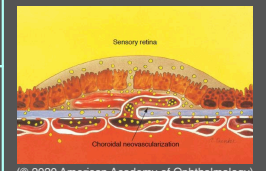
Neovascular AMD (I)

symptoms
- sudden onset
  - decreased vision
  - metamorphopsia
  - central/paracentral scotoma
  - Amsler grid highly effective for early detection

clinical findings
- subretinal fluid
- subretinal/sub-RPE blood
  - intraretinal hemorrhage may be an early sign of retinal angiomatous proliferation (RAP)
- subretinal/intraretinal lipid exudate
  - ± massive exudation
  - exudative RD
- subretinal pigment ring
- irregular elevation of RPE
- subretinal gray-green/gray-white lesion (CNV)
- cystoid macular edema
- sea fan pattern of subretinal small vessels
- PED
  - serous
  - hemorrhagic
- RPE tear

anatomical types of CNV
- type 1
  - originate from choriocapillaris
  - between Bruch membrane & RPE
  - grow through a defect in Bruch membrane into sub–RPE space
    - vascularized serous PED
    - fibrovascular PED
    - irregular surface contour



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  - usually occult
- type 2
  - between RPE & neurosensory retina
  - lacy or gray-green lesion
  - less common than type 1
  - usually classic
- type 3
  - originate from deep capillary plexus of retina
  - grow downward toward RPE
  - intraretinal
    - "retinal angiomatous proliferation"
  - small area of red discoloration + retinal exudate or a bleb of subretinal fluid

fluorescein patterns
- classic CNV
  - type 2 neovascularization
    - bright, lacy
    - well-defined
    - appears in early phase
    - obscures the boundaries
    - progressive leakage

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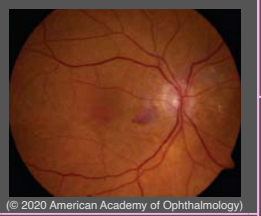

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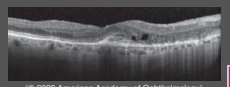

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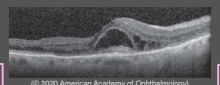
after treatment



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before treatment

- occult CNV
  - type 1 neovascularization
  - types
    - 1. PED
      - best seen on stereo photos
      - irregular RPE elevation
      - **· *fibrovascular PED***
        - 1-3 minutes after injection
        - not as diffuse as classic CNV
        - irregular/nonhomogeneous
        - progressive stippled leakage on FA
      - rapid pooling of dye in a homogenous ground-glass pattern
        - consistent with a serous PED
      - has a notch, or hot spot, due to a vascular component
      - **· *vascularized serous PED***

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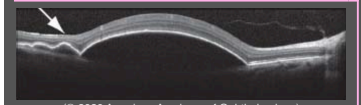

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    - 2. late leakage of undetermined source
      - poorly defined in the early phases but better appreciated in late phases
- RAP
  - focal hot spot on FA and indocyanine green (ICG) angiography
  - late CME or pooling into a PED
- hypofluorecence
  - thick blood, pigment, scar tissue, or a PED may block fluorescence

ICG angiography
- penetrates deeper through hemorrhage or pigment to reveal a hot spot that identifies CNV
- can differentiate between scar tissue and serous PED

Ophthalmology Mind Maps/Arman Mashayekhi, MD