

Eye in Systemic Diseases

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Retina Fellowship

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□ Ophthalmology has three specific characteristics:

- 1- Examiner can see most parts of the eye and its lesion easily.
- 2- The eye is part of the Central Nervous System.
- 3- Most systemic diseases have some signs in the eye.

Diabetes

- Diabetes is a **common** disease, a study in **Yazd** showed that in people more than forty years old the prevalence of diabetes is **24.5%**.
- It has two types:
 - Type I
 - Type II
- Diabetes can involve all body systems, in eye all parts except sclera can be affected by diabetes.

Diabetic Retinopathy

- Prevalence, **Tehran: 37%**
Yazd: 24.6%
- Risk Factors:
 - 1- Duration of disease
 - 2- Insufficient disease control
 - 3- Pregnancy
 - 4- Hypertension
 - 5- Severe Carotid Stenosis
 - 6- Renal Disease
 - 7-Anemia

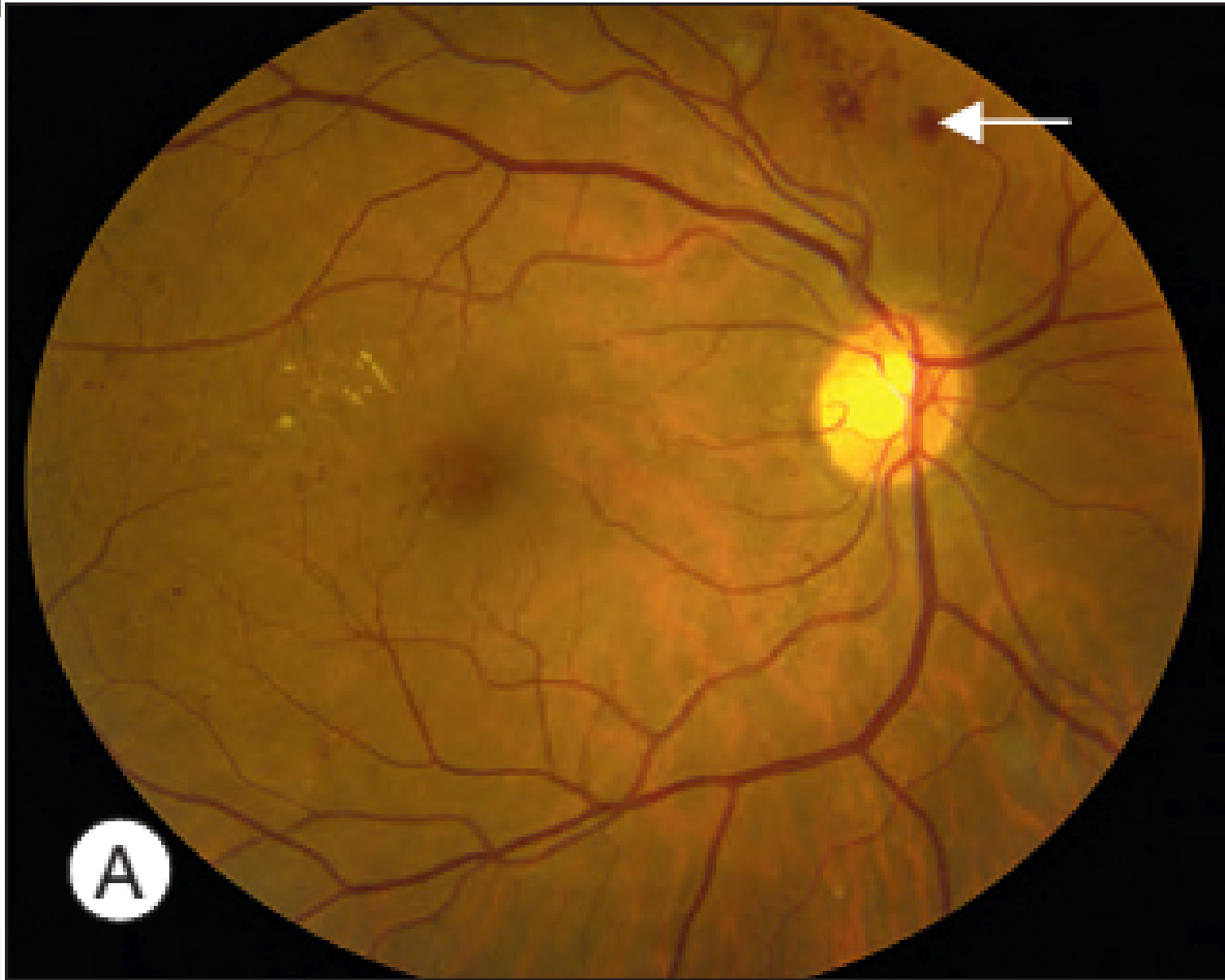
Time for Eye Examination

- **Type I:** 3 year after diagnosis
- **Type II:** Immediately after diagnosis

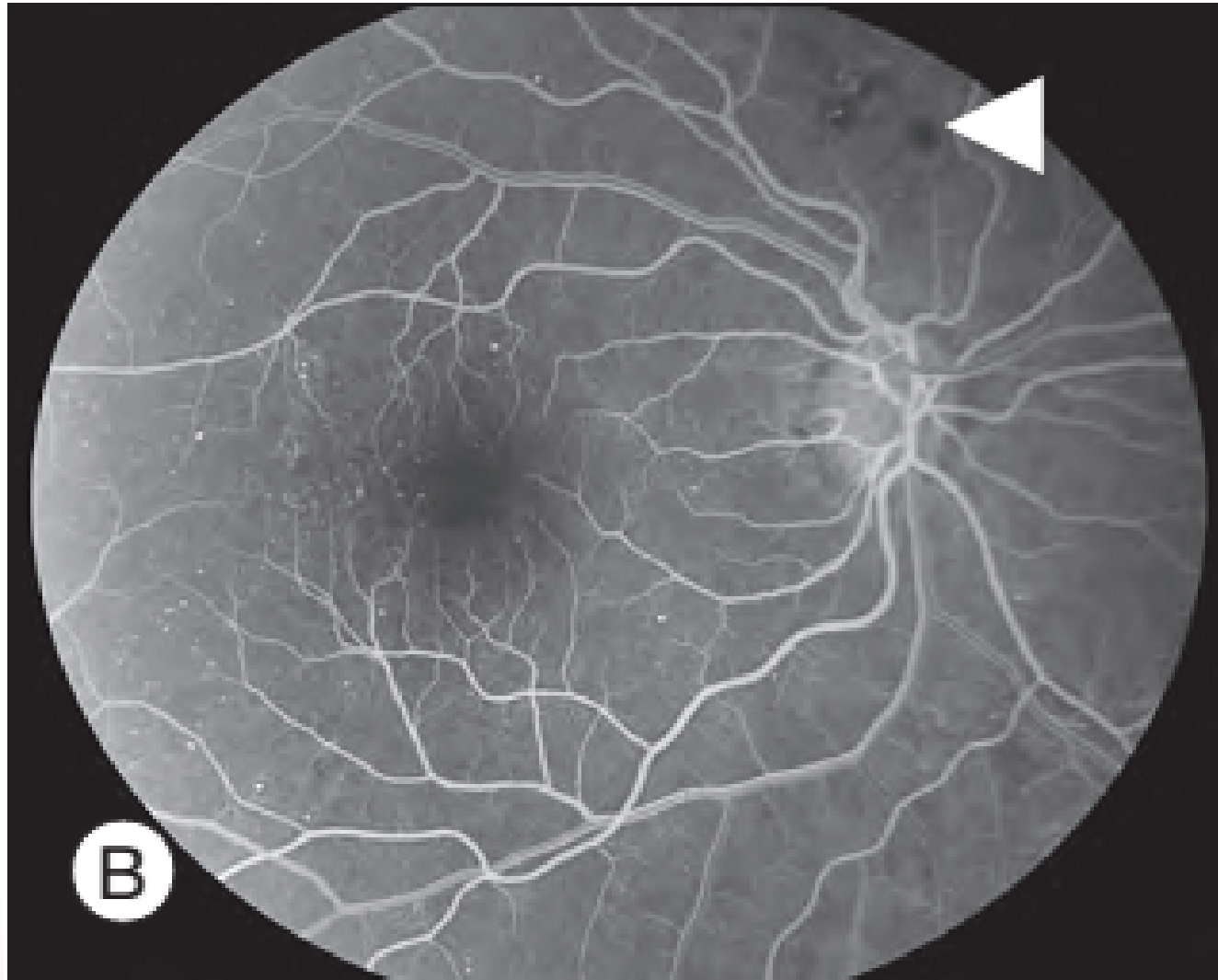
Classification

- **Nonproliferative Diabetic Retinopathy (NPDR)**
- **Proliferative Diabetic Retinopathy(PDR)**

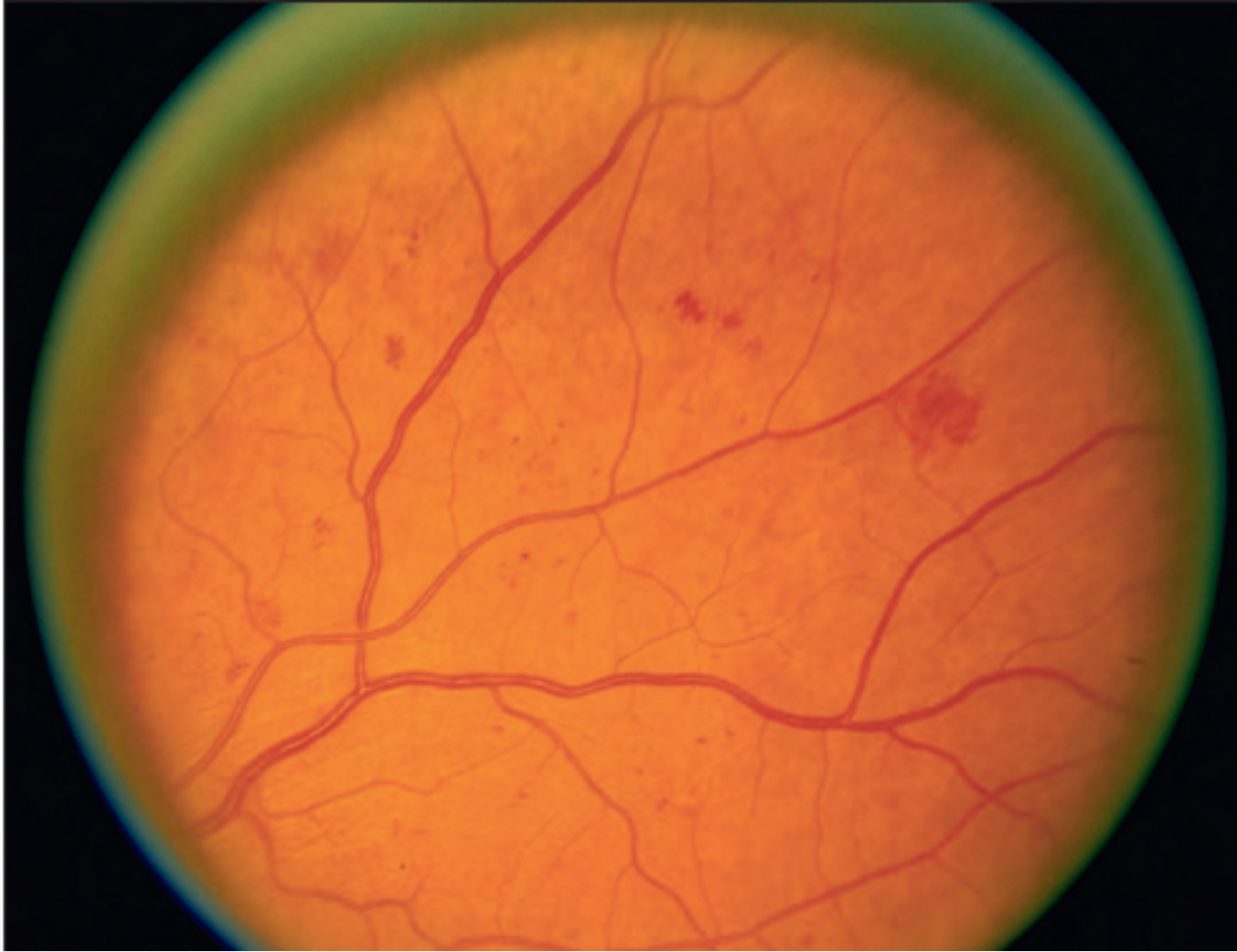
Intraretinal Hemorrhages/ Microaneurysms/ Hard Exudates



Fluorescein Angiography of NPDR



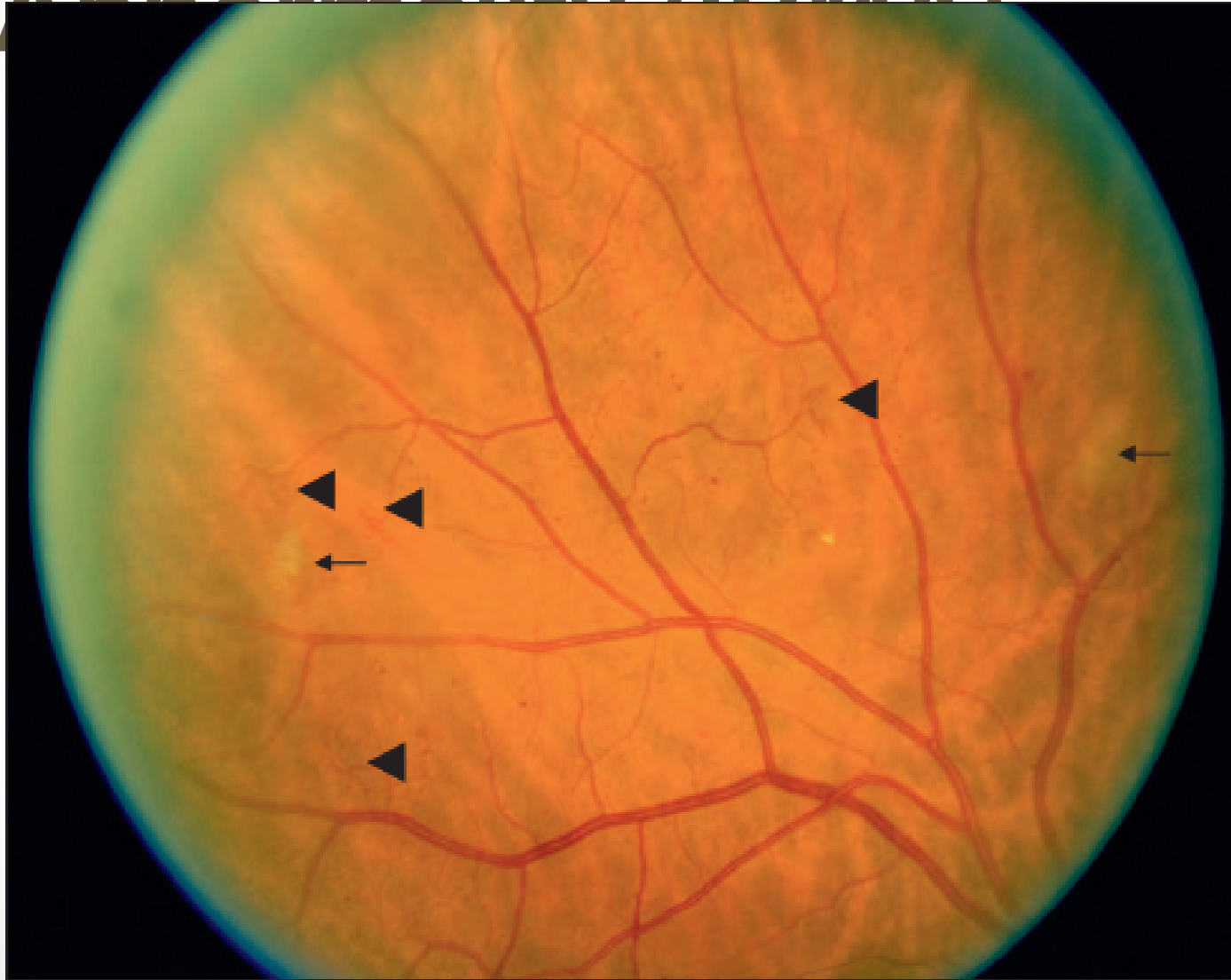
Intraretinal Hemorrhages/ Microaneurysms



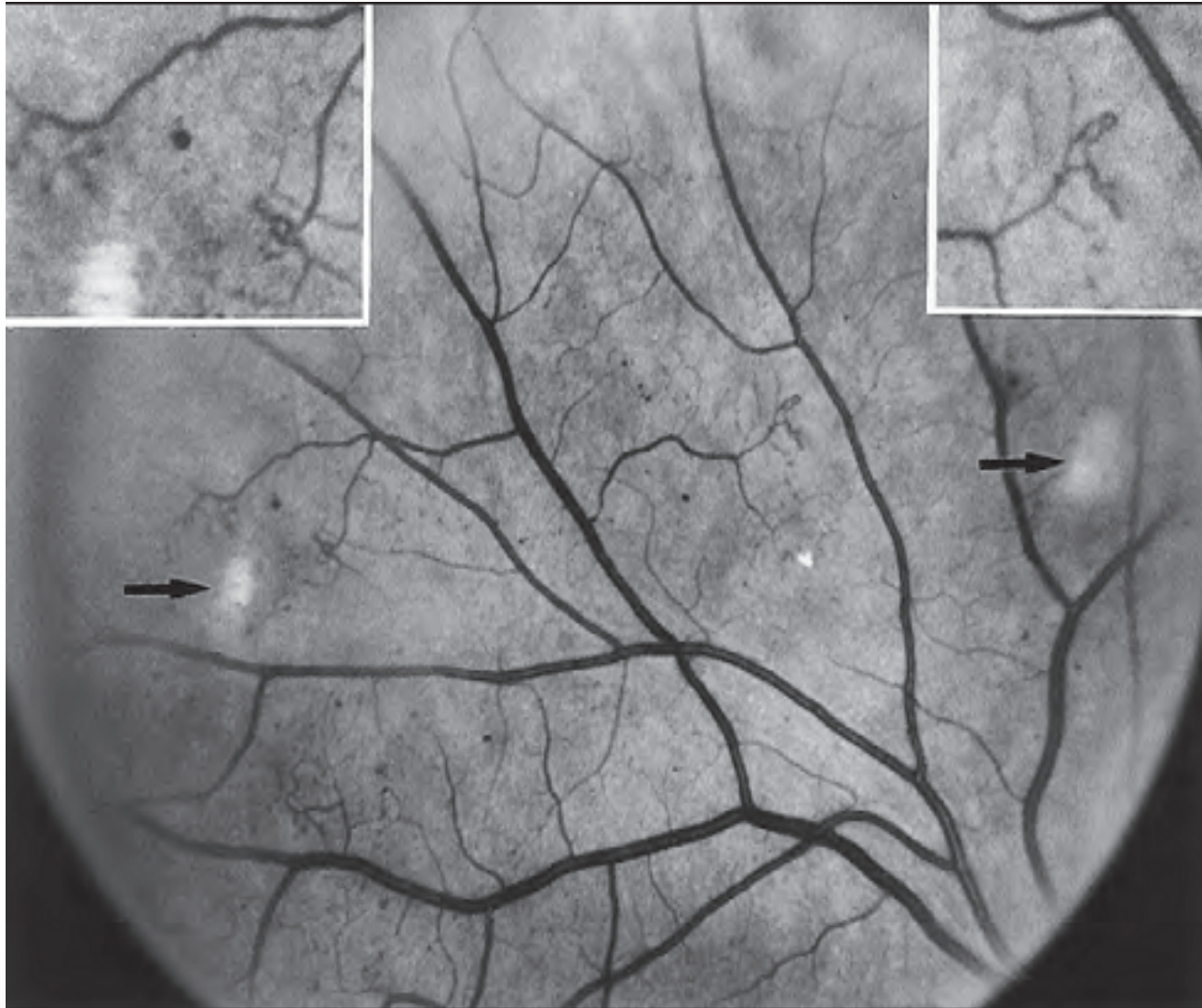
Hard Exudates



Intraretinal Microvascular Abnormality (IRMA)



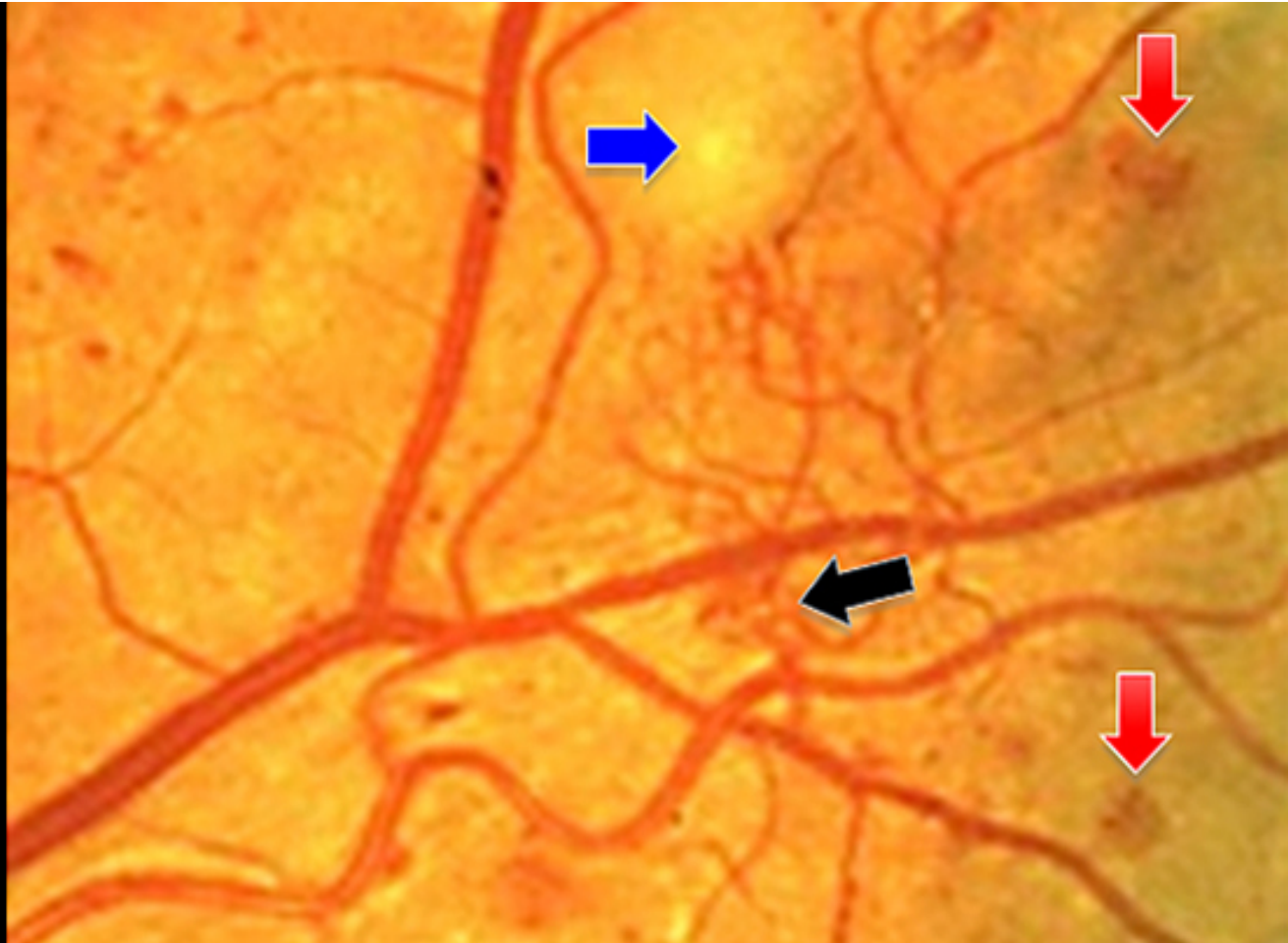
IRMA



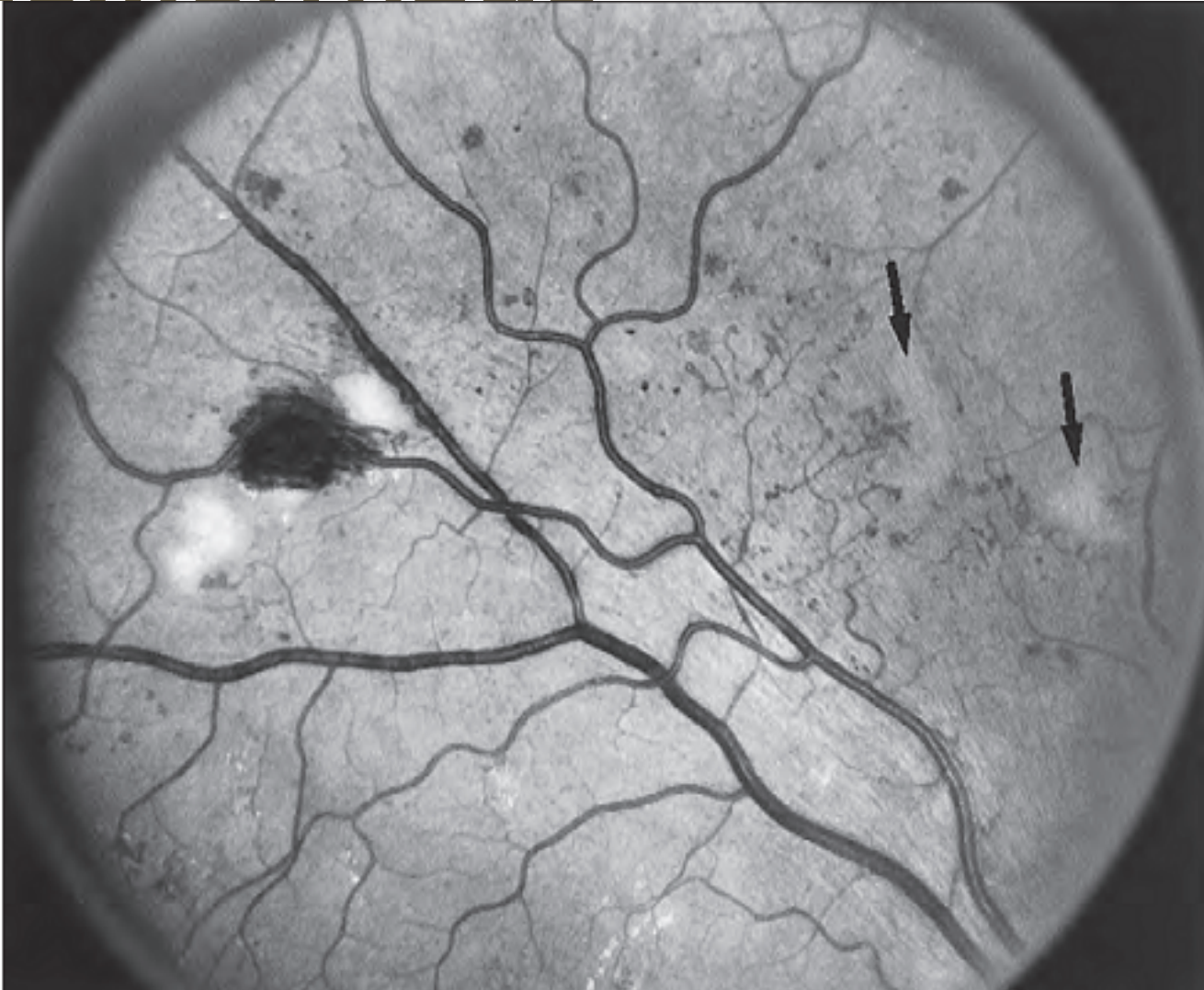
Venous Beading



IRMA/ Intraretinal Hemorrhage/ Cotton Wool



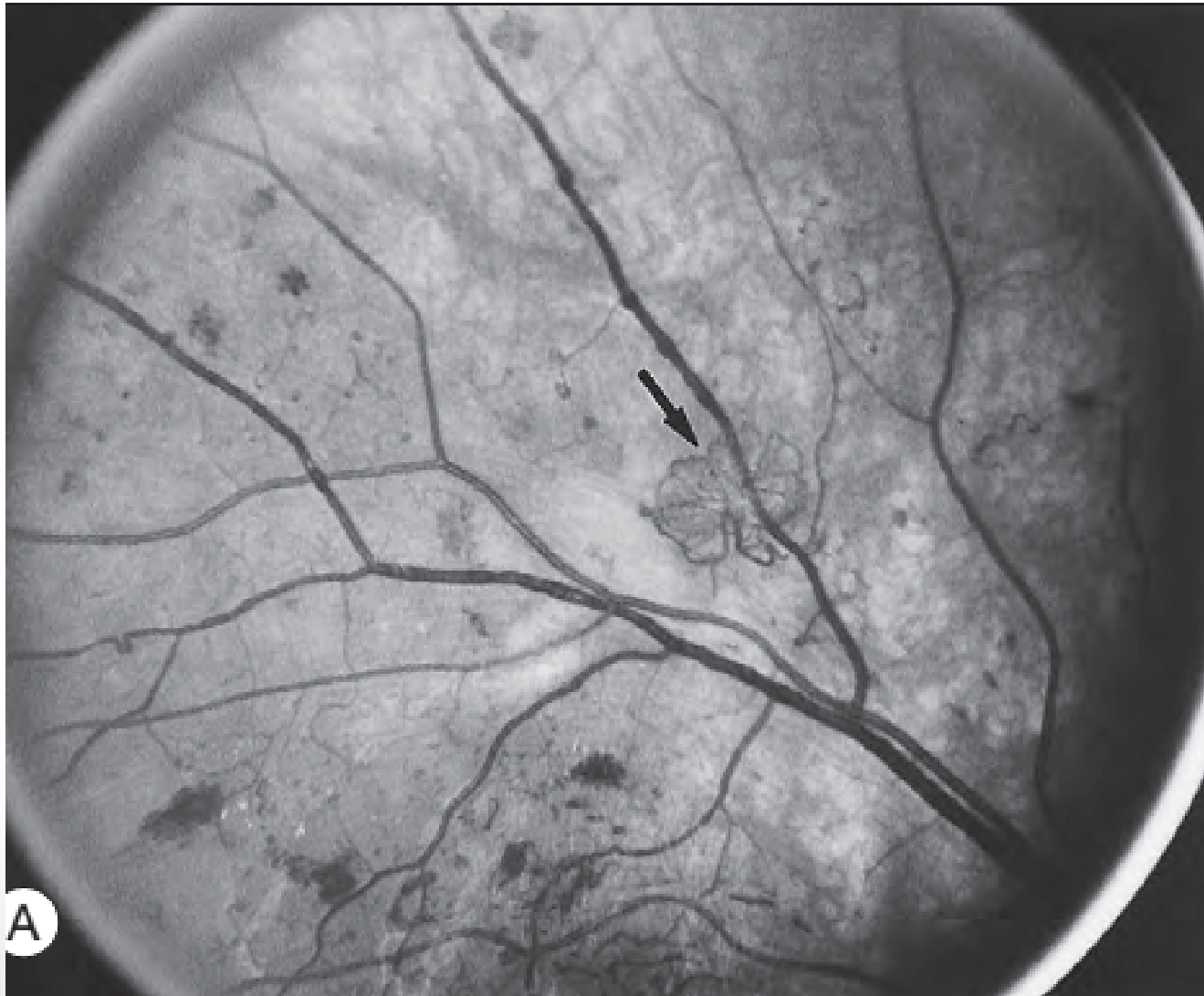
CWS/ IRMA/ Large blot hemorrhage



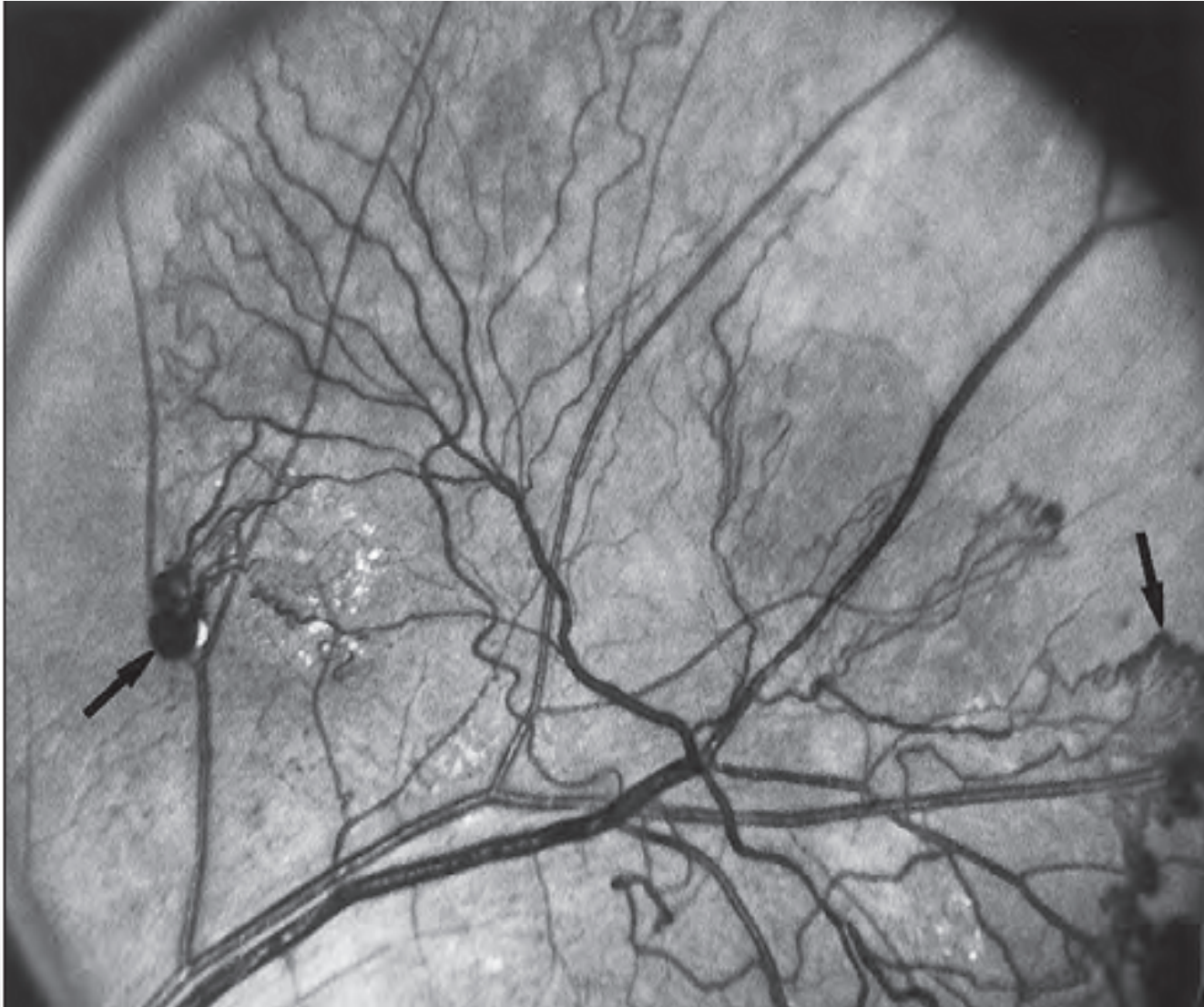
Classification of NPDR

- **Mild NPDR:** At least one microaneurysm
- **Moderate NPDR:** Multiple microaneurysm, Venous Beading, Retinal Hemorrhage, Cotton Wool Spot
- **Severe NPDR:**
 - Intraretinal hemorrhage in 4 quadrants
 - Venous beading in 2 quadrants
 - IRMA in 1 quadrant

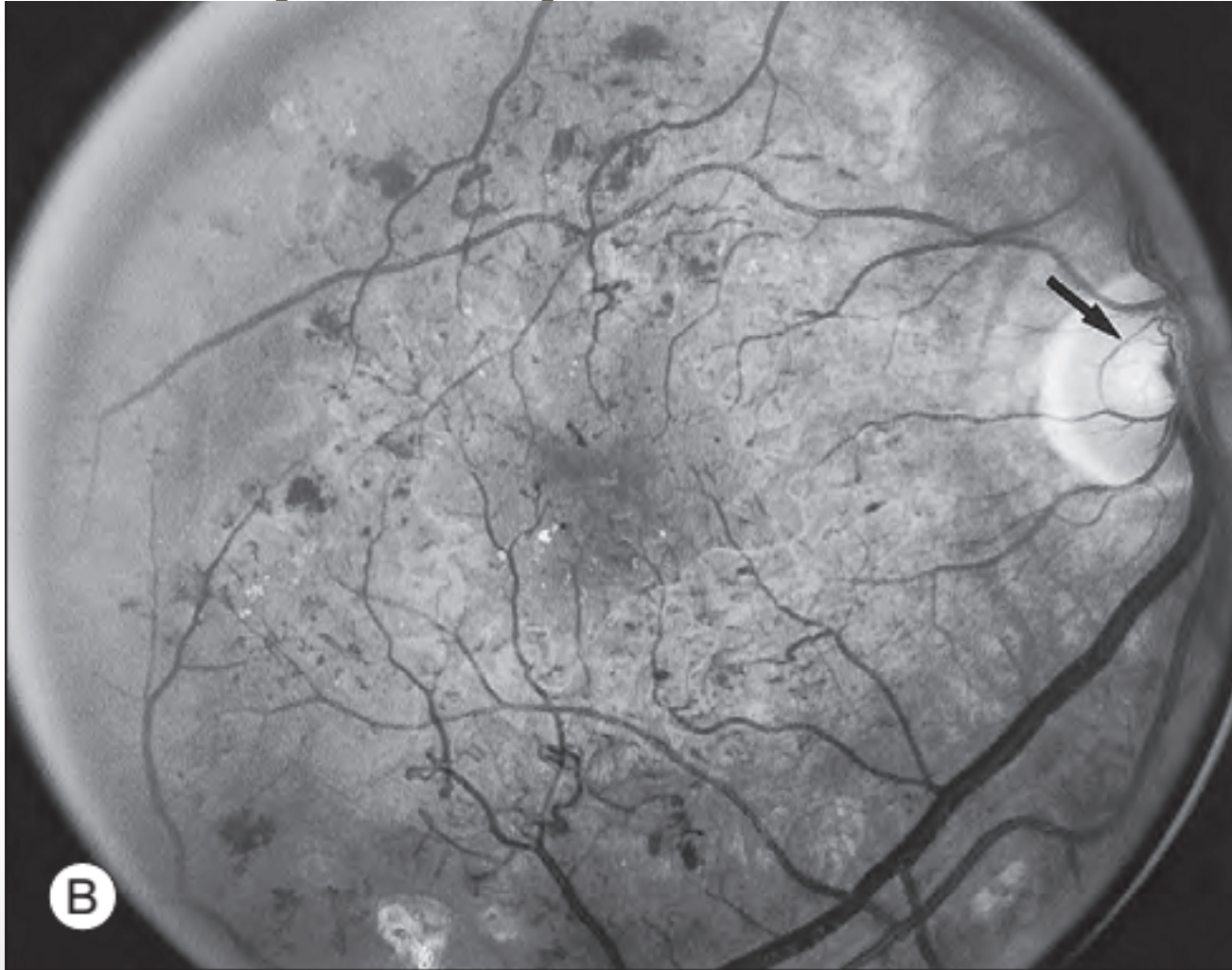
Retinopathy (PDR) Neovascularization of



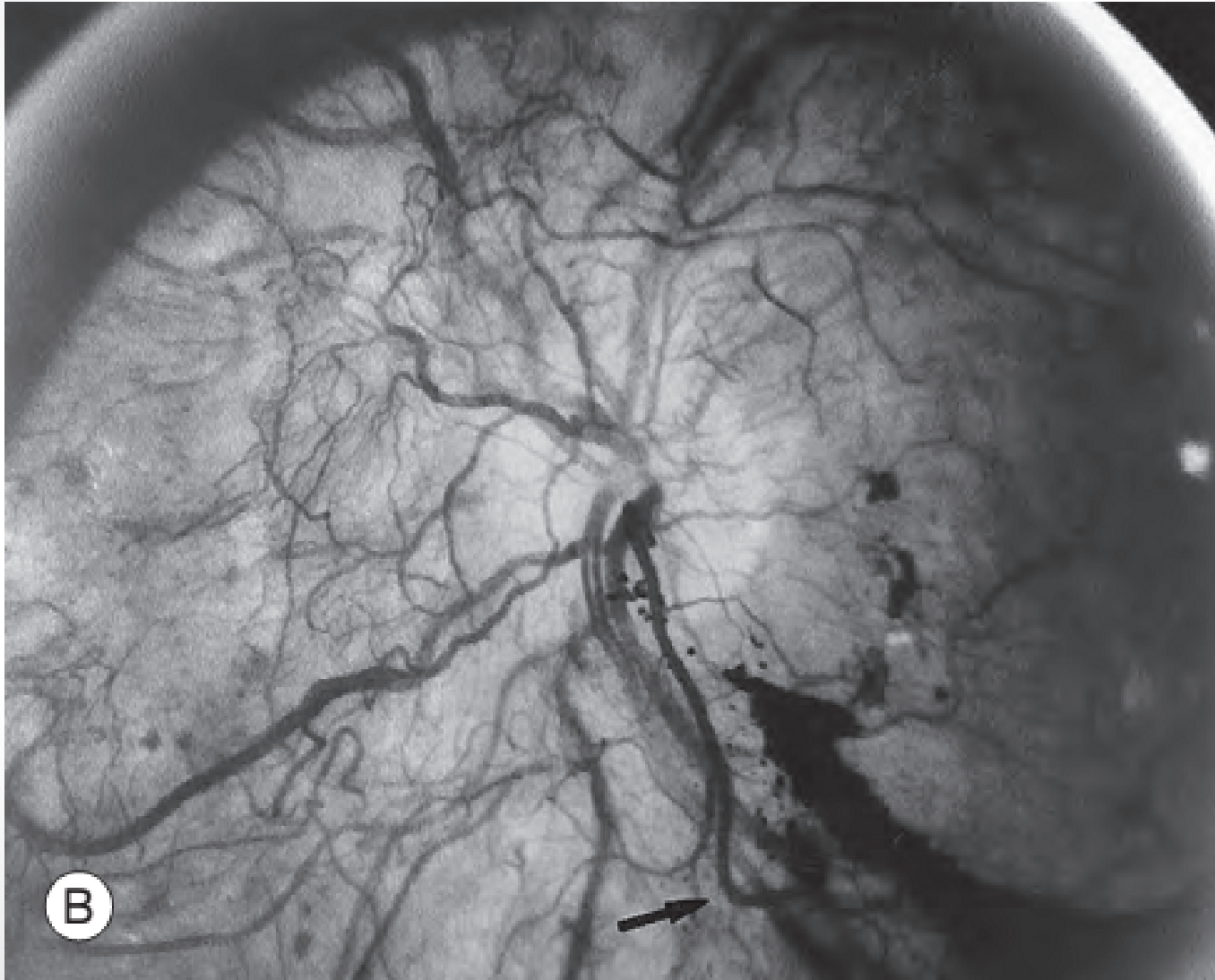
NVE



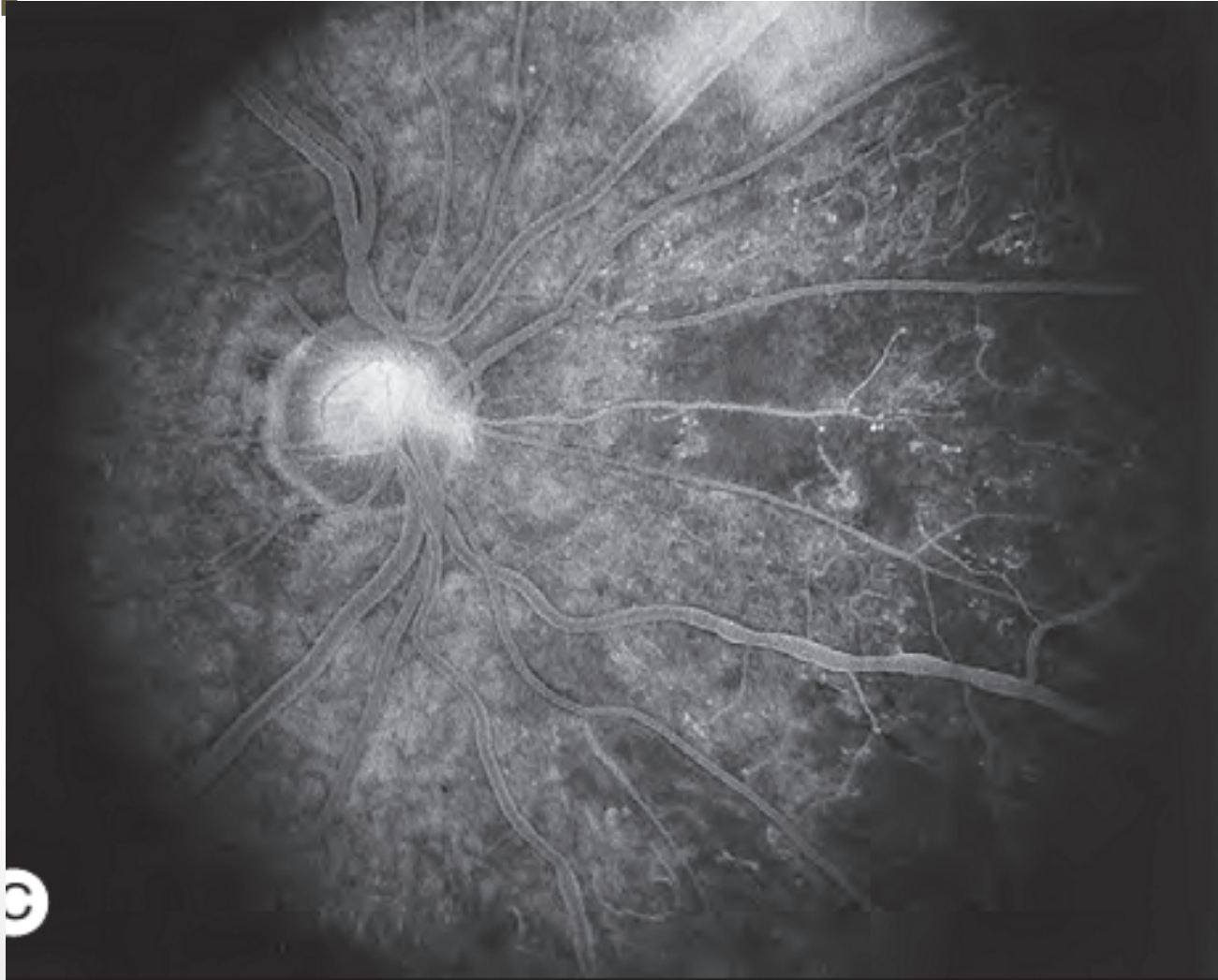
Neovascularization of Disc (NVD)



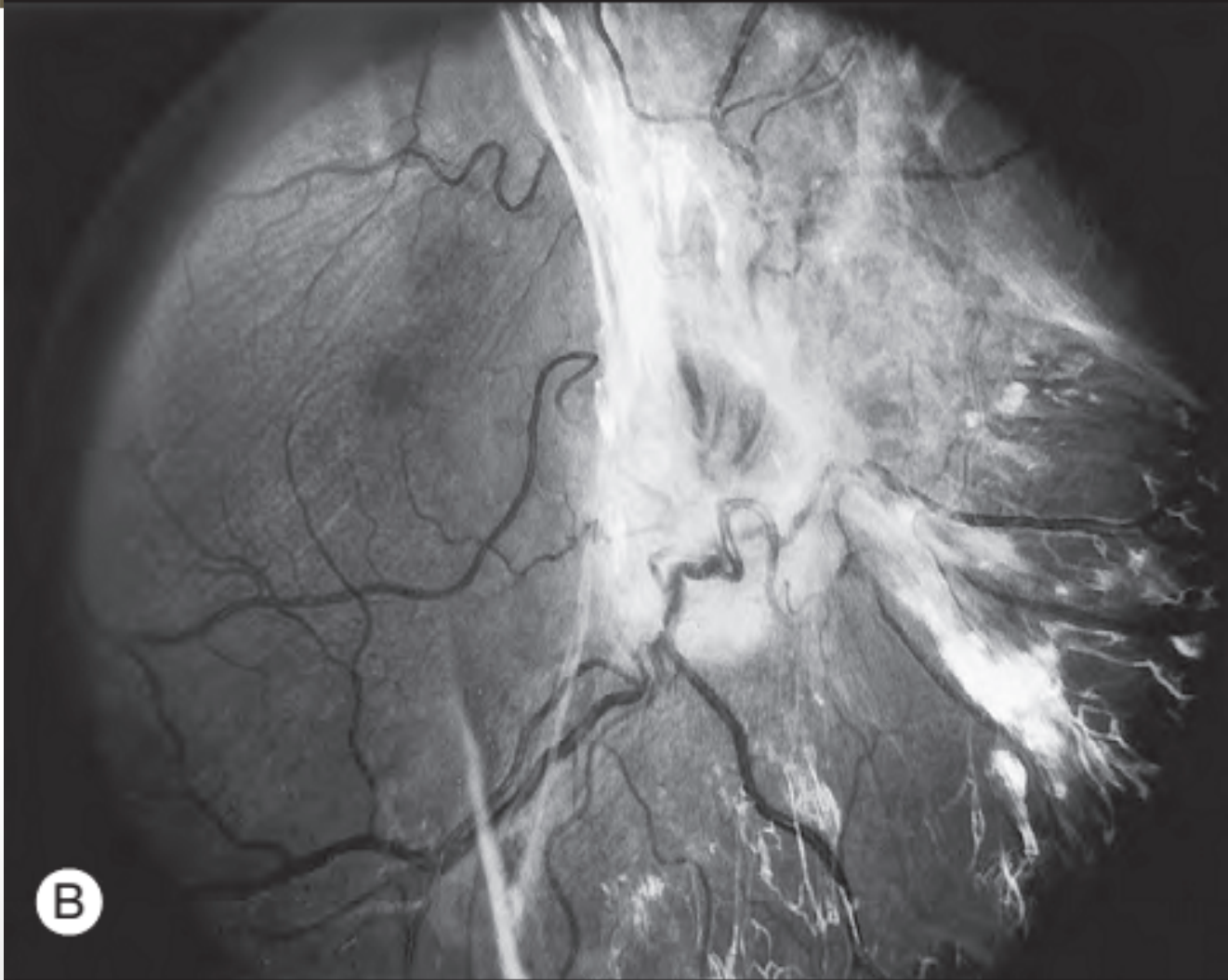
NVD



Capillary Non-perfusion Area



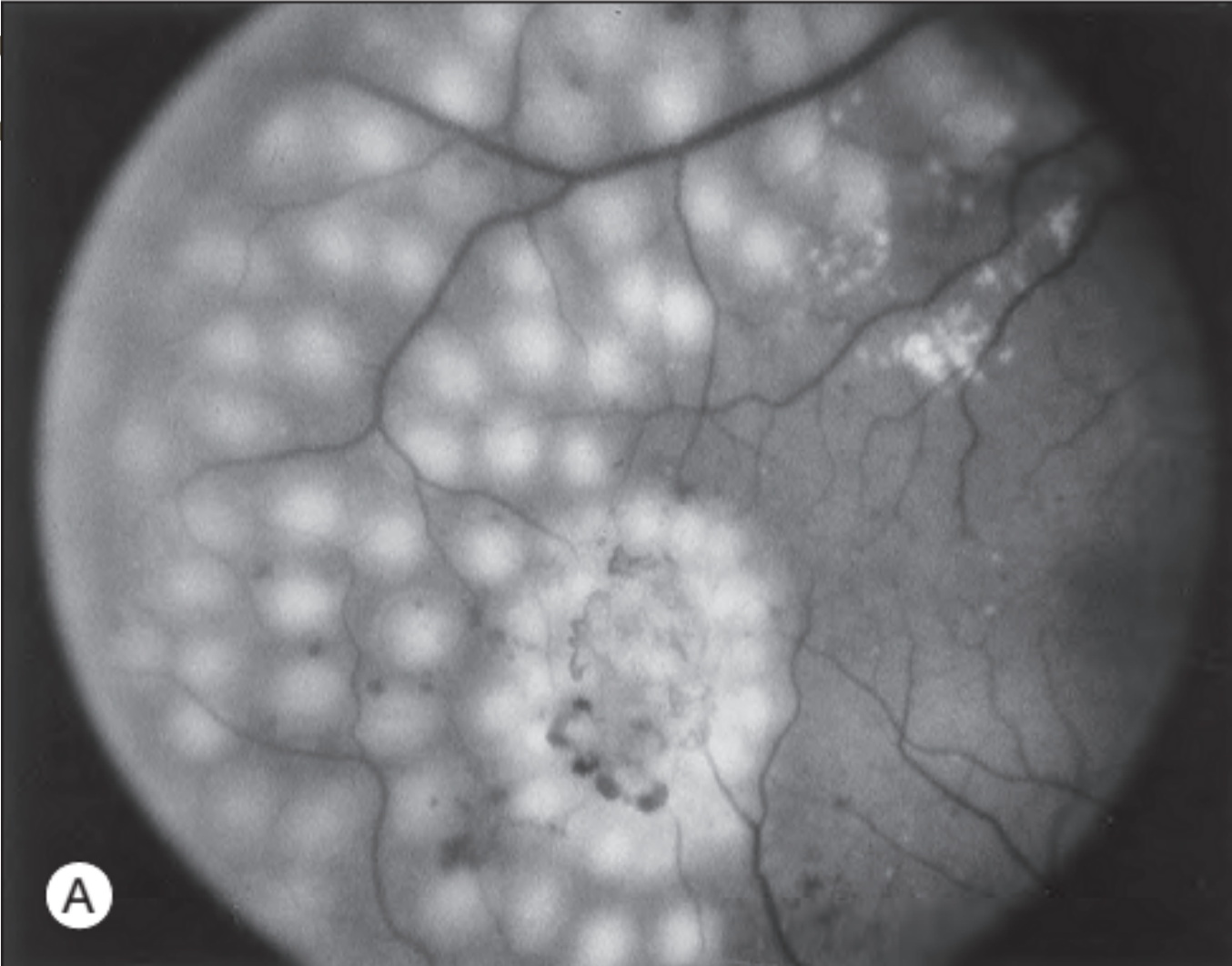
Tractional Retinal Detachment (TRD)



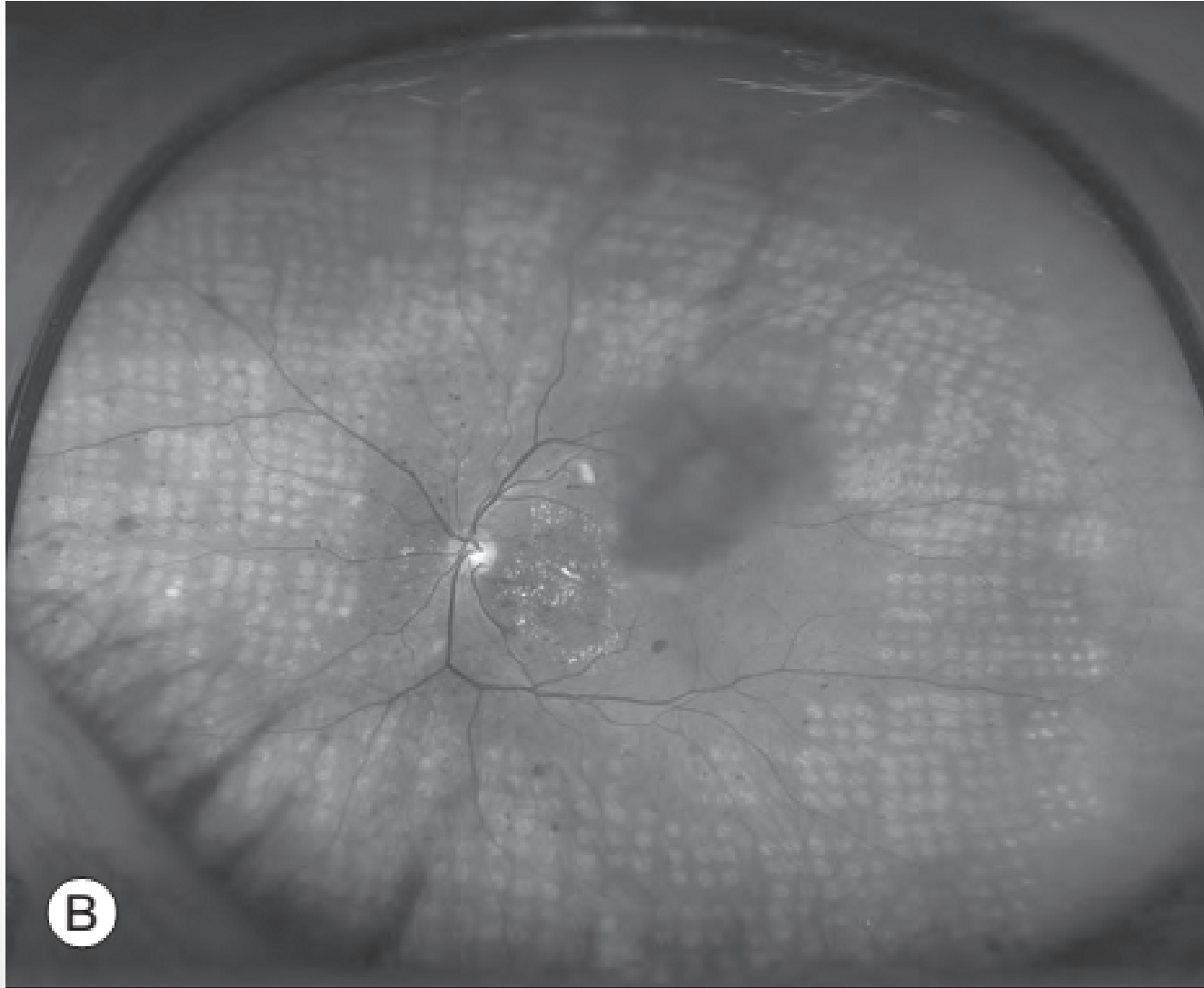
Treatment

- Systemic Treatment
- Photocoagulation

Pan-retinal Photocoagulation



PRP



Graves Disease and Thyroid Related Immune Orbitopathy (TRIO)

- Graves is an autoimmune disease characterized by increased secretion of thyroid hormones.
- 33% of affected patients have signs of graves related ophthalmopathy.

Lid Retraction



Lid Lag



Lagophthalmus



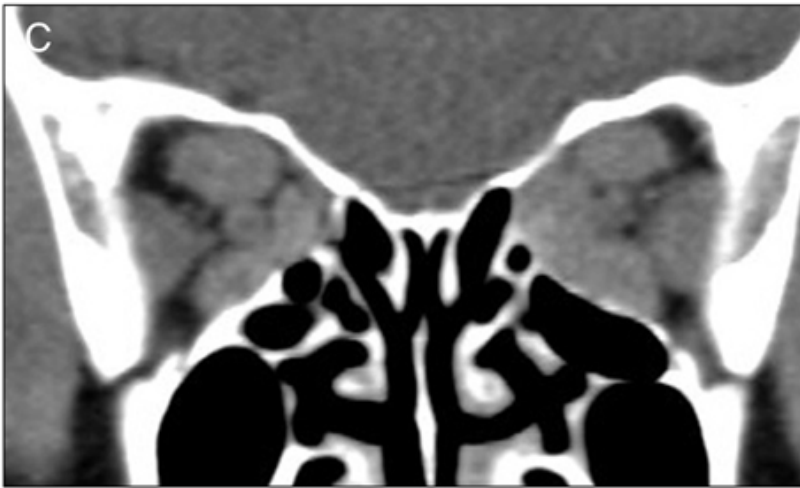
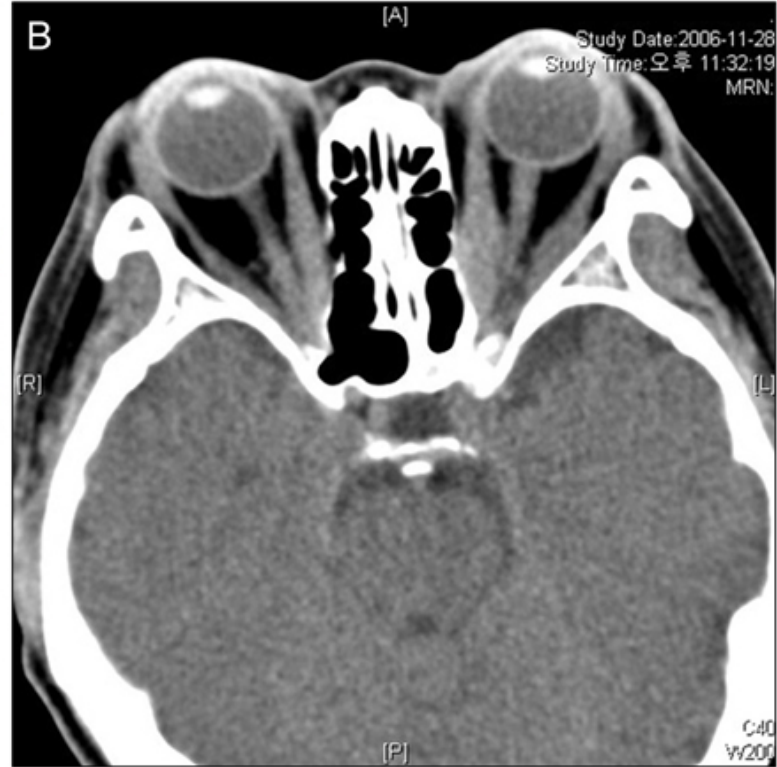
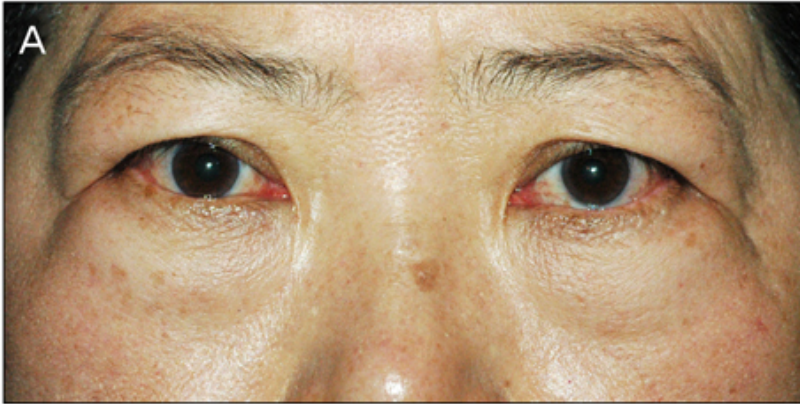
Proptosis (Exophthalmos) Chemosis



Nocturnal Lagophthalmos and Corneal Exposure



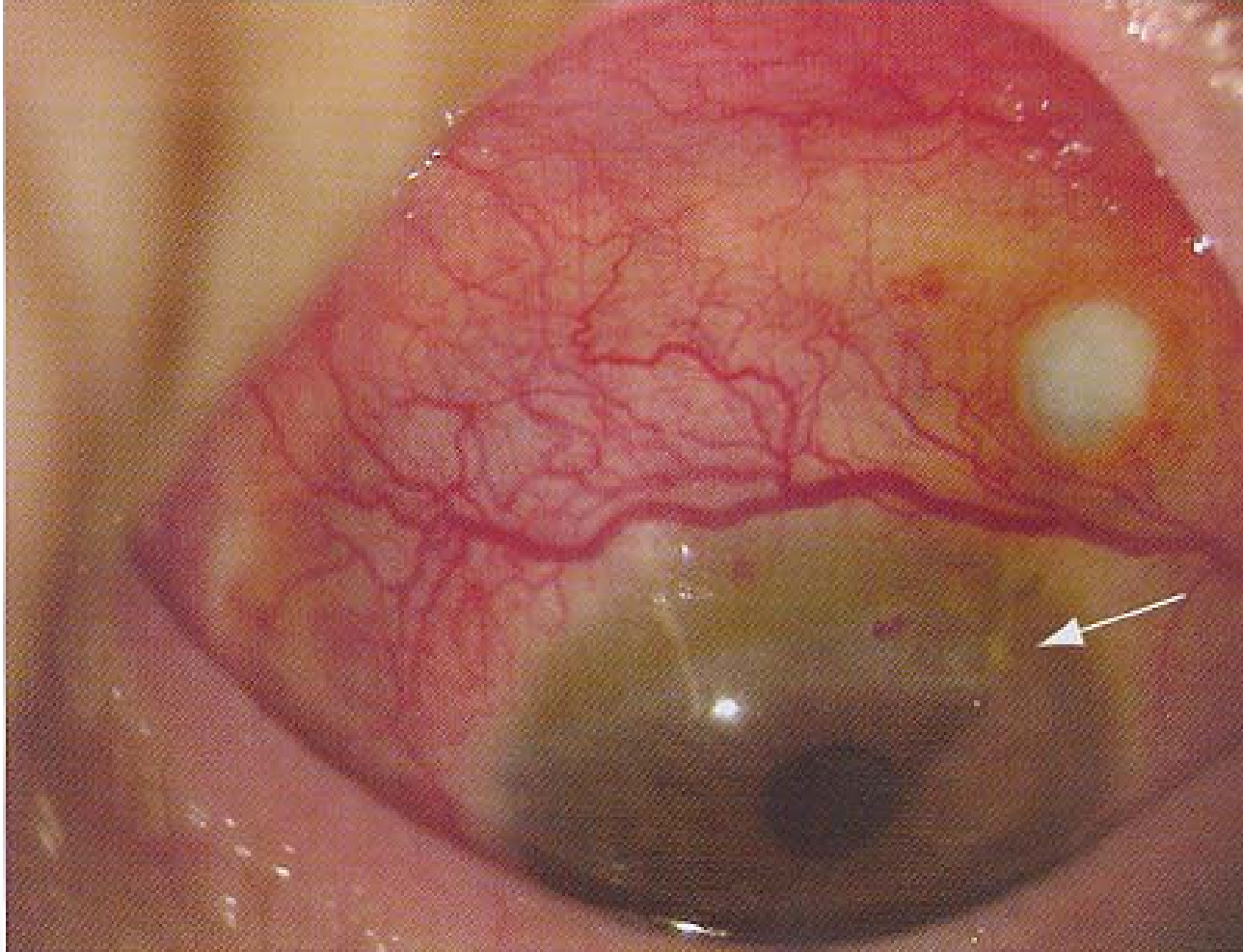
Compressive Optic Neuropathy



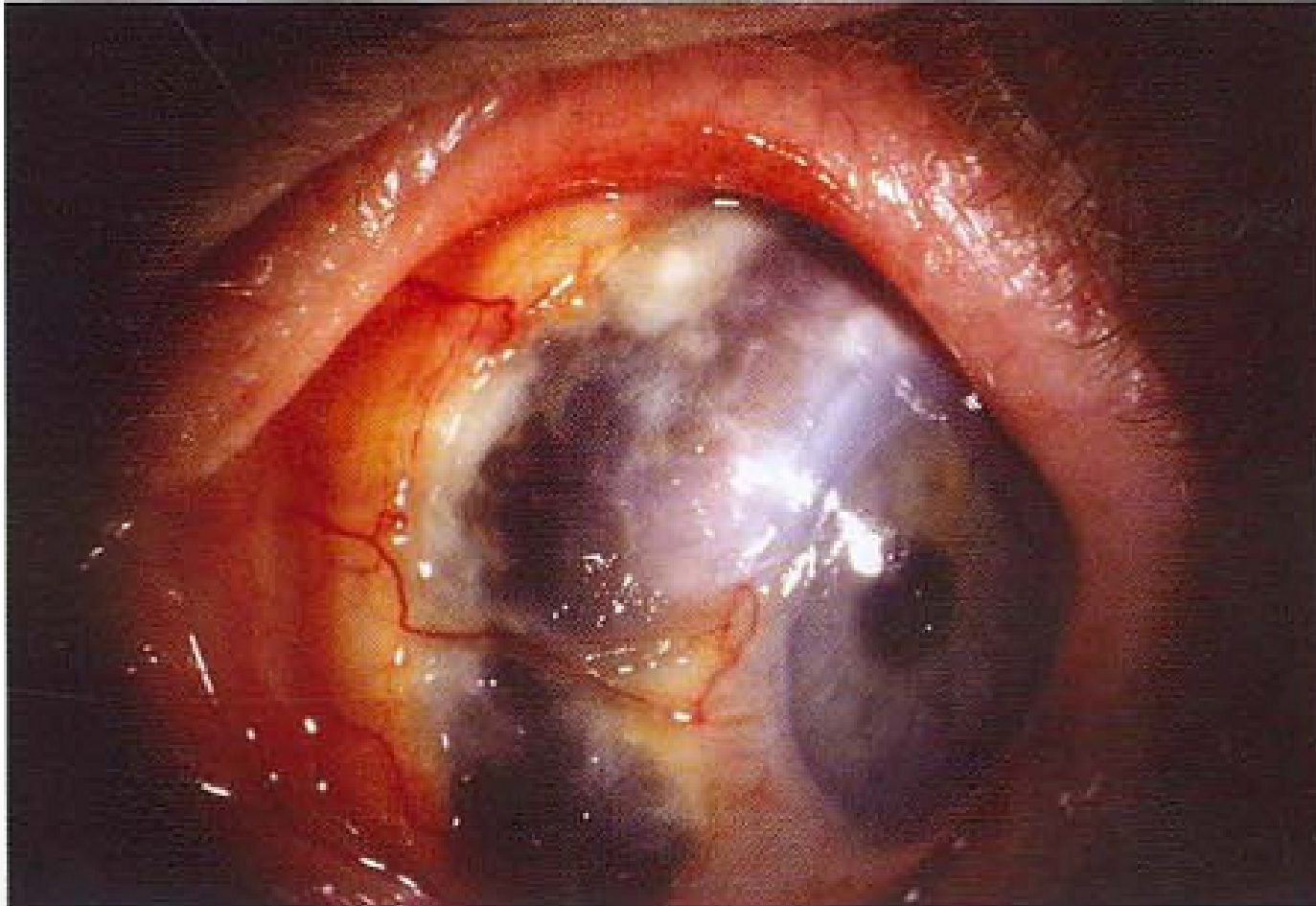
Rheumatoid Arthritis

- Ocular involvement in rheumatoid arthritis consist of:
 - 1-Secondary sjogren's syndrome
 - 2-Scleritis

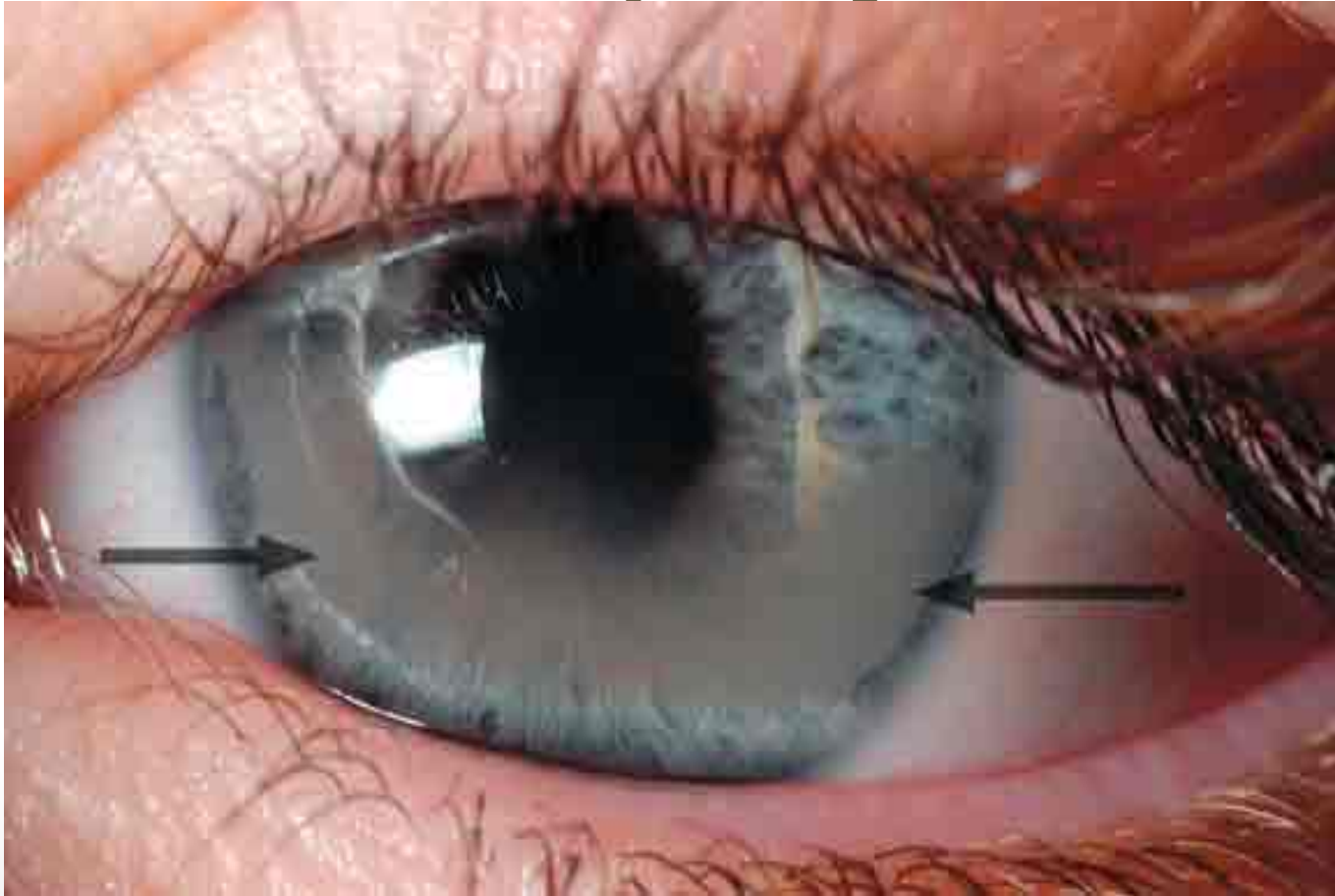
diffuse anterior scleritis with Necrotizing Scleritis



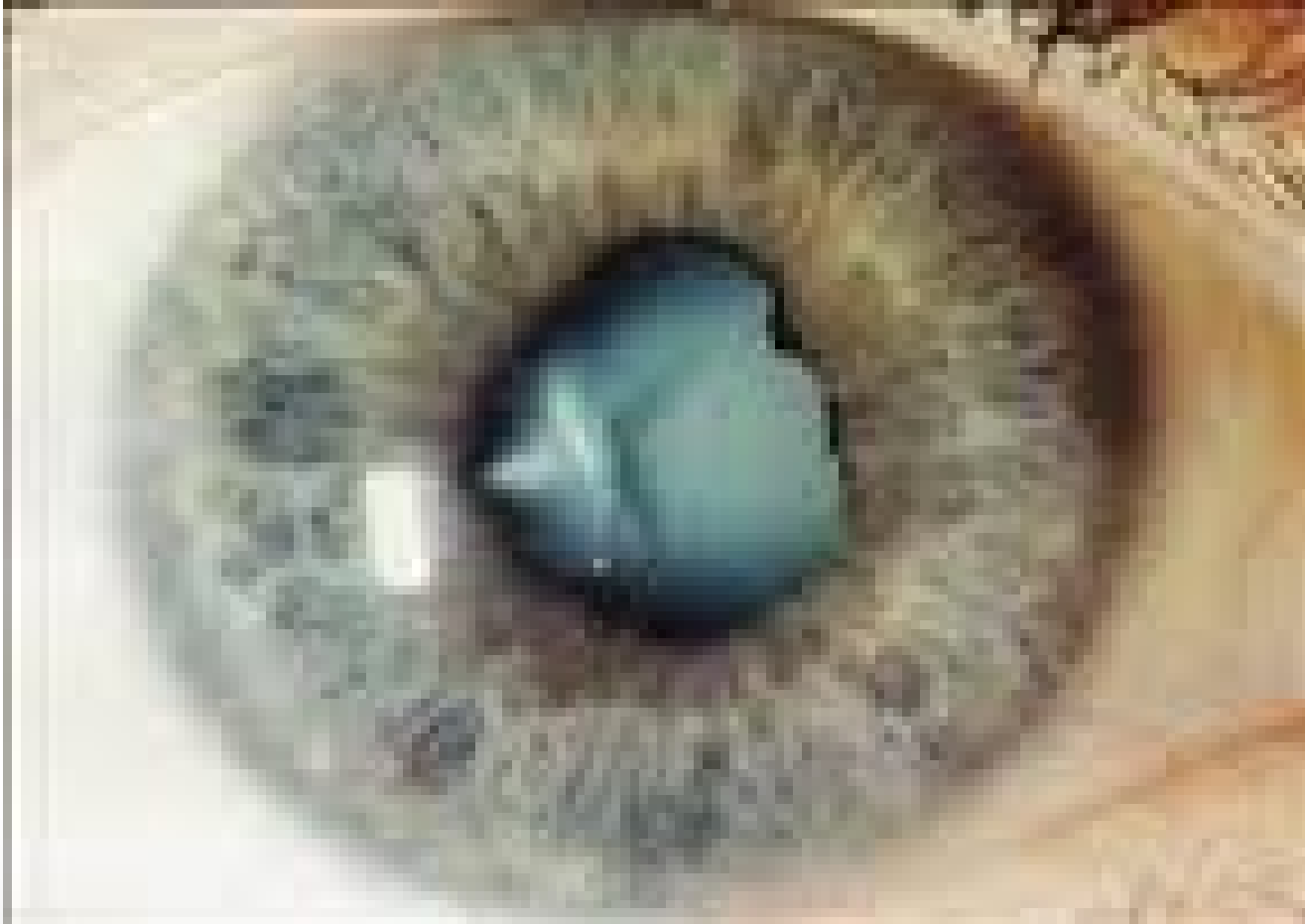
Scleromalacia Perforans



Juvenile Idiopathic Arthritis (JIA) Band Keratopathy



JIA (Posterior Synechia and Cataract)



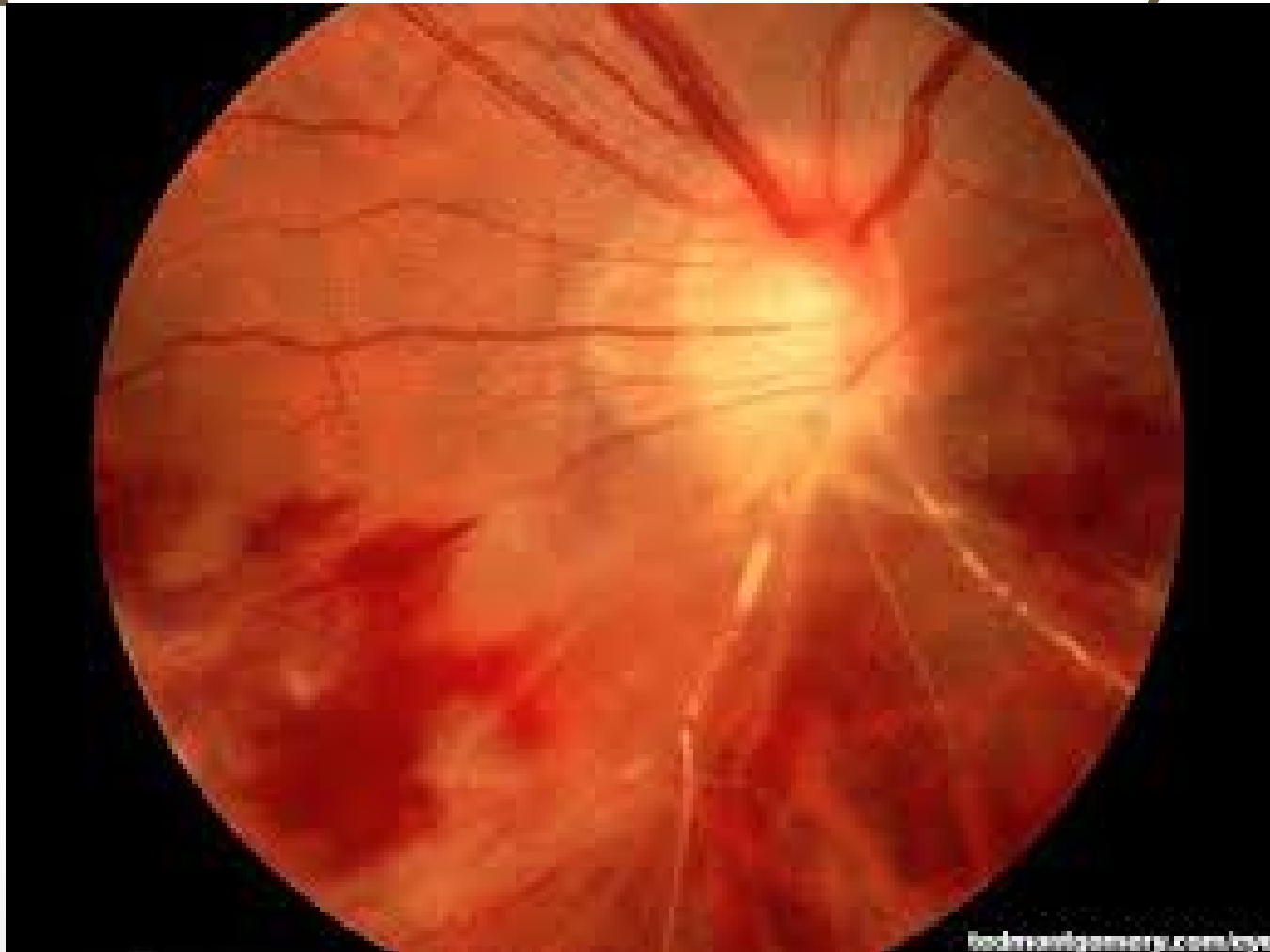
Behcet's Disease (Oral Aphthae)



Behcet's Disease (Hypopyon)



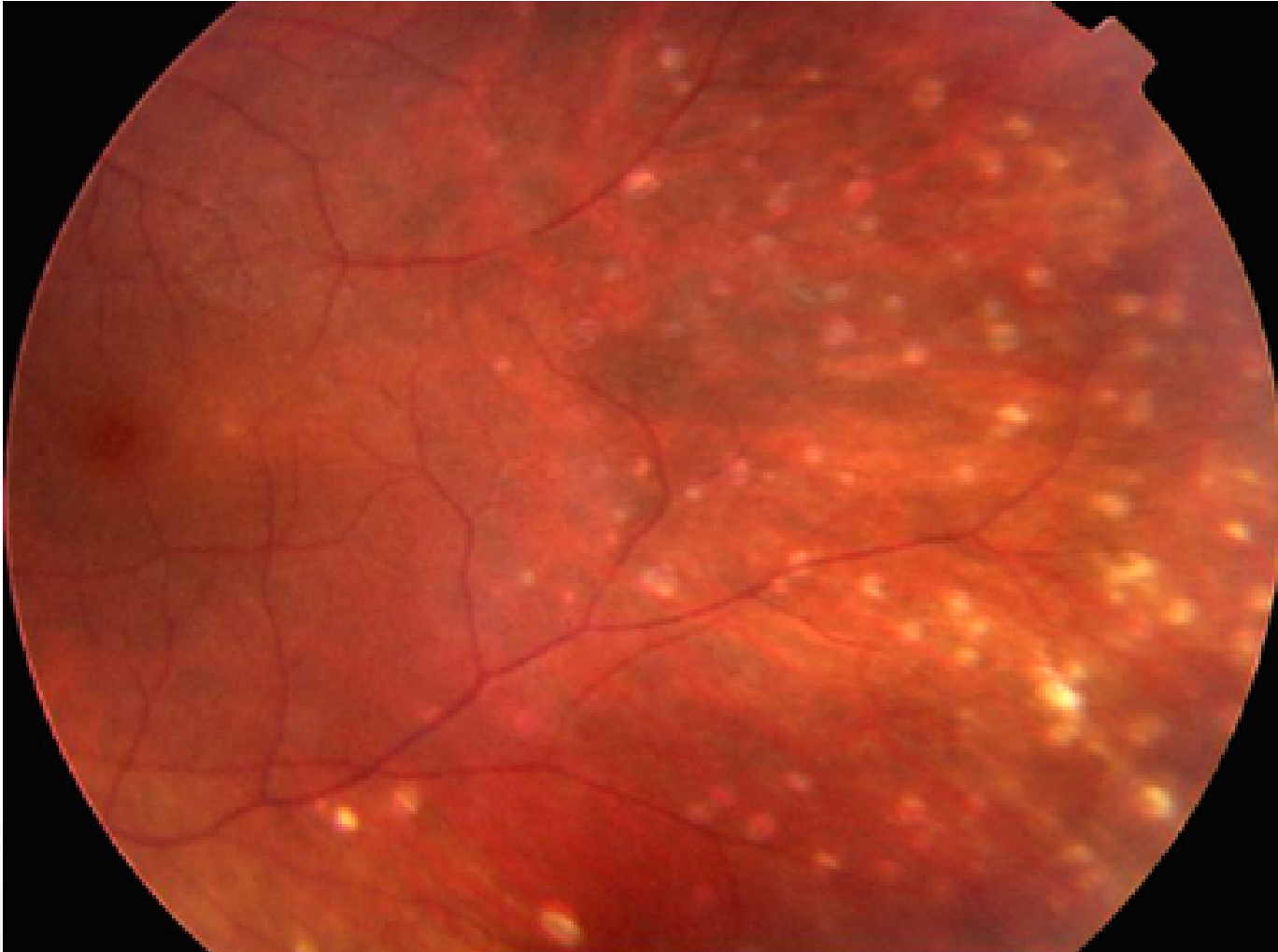
Behcet's Disease (Retinitis and Vasculitis)



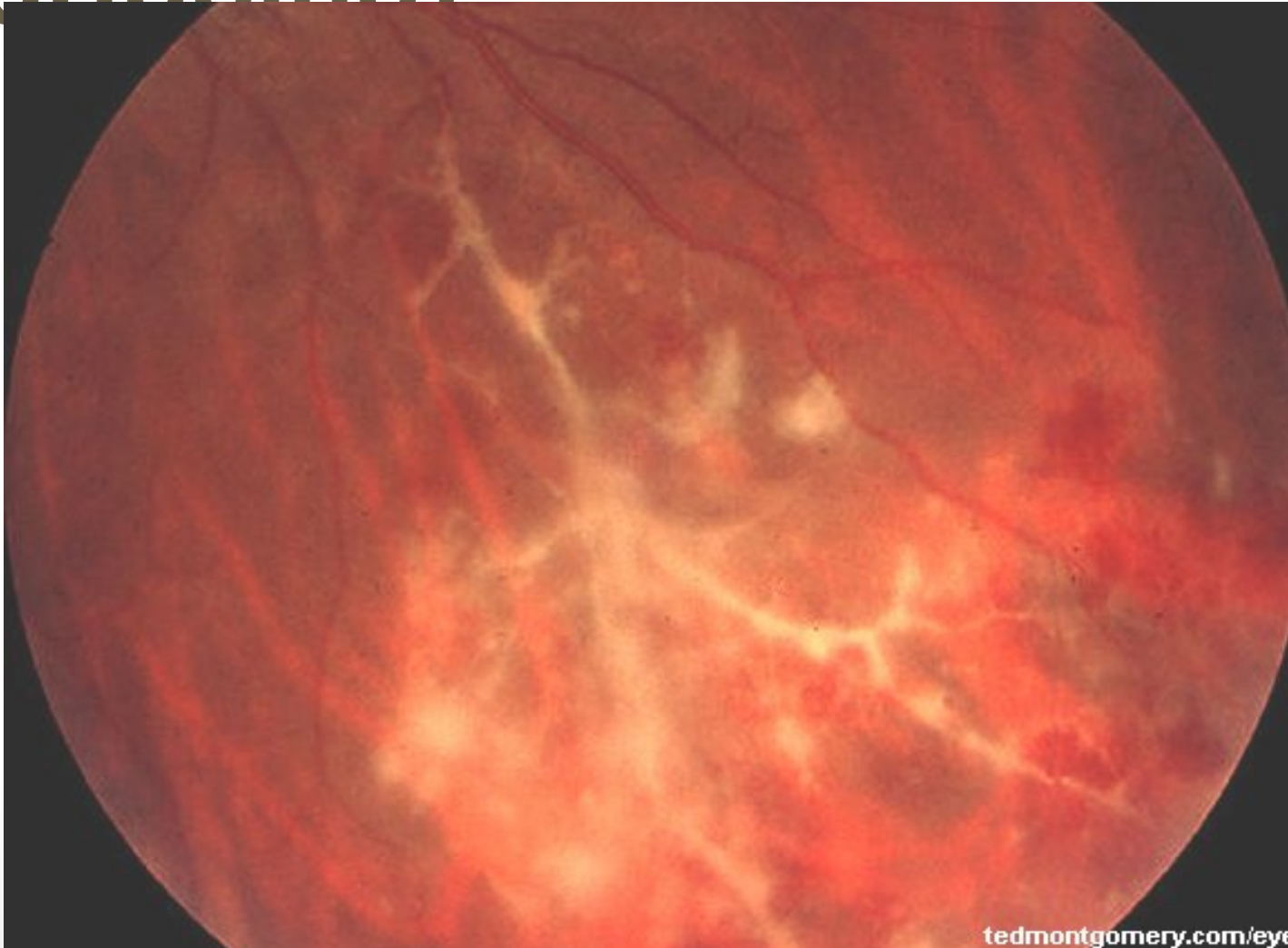
Sarcoidosis (Conjunctival)



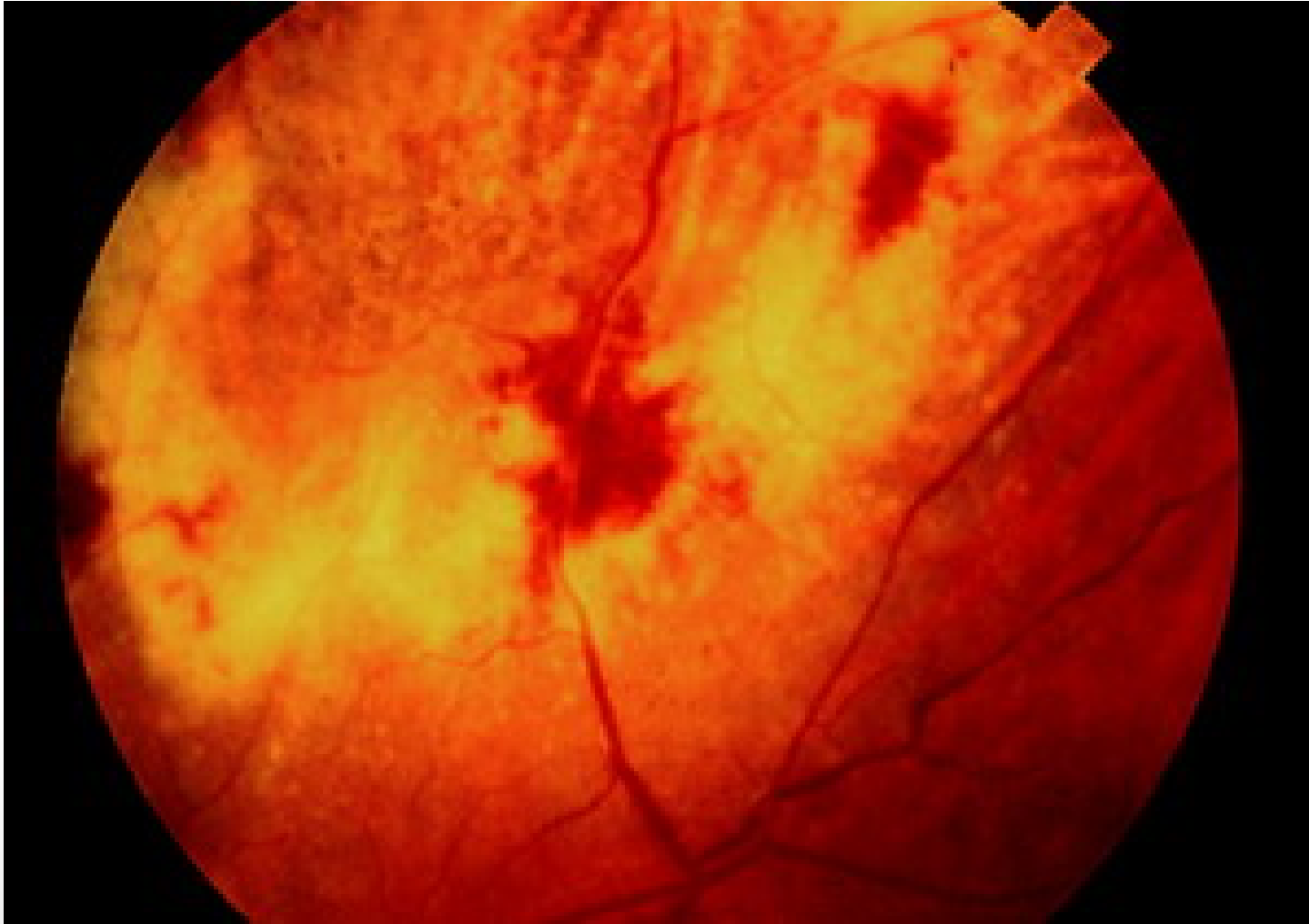
Sarcoid related chorio-retinal lesions



Sarcoidosis (Candle wax dripping)



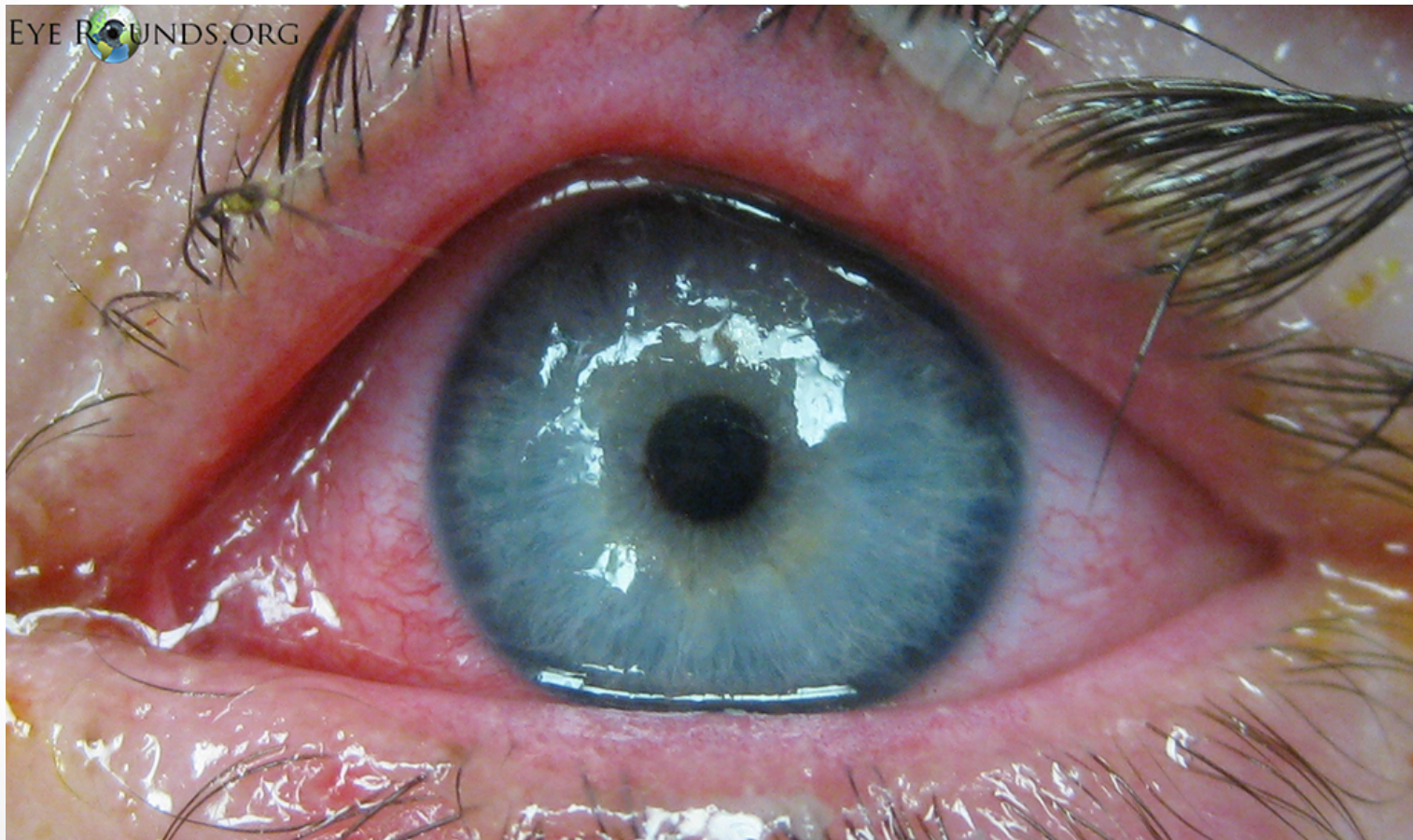
Cytomegalovirus (CMV) Retinitis



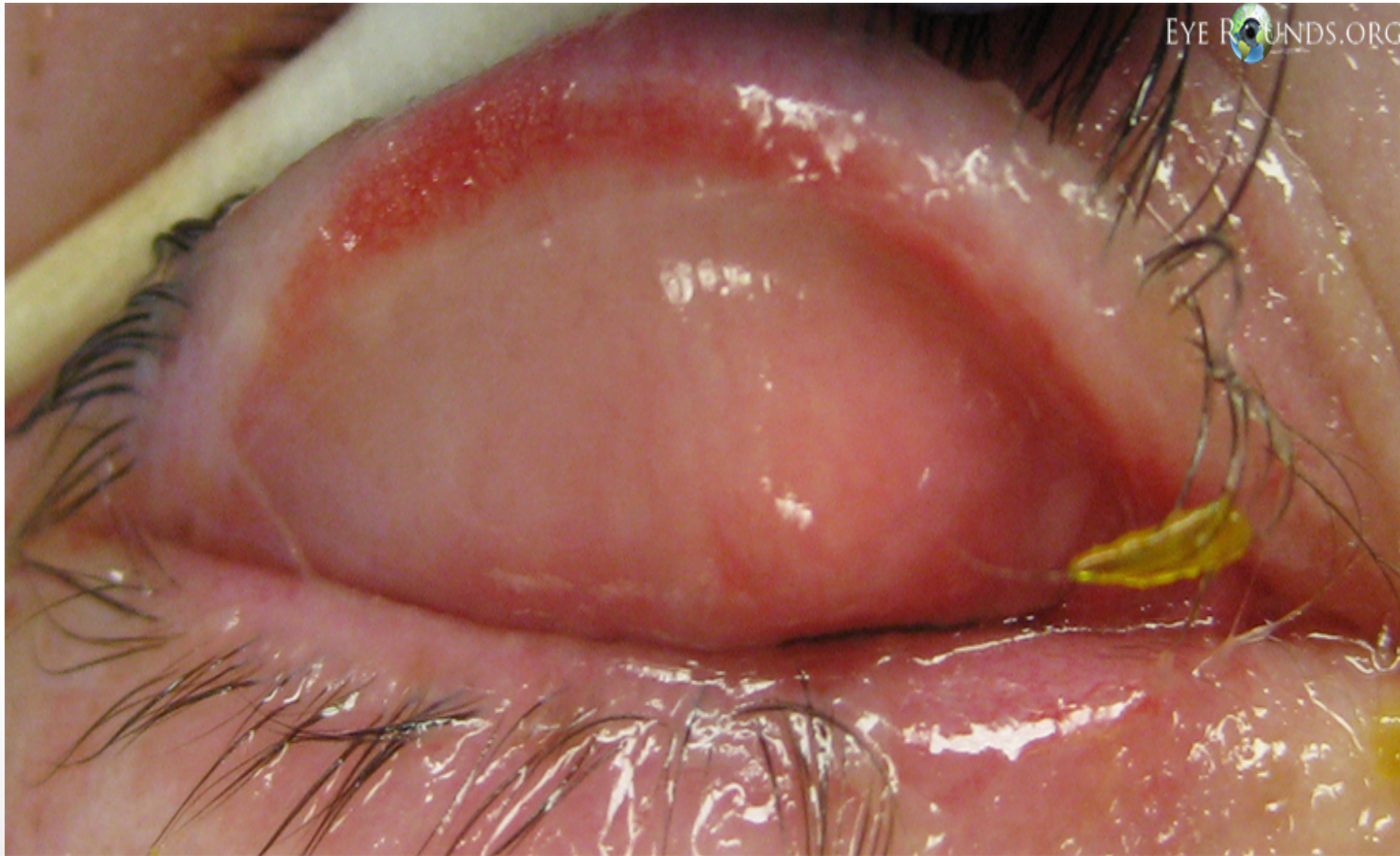
CMV Retinitis (frosted branch angiitis)



Steven Johnson Syndrome (SJS)



SJS



SJS



SJS



Ocular Cicatricial Pimphigoid (OCP) Subepithelial Scarring



OCP (symblepharon and shortening of inferior fornix)

