4.11.3. Retina & Retinal pigment Epithelium (III): Inflammations

Fungal infections

- immunocompromised patients
- most common! candida
- aspergillus
- cryptococcus neoformans
- fungi causing retinal infection
- central zone of necrosis
- surrounding granulomatous inflammation
- necrotizing granulomatous inflammation
- surrounding lymphocytic infiltration
- histology
- fungal hyphae
- GMS stain

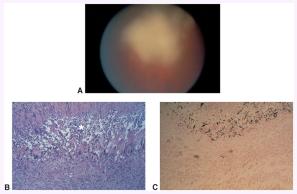


Figure 11-8 (© 2020 American Academy of Ophthalmology)

Toxoplasmosis

- most common infectious retinitis
- reactivation of congenital toxoplasmosis
- acquired toxoplasmosis
- pathogenesis
- healthy
- patient
- immunocompromised
- vitritis
- posterior uveitis/panuveitis
- focal retinochoroiditis
- clinical
- reactivated disease
- pigmented chorioretinal scar
- tachyzoites
- cysts
- toxoplasma organisms
- encystment after healing
- retinal necrosis
- histology
- infiltrate of neutrophils & lymphocytes
- granulomatous inflammation of inner choroid
- lymphocytic infiltrate of vitreous

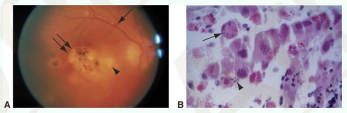


Figure 11-9 (© 2020 American Academy of Ophthalmology)

Viral infections

- viruses causing retinal infection
  - rubella
  - measles
  - HIV
  - HSV
  - VZV
  - CMV
- Acute retinal necrosis
  - rapidly progressive necrotizing retinitis
  - etiology
    - HSV types 1 & 2
    - VZV
    - CMV rarely!
  - patient
    - healthy
    - immunocompromised
  - obliterative retinal vasculitis
  - retinal necrosis
  - inflammation
    - vitreous
    - anterior chamber
  - electron microscopy
    - viral inclusions in retinal cells
  - histology
    - PCR
      - vitreous
      - aqueous

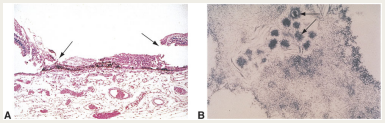
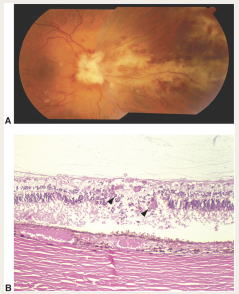


Figure 11-1 (© 2020 American Academy of Ophthalmology)

- CMV retinitis
  - immunocompromised patients
    - AIDS!
  - histology
    - infects
      - vascular endothelial cells
        - retinal hemorrhages
      - retinal neurons
        - large neurons
        - cytomegalo cells
          - 20-30 μm
          - large eosinophilic intranuclear/intracytoplasmic inclusion bodies
      - macrophages
    - full thickness retinal necrosis
    - thin fibroglial scar



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Ophthalmology Mind Maps/Arman Mashayekhi, MD