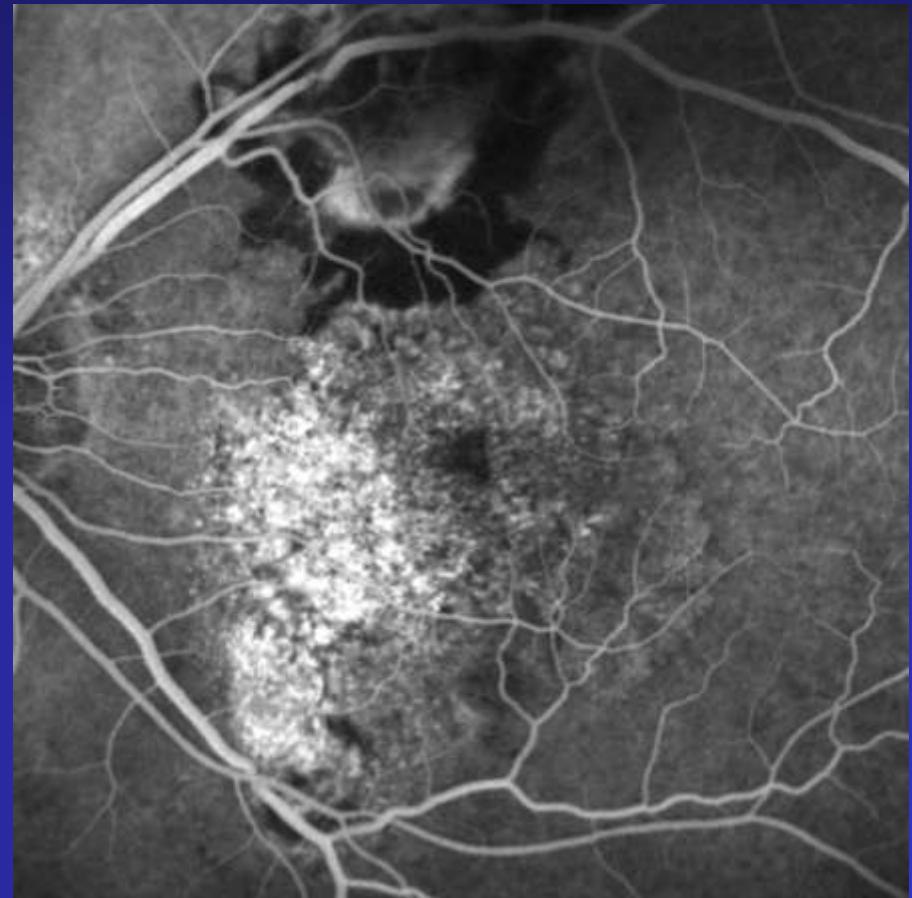
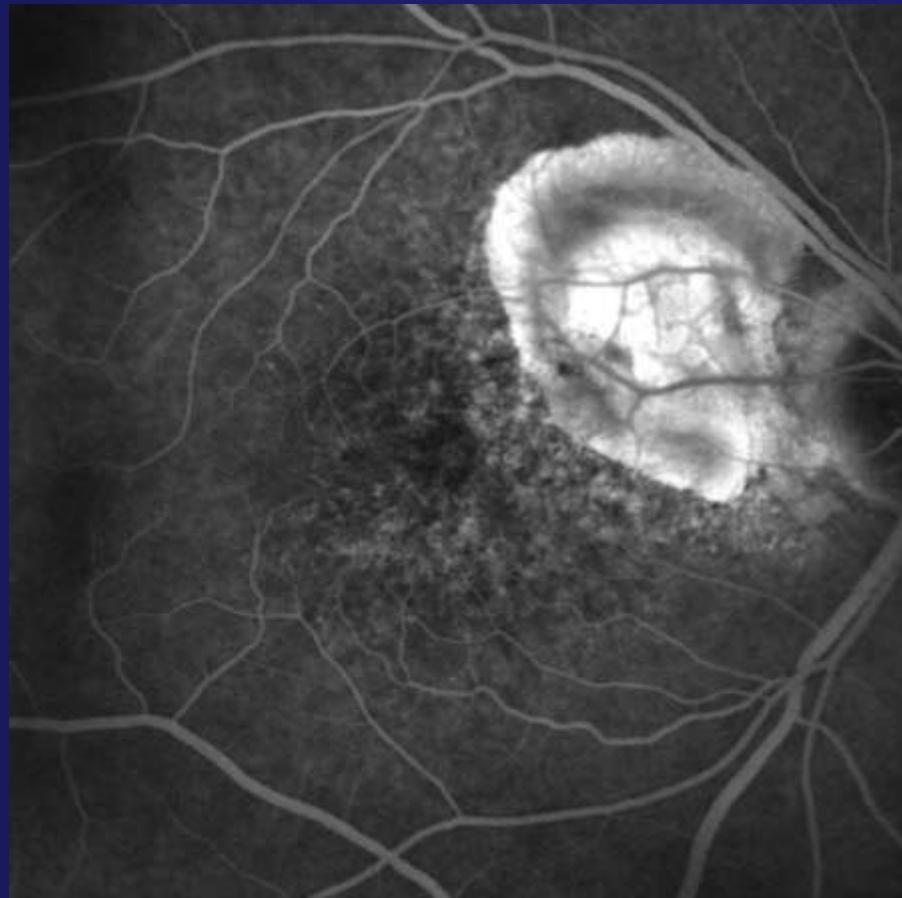
„feeder vessel“



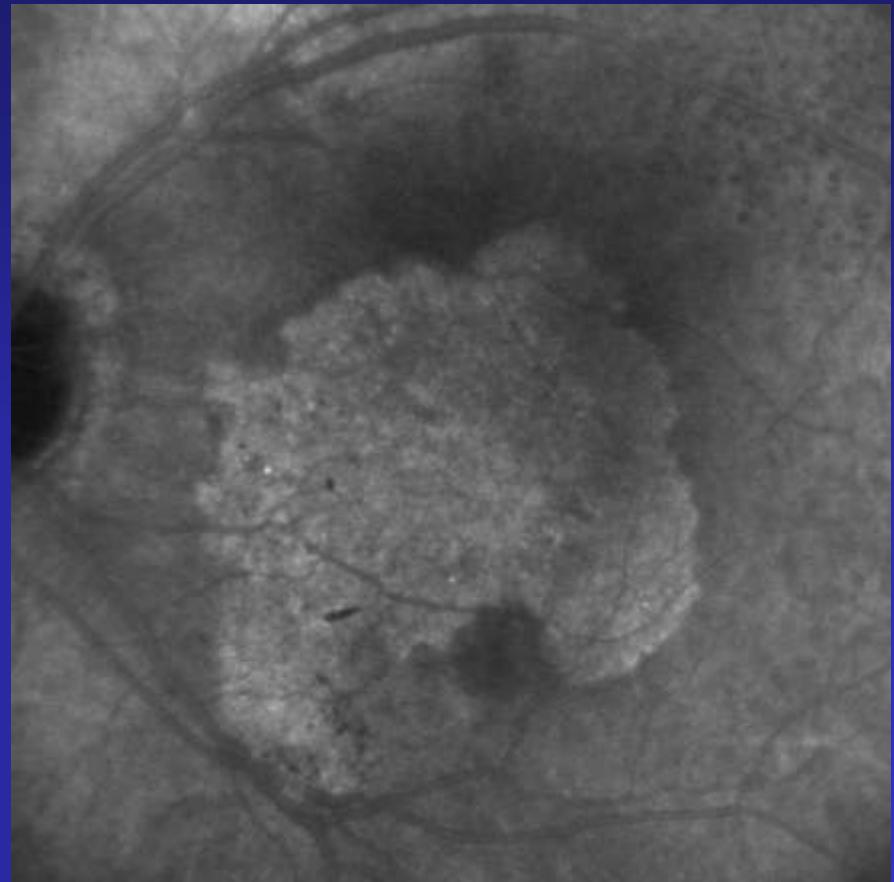
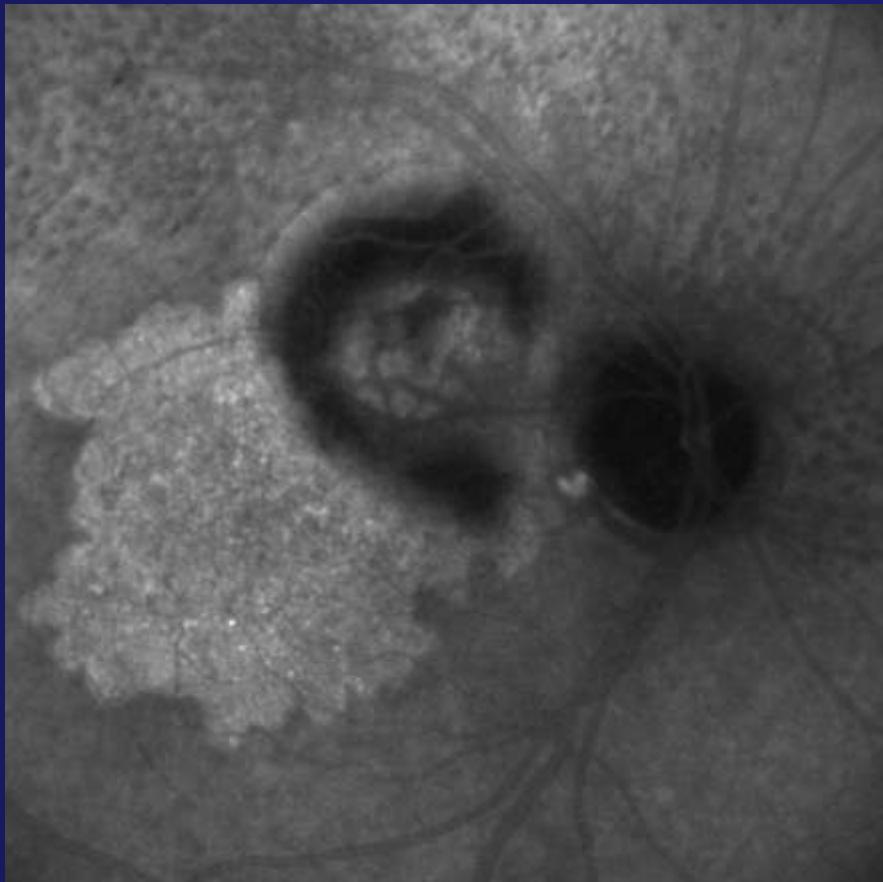
„feeder vessel“



„plaque type CNV“



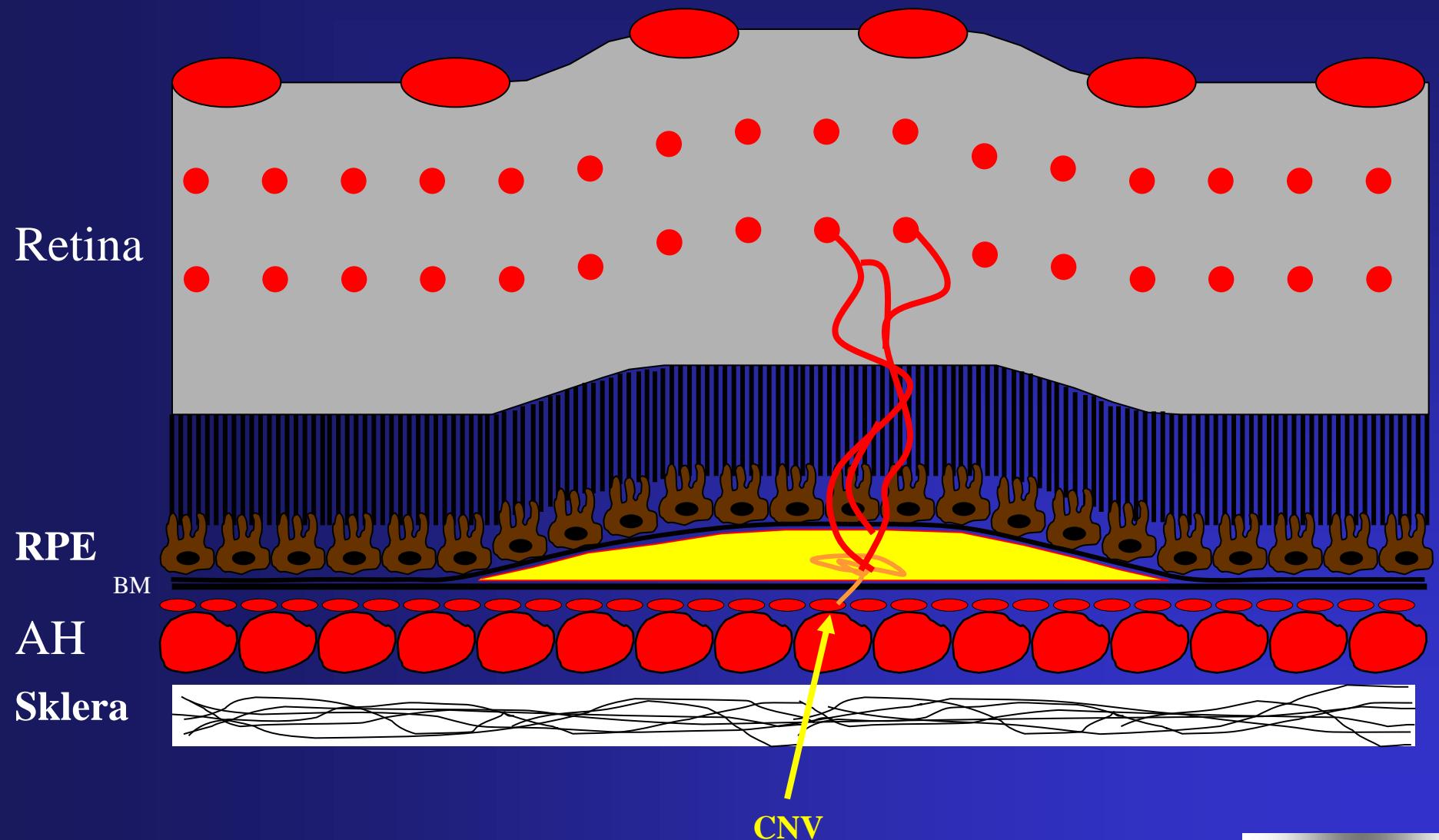
„plaque type CNV“



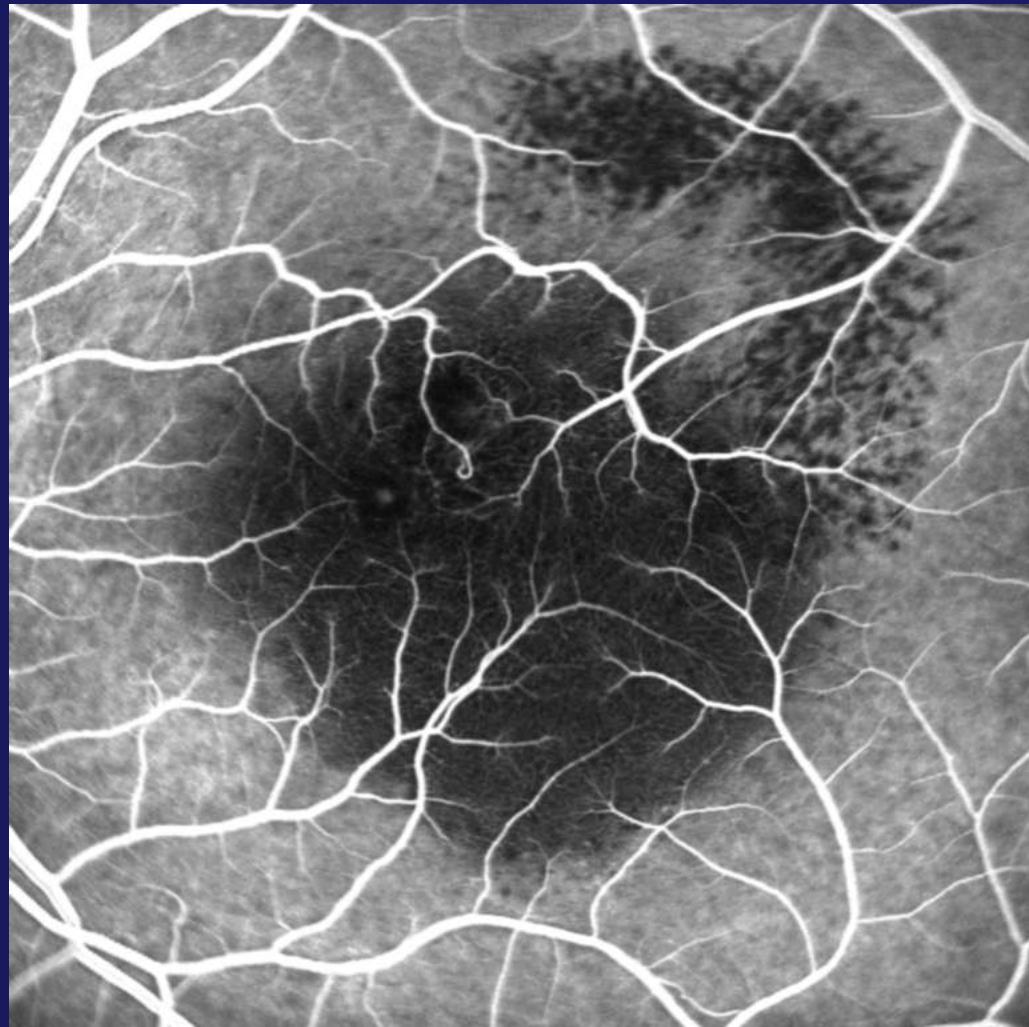
Sonderformen

- RAP = retinale angiomatöse Proliferation
- ICPV = idiopathische chorioidale polypöse Vaskulopathie
- Parapapilläre CNV

Retinale angiomatöse Proliferation (RAP)



RAP = retinale angiomatöse Proliferation

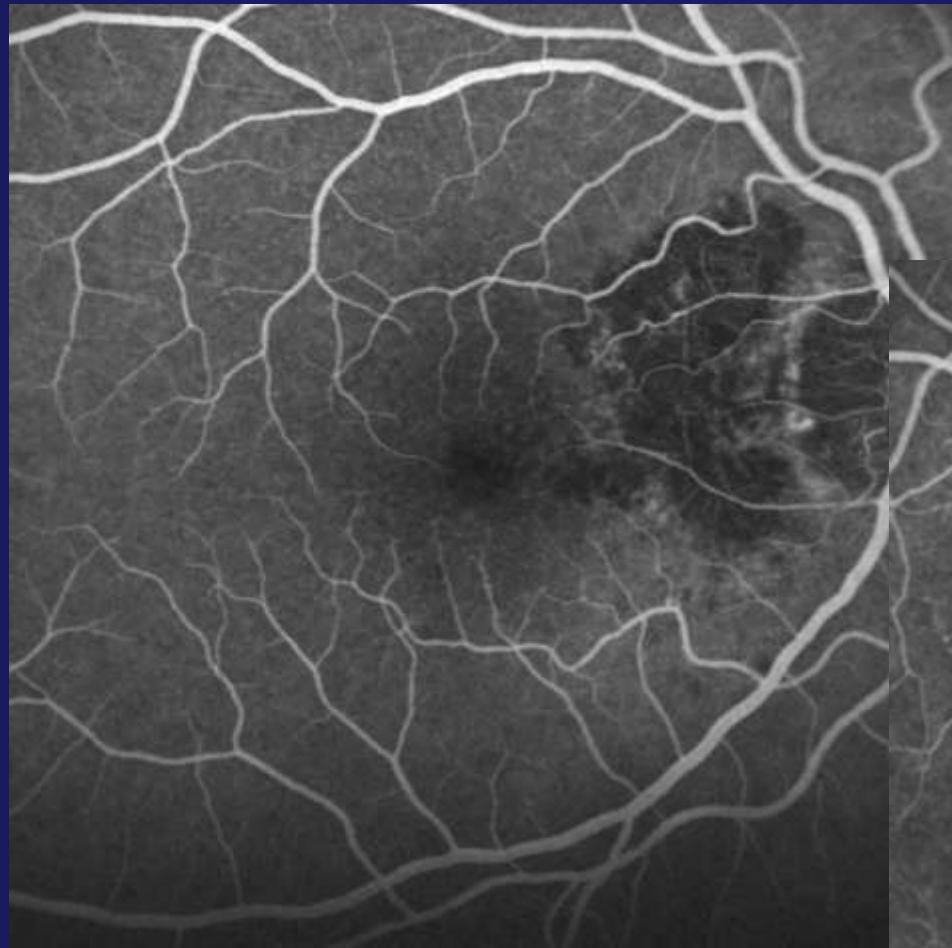


Parapapilläre CNV

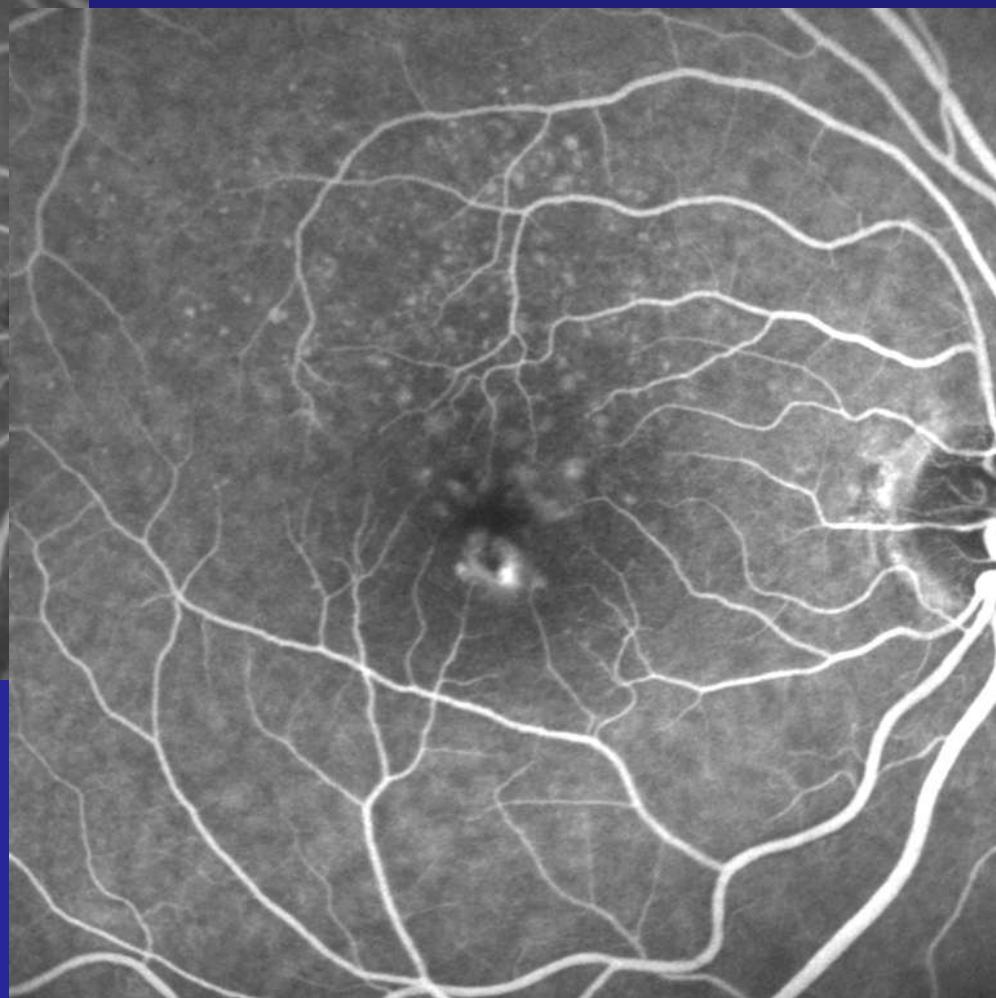


Therapieeffekte

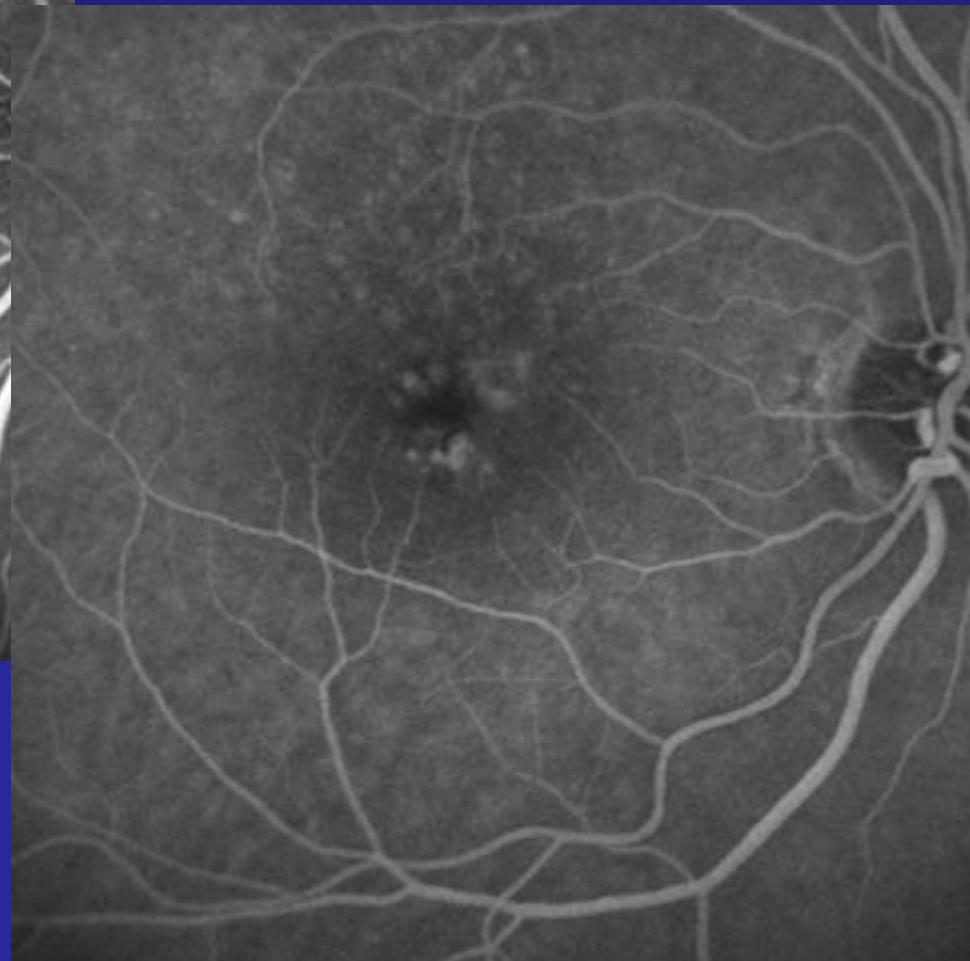
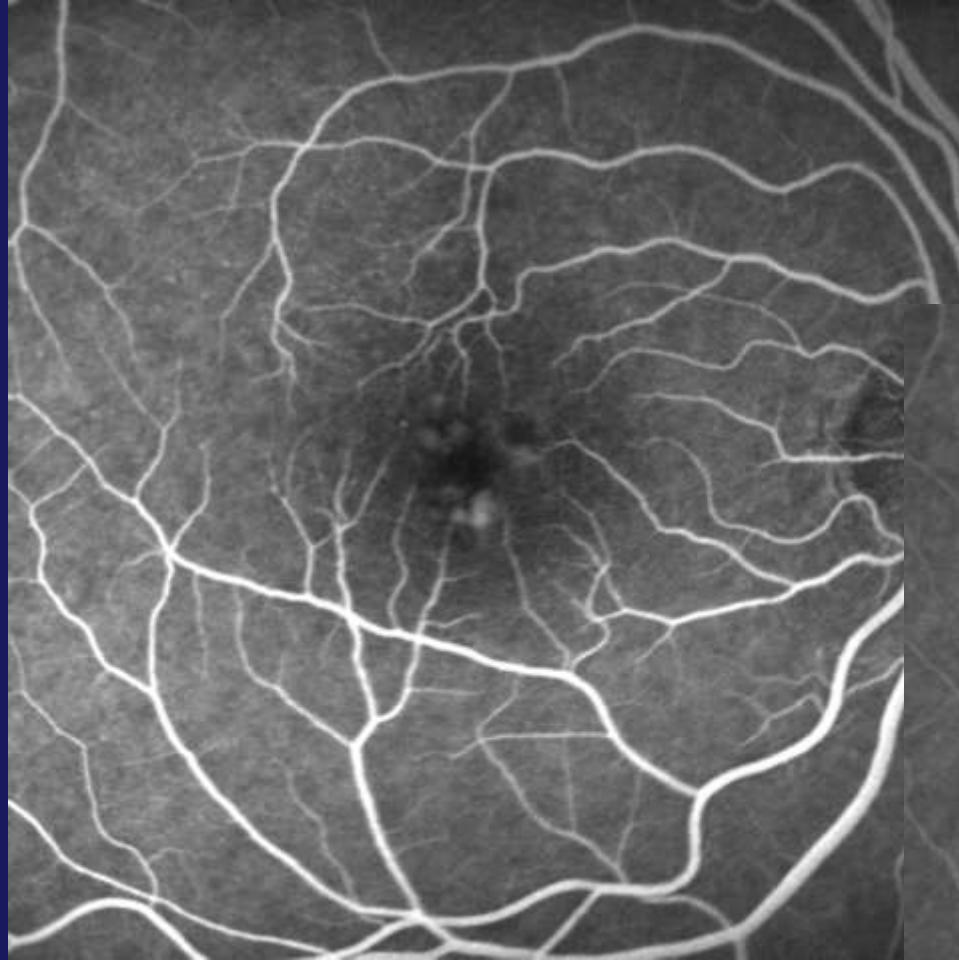
Parapapilläre CNV nach ALK



PDT-Monotherapie präoperativ



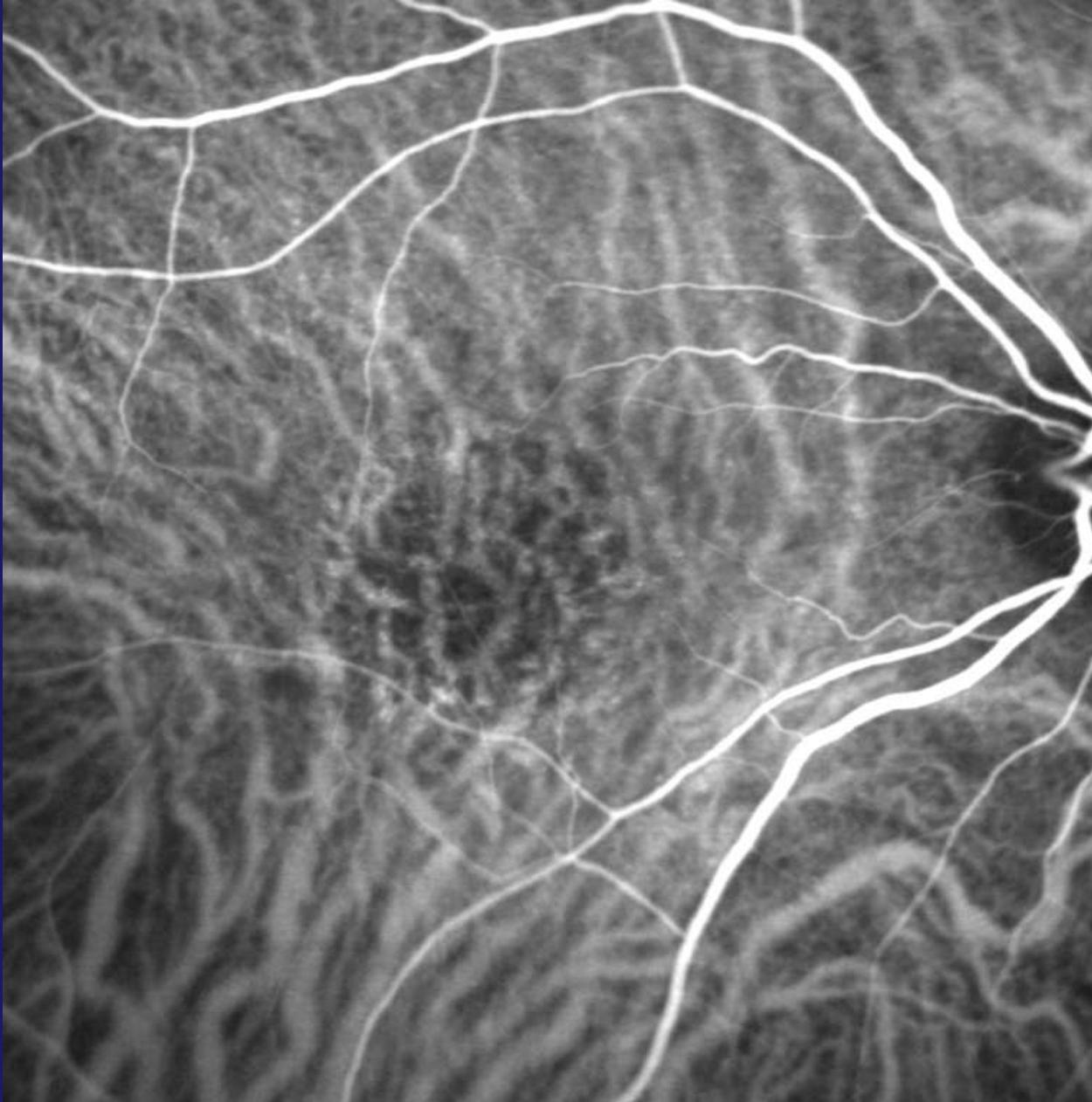
PDT-Monotherapie postoperativ



PDT und Triamcinolon



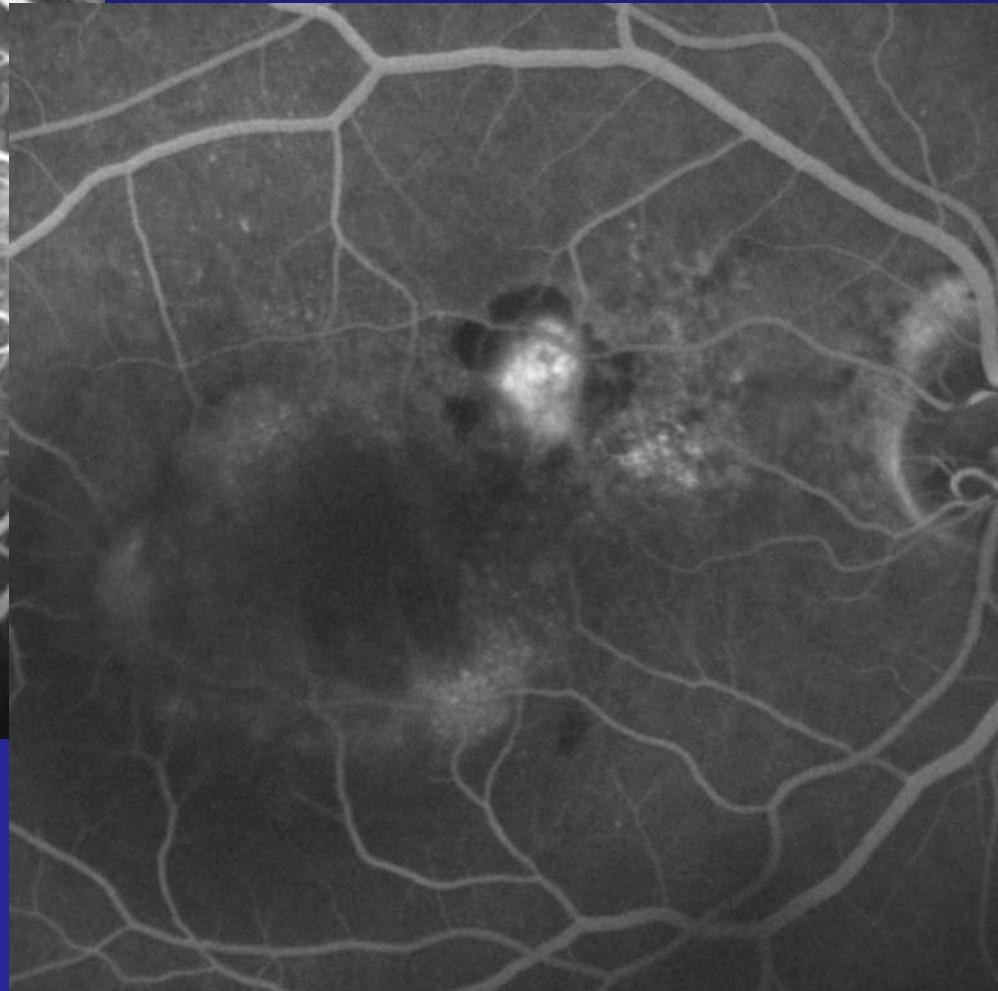
Perfusionsausfall der Choriocapillaris



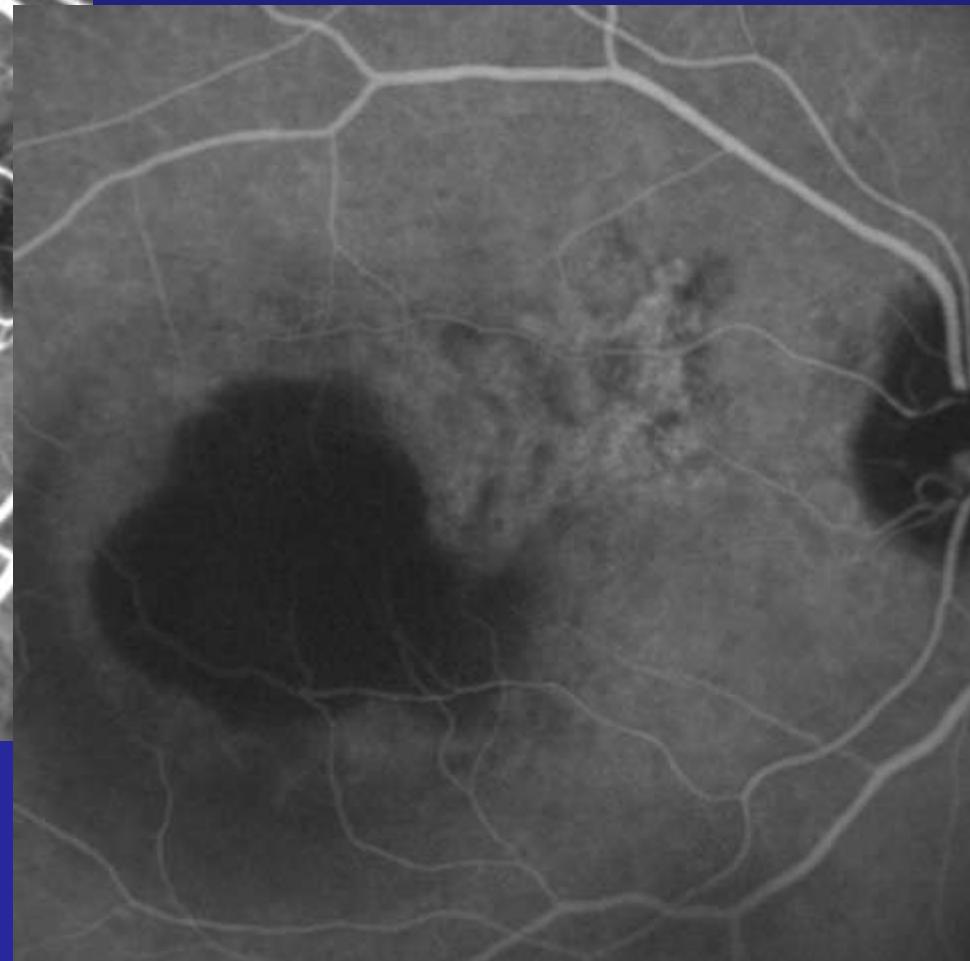
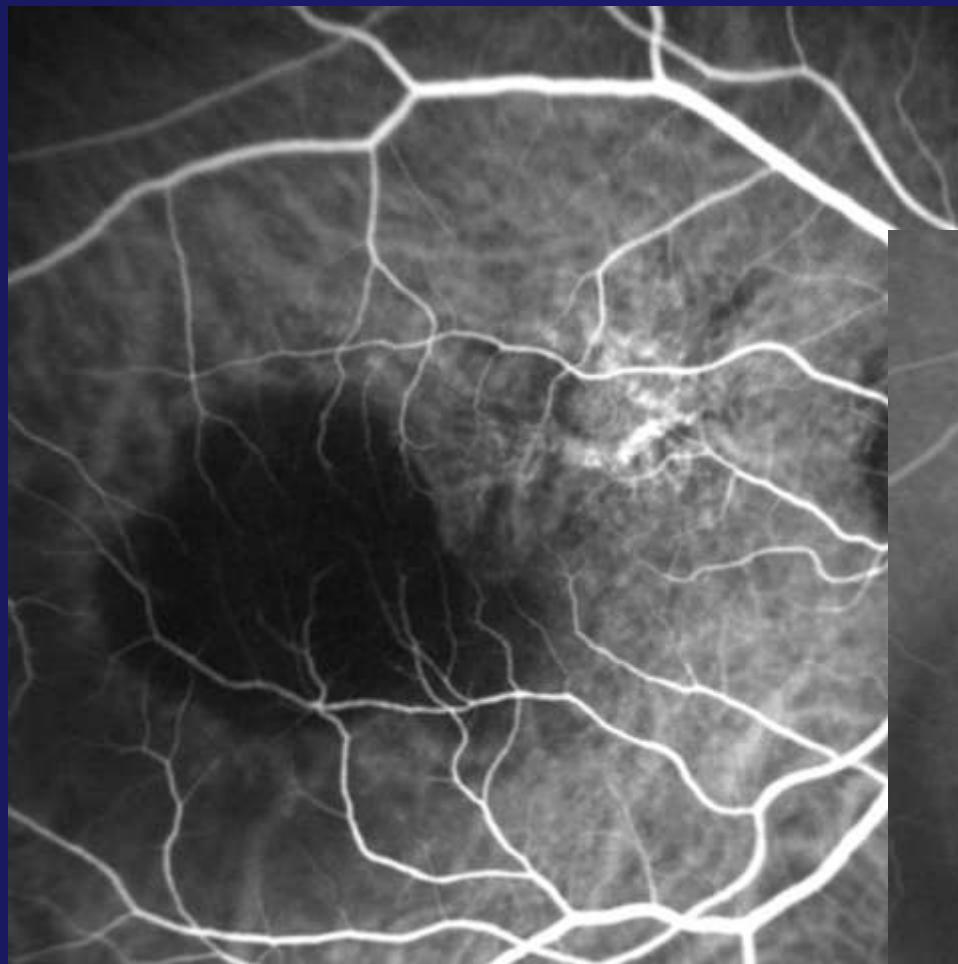
nicht jede feucht wirkende Makula bei AMD ist eine CNV !

- Pigmentepithelabhebung ohne CNV
- Makula Pucker „über“ einer AMD
- CMÖ bei Pseudophakie
- Lipofuszinzyste

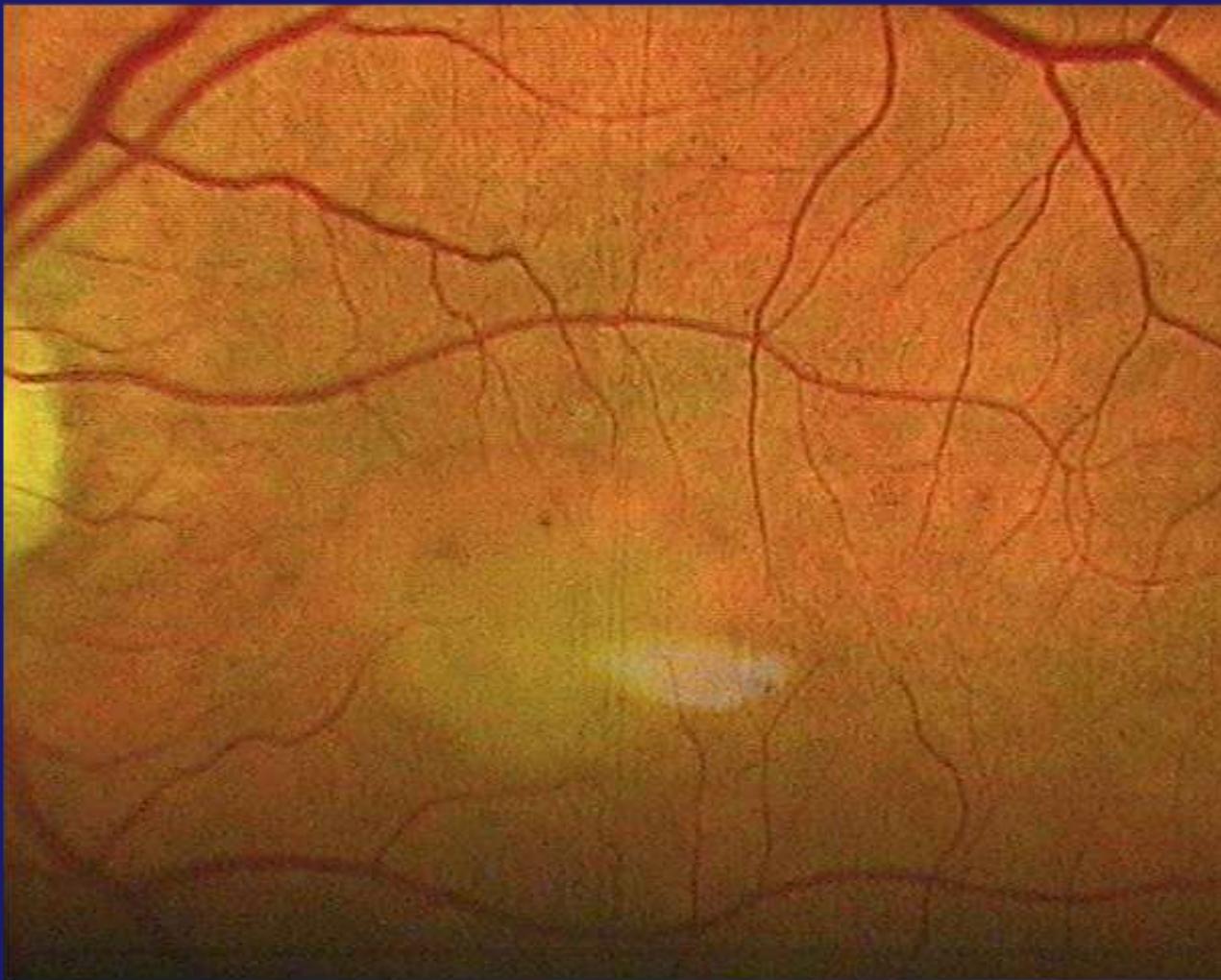
Nicht jede CNV bei PE-abhebung ist eine okkulte CNV !



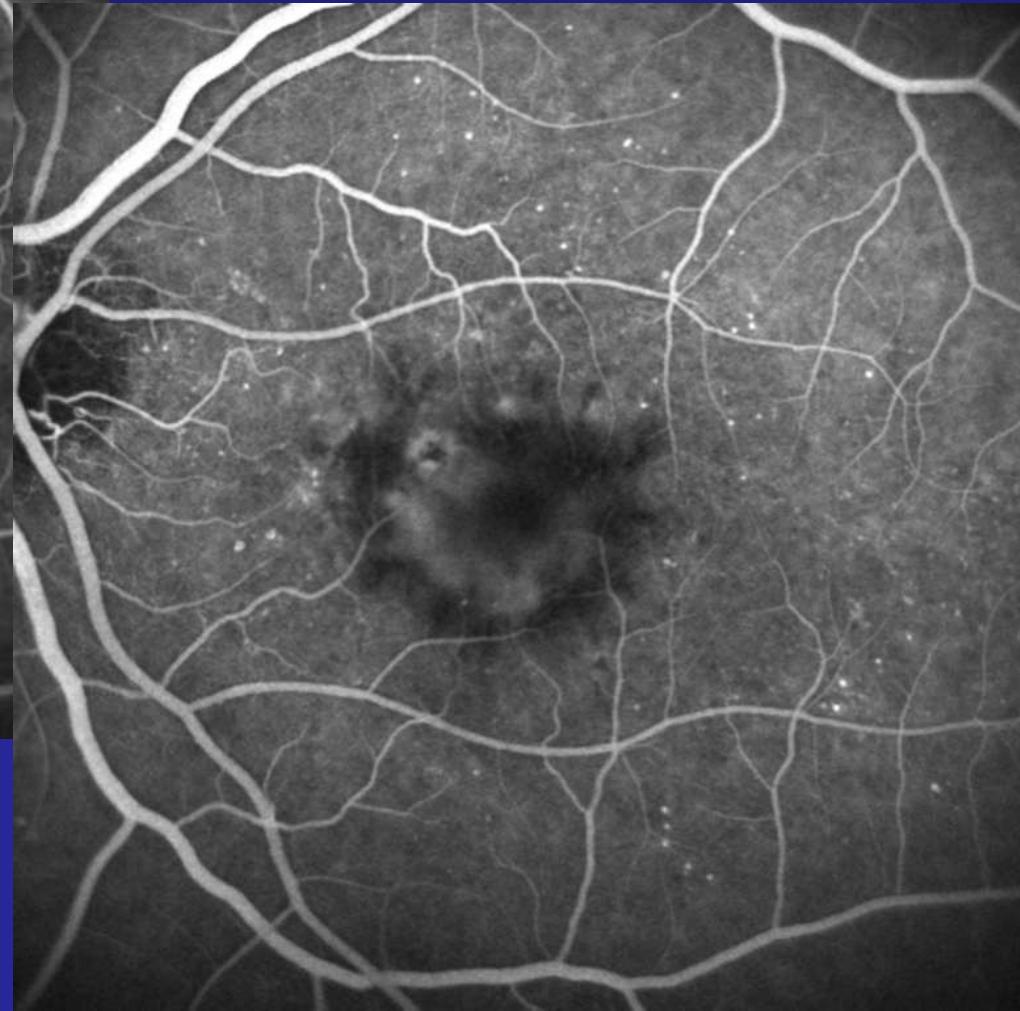
Nicht jede CNV bei PE-abhebung ist eine okkulte CNV !



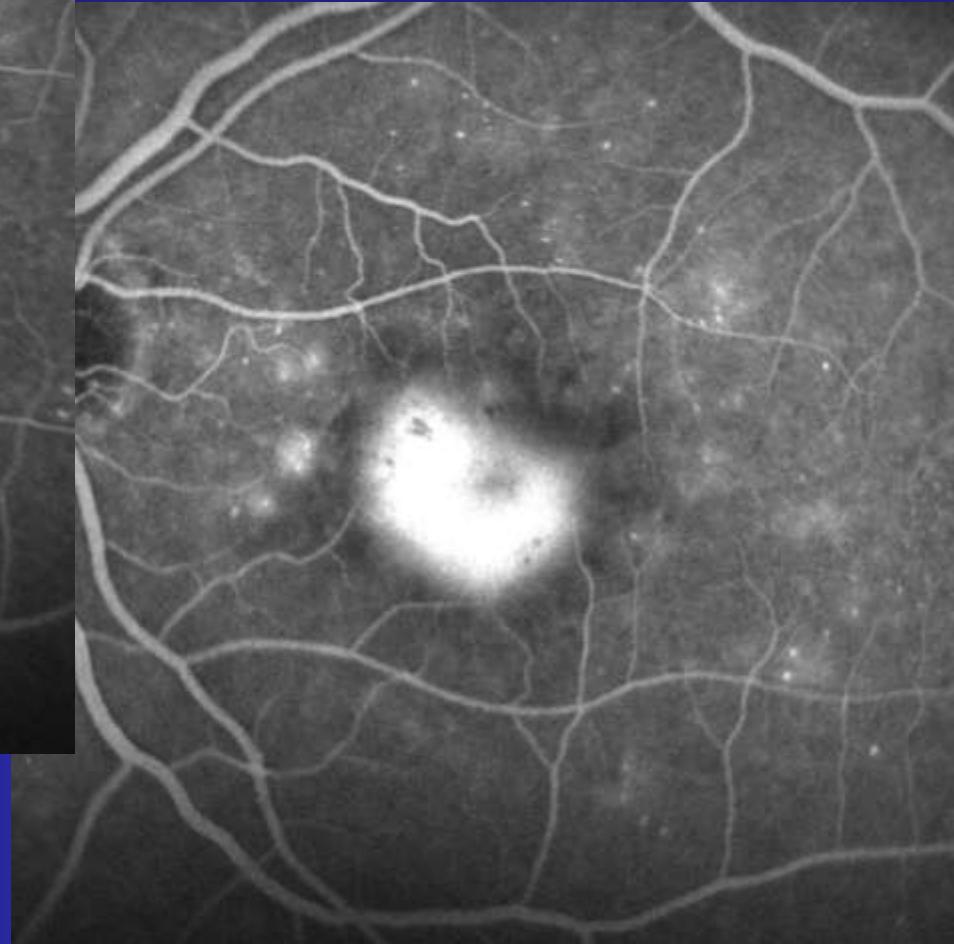
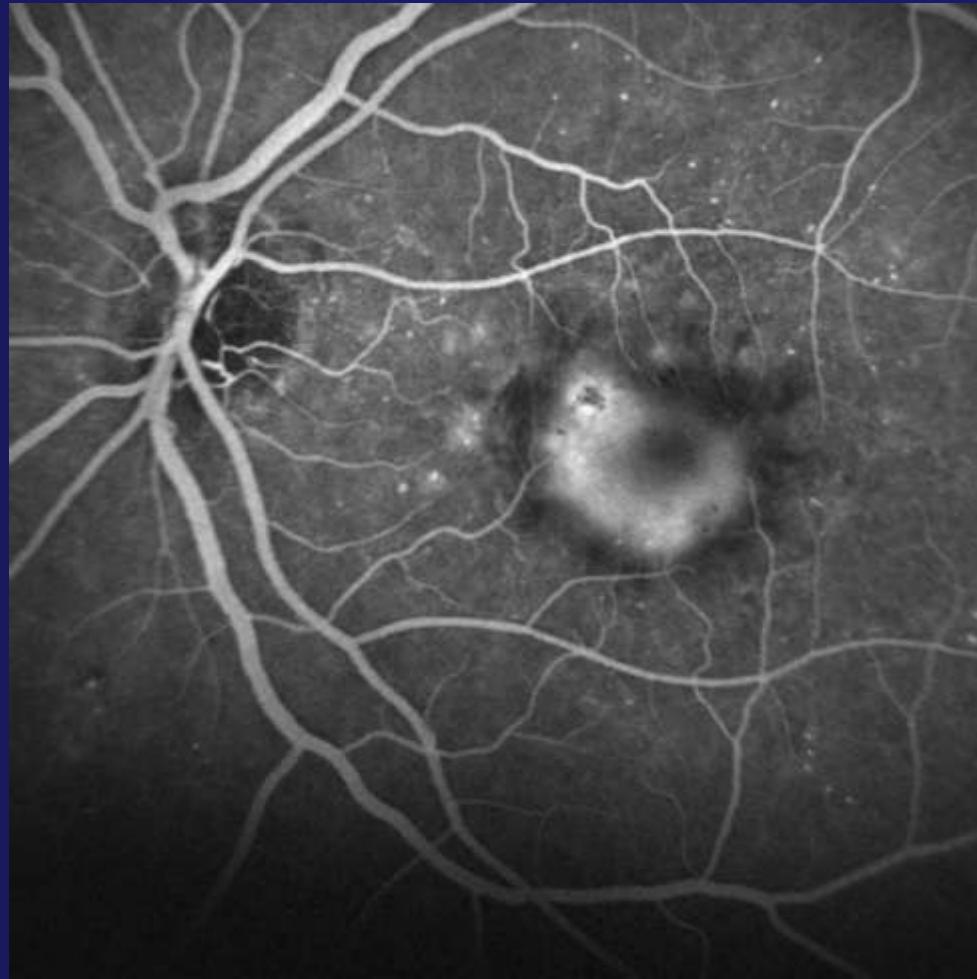
Nicht jede stark leckende Läsion ist eine CNV !



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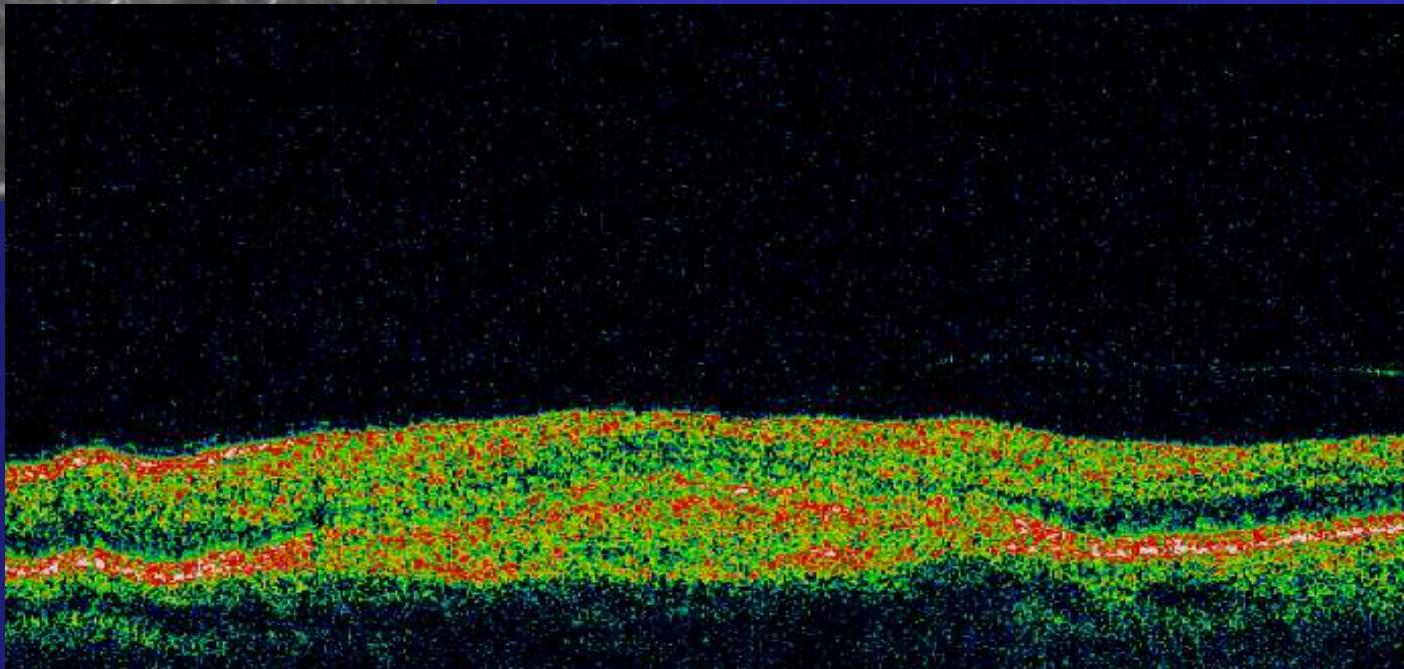


Nicht jede stark leckende Läsion ist eine CNV !

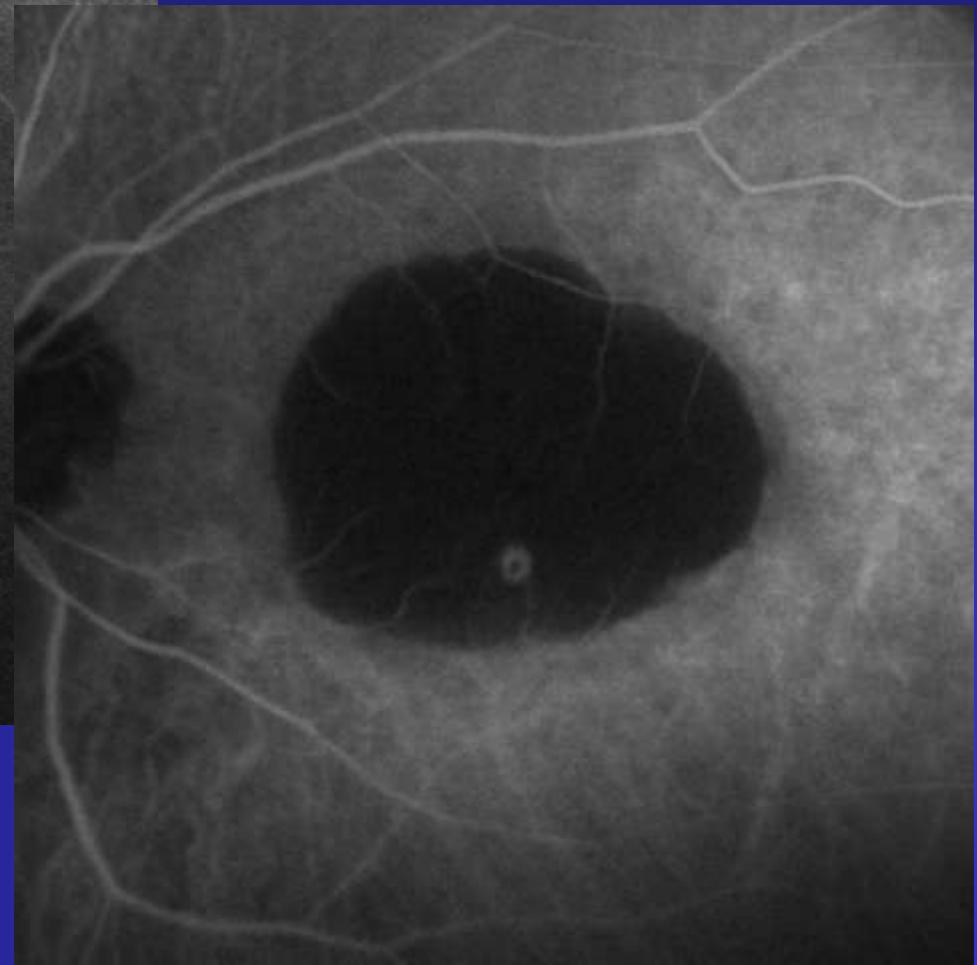
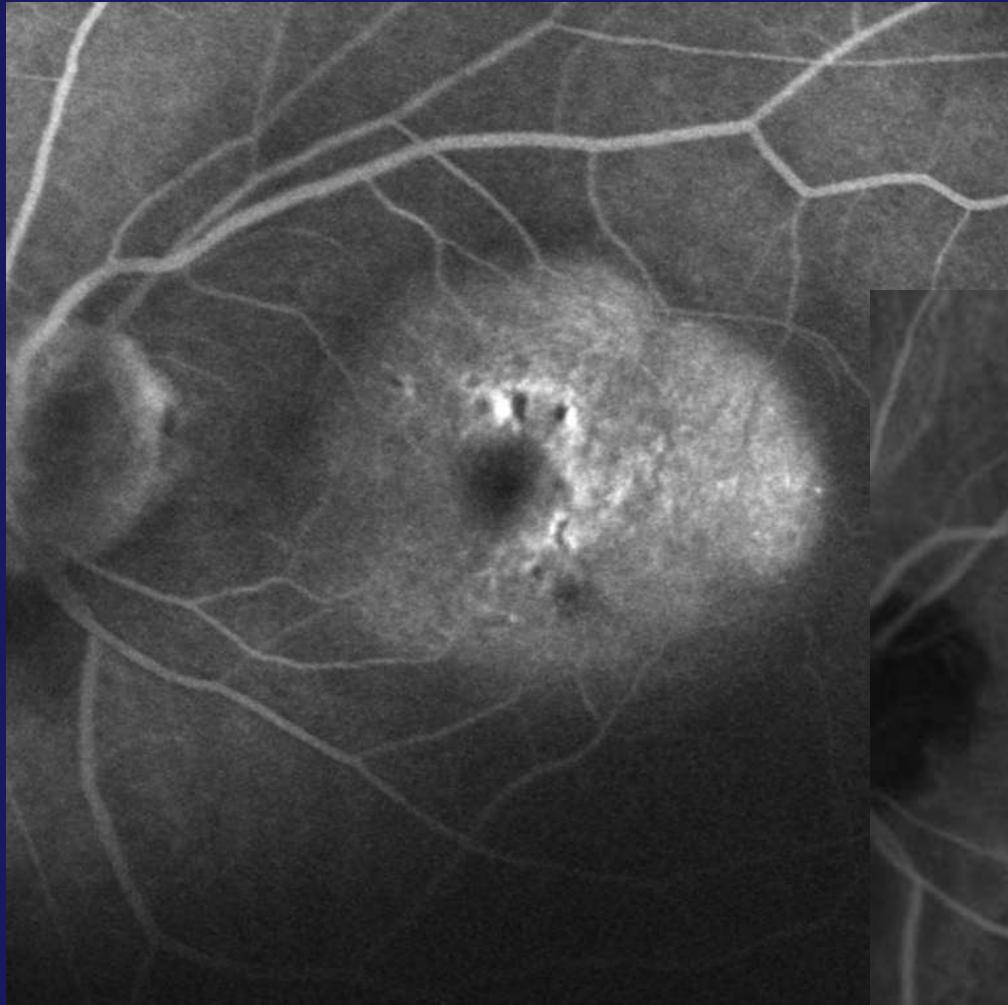




Lipofuszinzyste



Nicht jede seröse Pigmentepithelabhebung enthält keine CNV !



Zusammenfassung

- Die feuchte AMD hat die größte morphologische Vielfalt aller Netzhauterkrankungen.
- In den meisten Fällen sind daher mehrere bildgebende Verfahren für eine exakte Klassifizierung der CNV erforderlich.
- Eine Optimierung der Therapie setzt eine engmaschige Begleitung mit einer digitalen bildgebenden Diagnostik voraus.

Vielen Dank !

