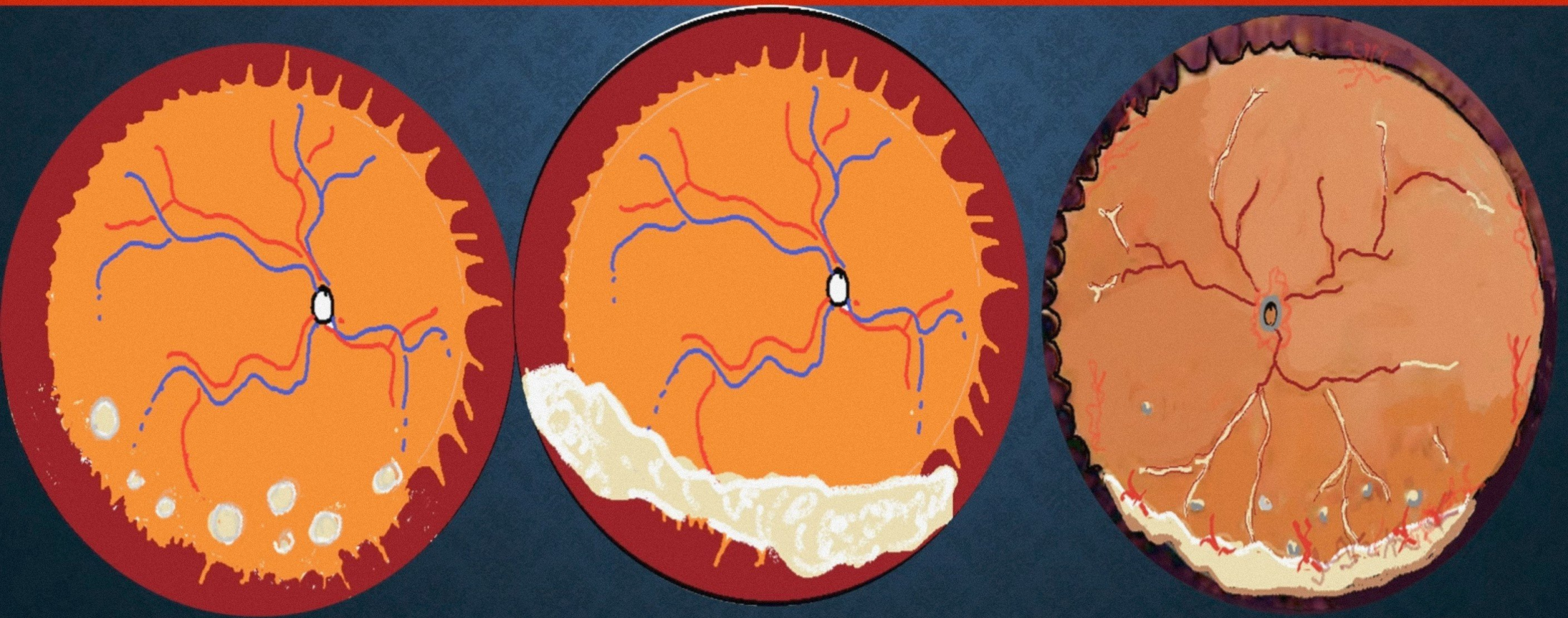
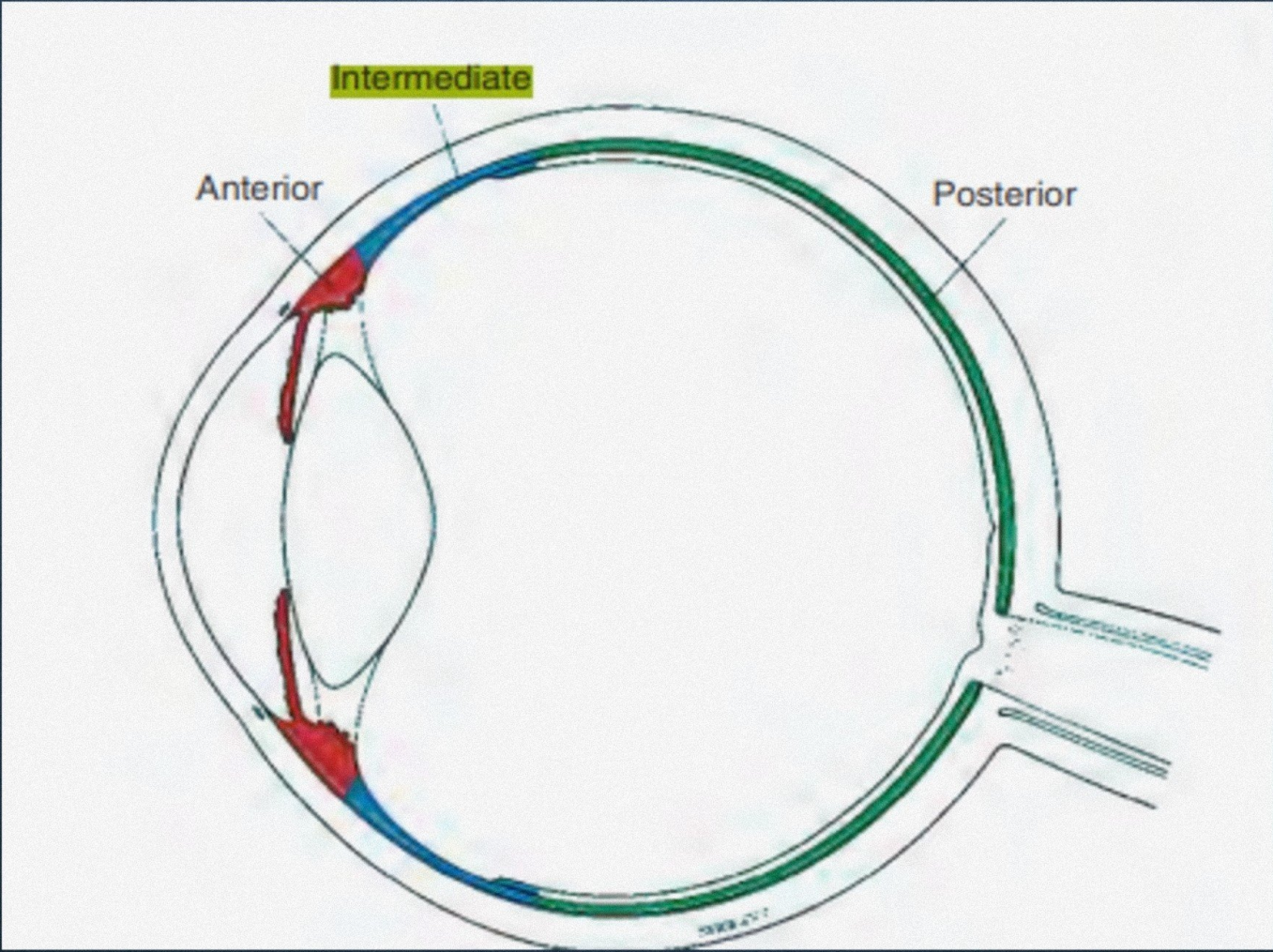


INTERMEDIATE UVEITIS





Type	Primary cite of inflammation	Includes
Anterior	Anterior Chamber	Iritis Iridocyclitis Anterior cyclitis
Intermediate Uveitis	Vitreous	Pars planitis Posterior cyclitis Hyalitis
Posterior Uveitis	Retina or choroid	Focal, multifocal, diffuse choroiditis Chorioretinitis Retinochoroiditis Retinitis Neuroretinitis
Panuveitis	Anterior chamber, vitreous, and retina or choroid	

SUN Working group anatomical classification of the uveitis

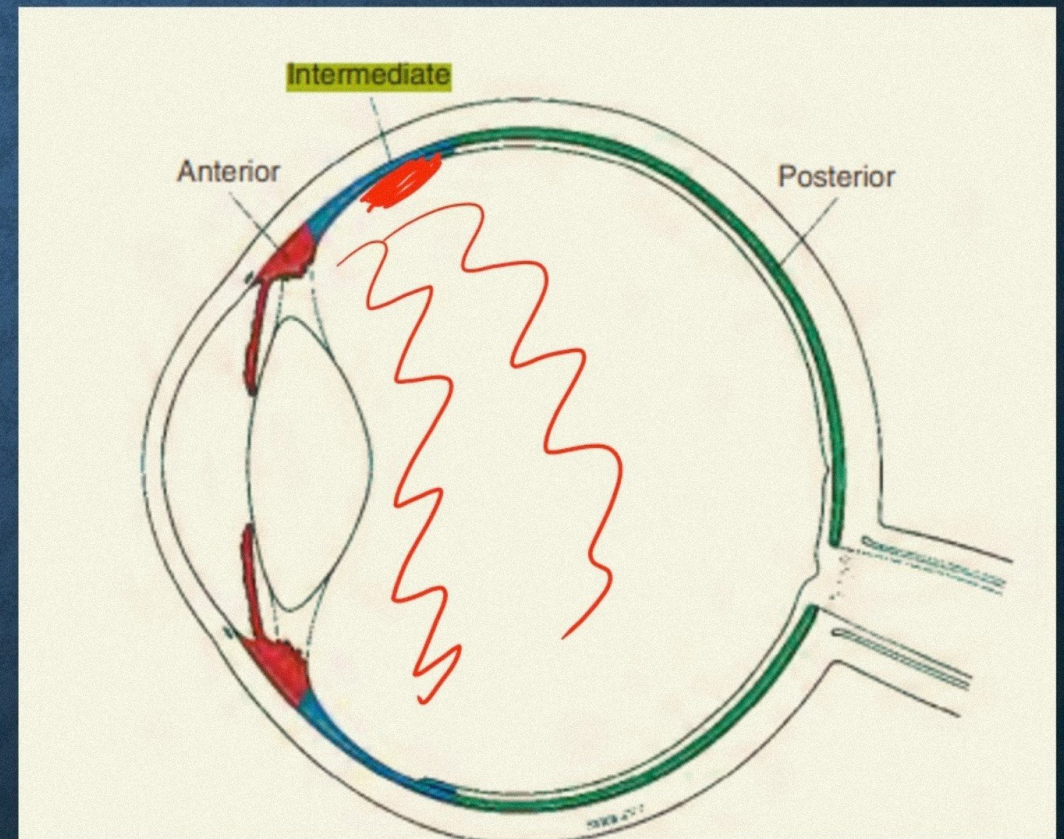


**CHRONIC, INSIDIOUS ONSET INFLAMMATION OF
INTERMEDIATE PART OF THE UVEA . And IT IS
RELAPSING IN NATURE**

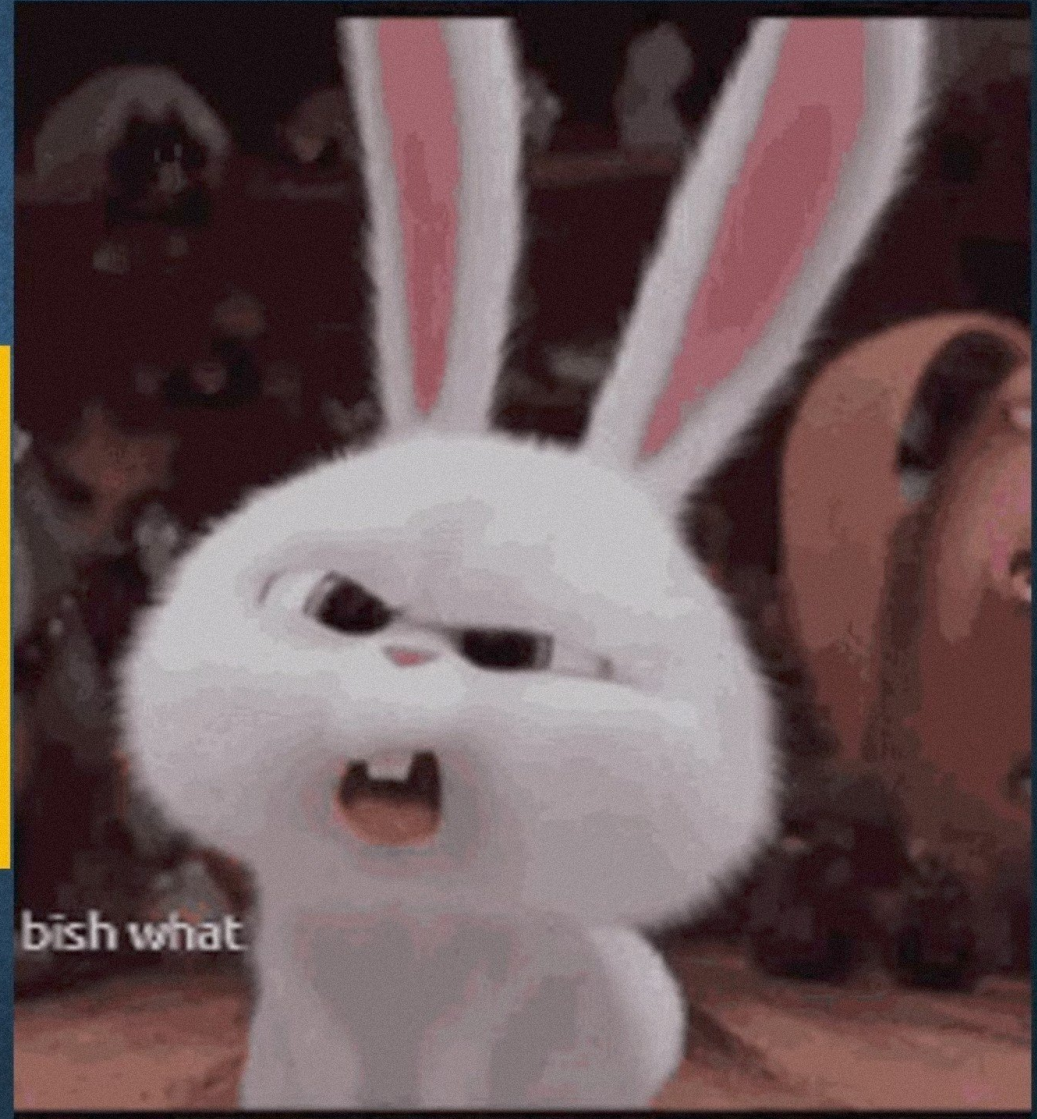


OTHER TERMS FOR INTERMEDIATE UVIETIS

- Vitritis
- Peripheral Exudative Retinitis
- Cyclochorioretinitis
- Chronic Posterior Cyclitis
- Peripheral Uveoretinitis



**WHAT IS
INTERMEDIATE
UVIETIS ?**



INTERNATIONAL UVEITIS STUDY GROUP (IUSG)

In 1987, the IUSG adopted the term **INTERMEDIATE UVEITIS** as a part of its anatomic classification scheme for intraocular inflammation.



Idiopathic inflammatory syndrome, mainly involving the anterior vitreous, peripheral retina, and ciliary body, with **minimal or no anterior segment or chorioretinal inflammatory signs**



ANTERIOR VITREOUS

PERIPHERAL RETINA

**CILIARY BODY
(PARS PLANA)**



SUN GROUP

The **Standardization of Uveitis Nomenclature (SUN)**

Working Group has defined intermediate uveitis as

disease where the **VITREOUS** is the major site of
inflammation



INTERMEDIATE UVIETIS V/S PARS PLANITIS

IU may be idiopathic (at least half) or associated with a systemic disease.

Snow banking
and/or
snowball
formation

Inflammation
is idiopathic

PARS PLANITIS

SUN group :2005



INTERMEDIATE UVEITIS AND CHILDREN

- **15%** of all uveitis cases
- Although the incidence of uveitis in children is low, intermediate uveitis may account for up to **25%** of cases.

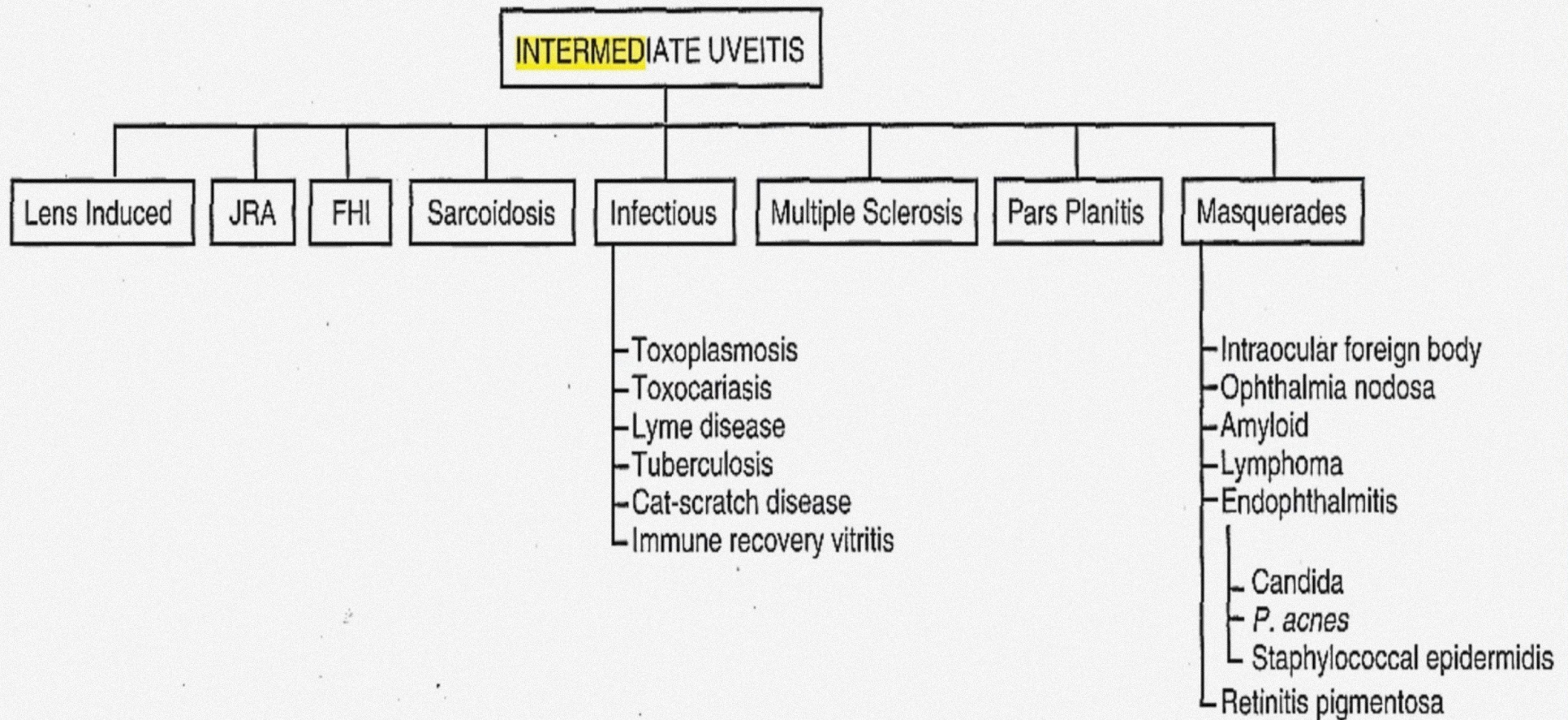




**WHAT CAUSES
INTERMEDIATE
UVEITIS ?**



ETIOLOGY AND DIFFERENTIALS OF INTERMEDIATE UVEITIS



INFECTIVE

- Tuberculosis ✓
- Syphilis ✓
- Lyme disease ✓
- Cat scratch Fever }
- Toxocariasis }
- HTLV-1 infection (Human T-cell lymphoma virus type 1) *JMM*

NON-INFECTIVE

- Sarcoidosis
- Multiple sclerosis
- Inflammatory bowel disease
- Whipple's disease



INFECTIVE

- Tuberculosis ✓
- Syphilis ✓
- Lyme disease ✓
- Cat scratch Fever ✓
- Toxocariasis ✓
- HTLV-1 infection (H
lymphoma virus typ

- **UNDIFFERENTIATED**
 - **SARCOIDOSIS**
 - **MULTIPLE SCLEROSIS**
 - **TUBERCULOSIS**
- Jaym*

NON-INFECTIVE

- Sarcoidosis ✓
- Multiple sclerosis ✓
- Inflammatory bowel disease ✓
- Multiple sclerosis ✓



SYMPTOMS

- Insidious onset of **Blurred vision**
- Accompanied by **Vitreous floaters.**
- There is usually mild to no pain and photophobia
- Mild redness



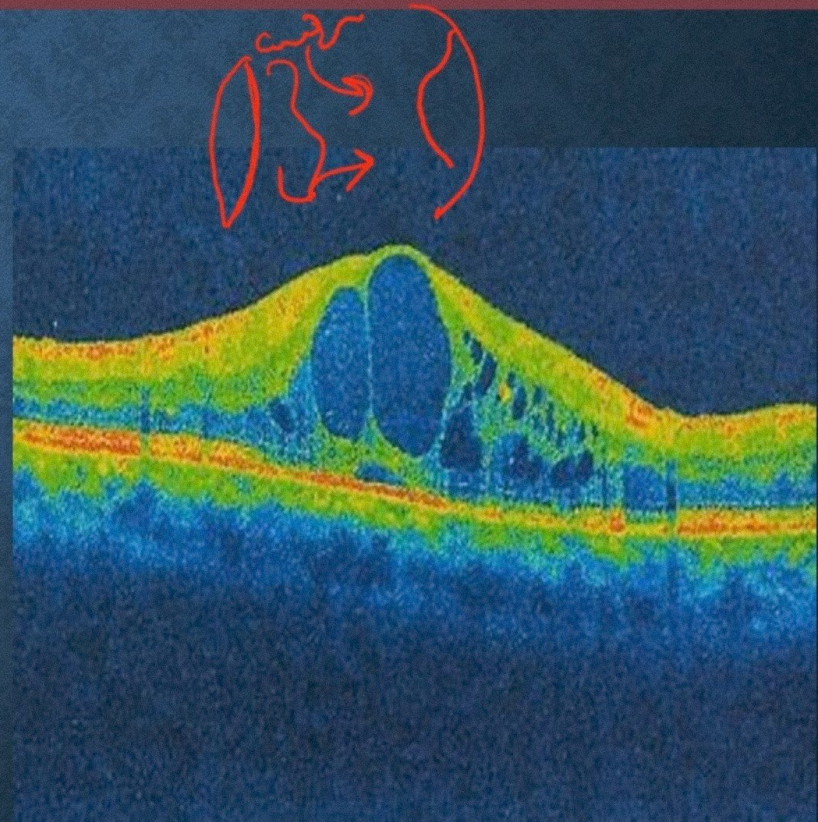


TIP An insidious onset of blurred vision accompanied by vitreous floaters without pain or redness suggests a possible diagnosis of intermediate uveitis.



VISUAL ACUITY

- Depends on extent of inflammation and complications , like **CYSTOID MACULAR EDEMA**
- May last as long as 15 years and preservation of vision will depend largely on control of macular disease.

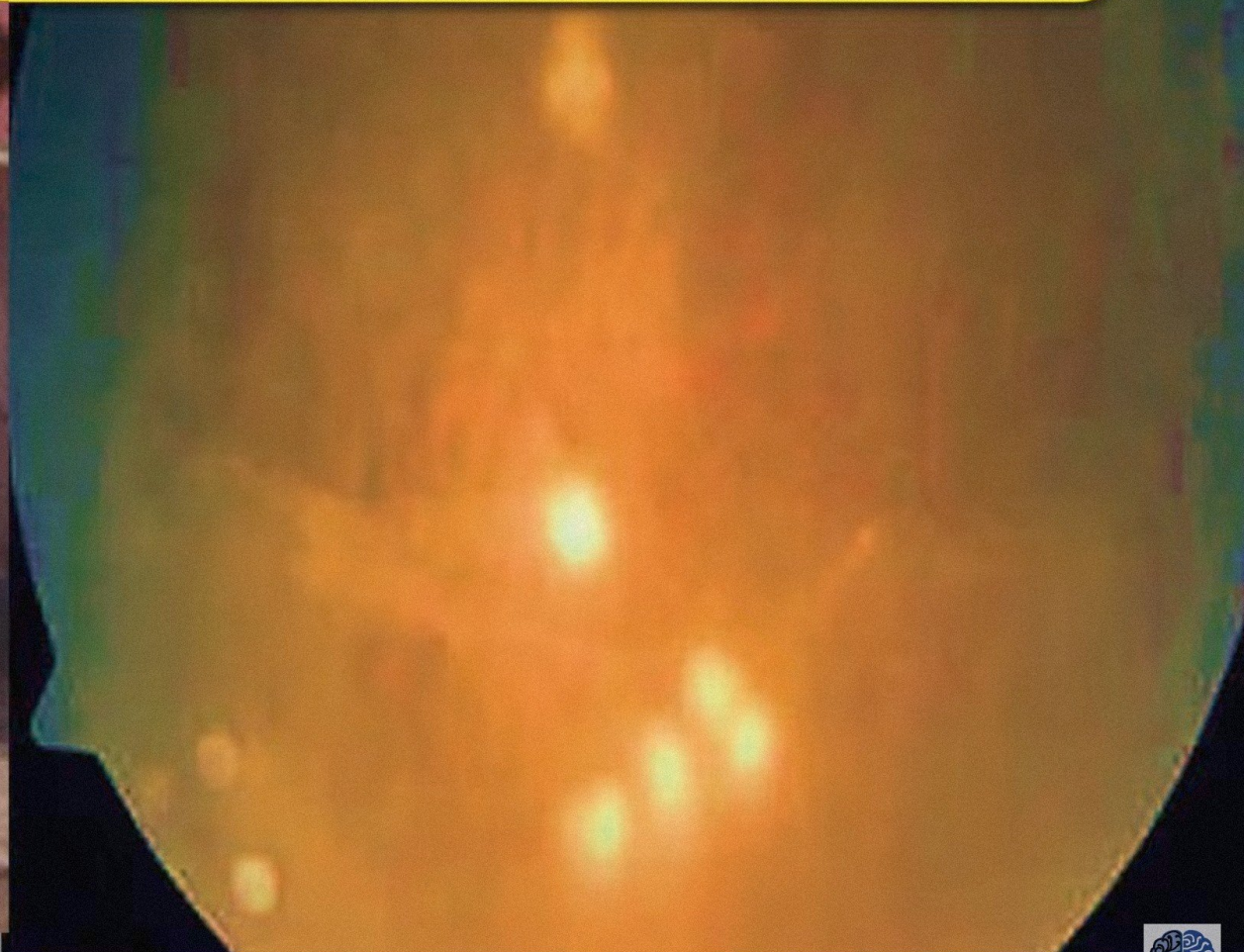


UNILATERAL OR BILATERAL INVOLVEMENT

- Bilateral involvement is seen in **70% to 80%** of patients at the time of presentation.
- Bilateral involvement will occur in approximately **one-third** of patients who initially have unilateral disease experience.



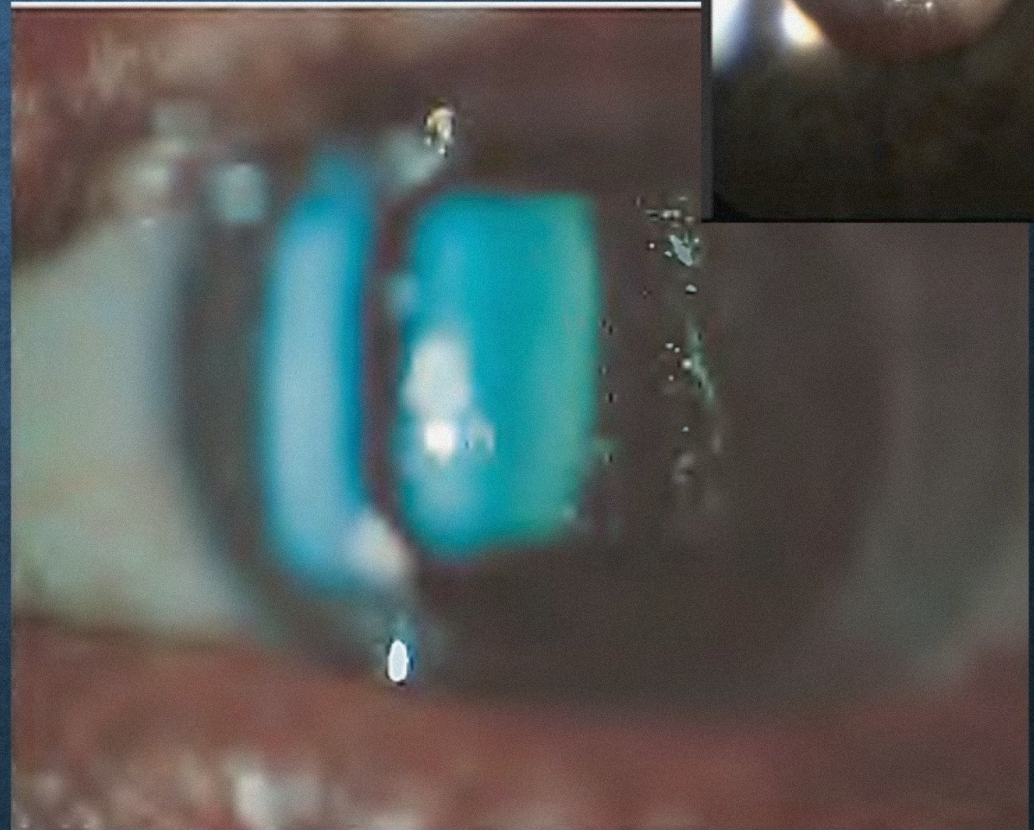
IMPORTANT SIGNS IN INTERMEDIATE UVEITIS



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

VITREOUS CELLS

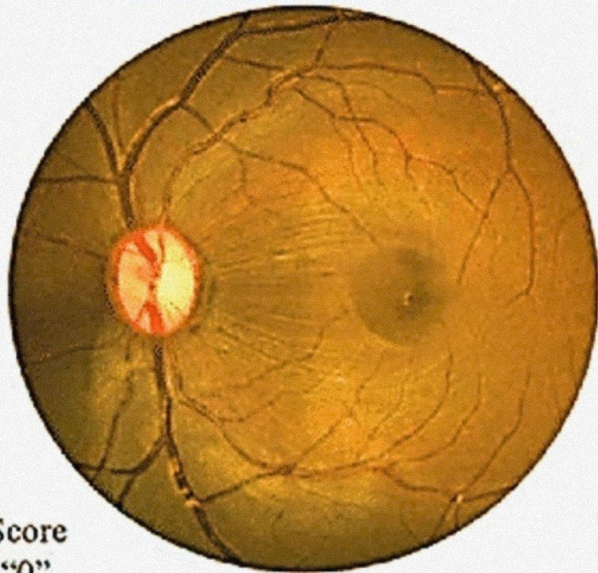
- Vitreous cells with anterior predominance are universal.



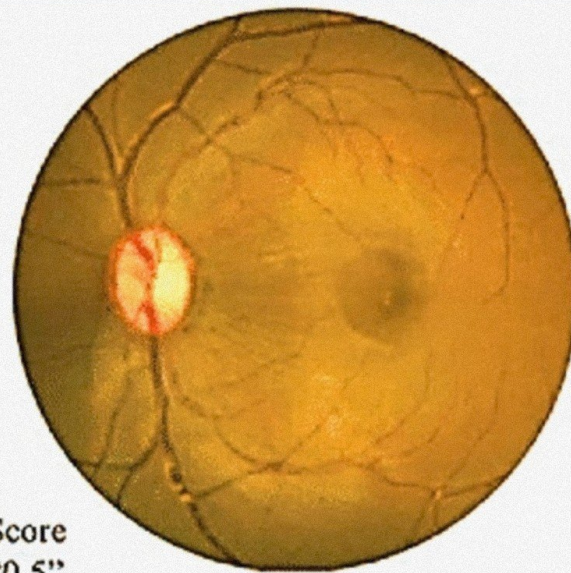
**Table 5: Grading of vitreous haze
(Nussenblatt 1985 / National Eye Institute).**

Score	Description	Clinical findings
0	Nil	None
0.5+	Trace	
1	Minimal	Posterior pole clearly visible
2	Mild	Posterior pole details slightly hazy
3	Moderate	Posterior pole details very hazy
4	Marked	Posterior pole details barely visible
5	Severe	Fundal details not visible

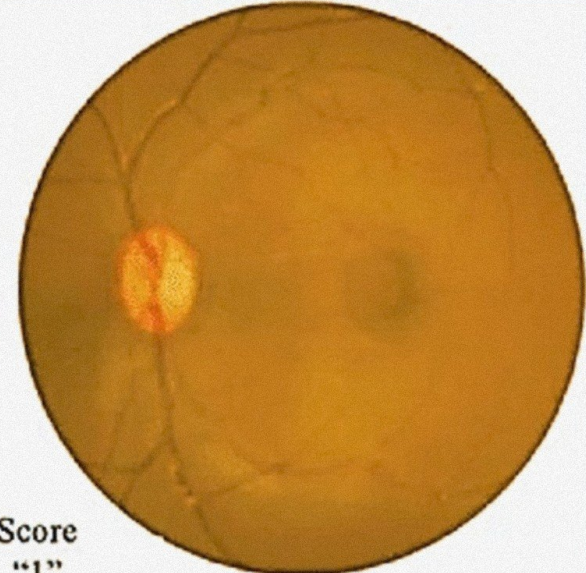




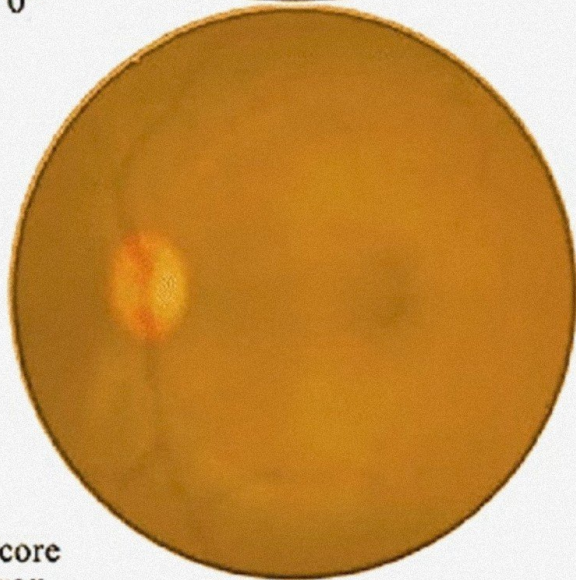
Score "0"



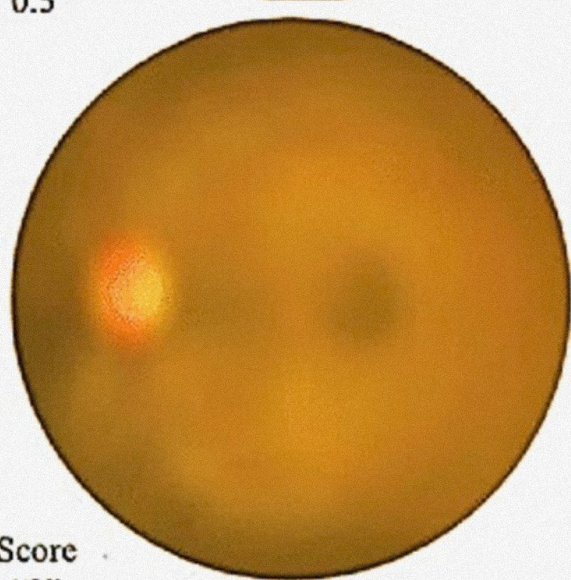
Score "0.5"



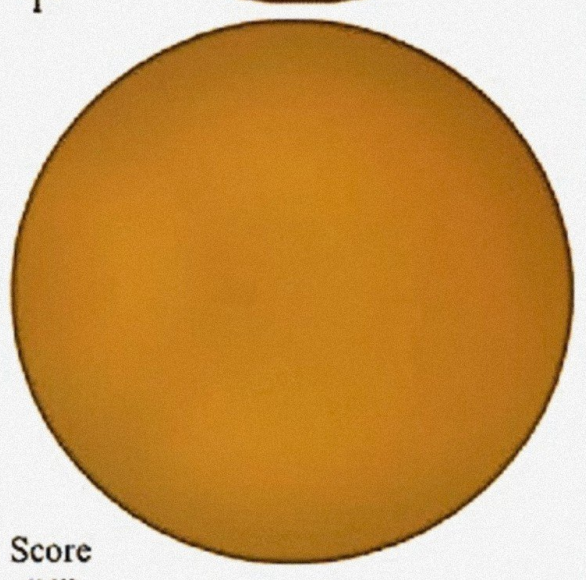
Score "1"



Score "2"



Score "3"



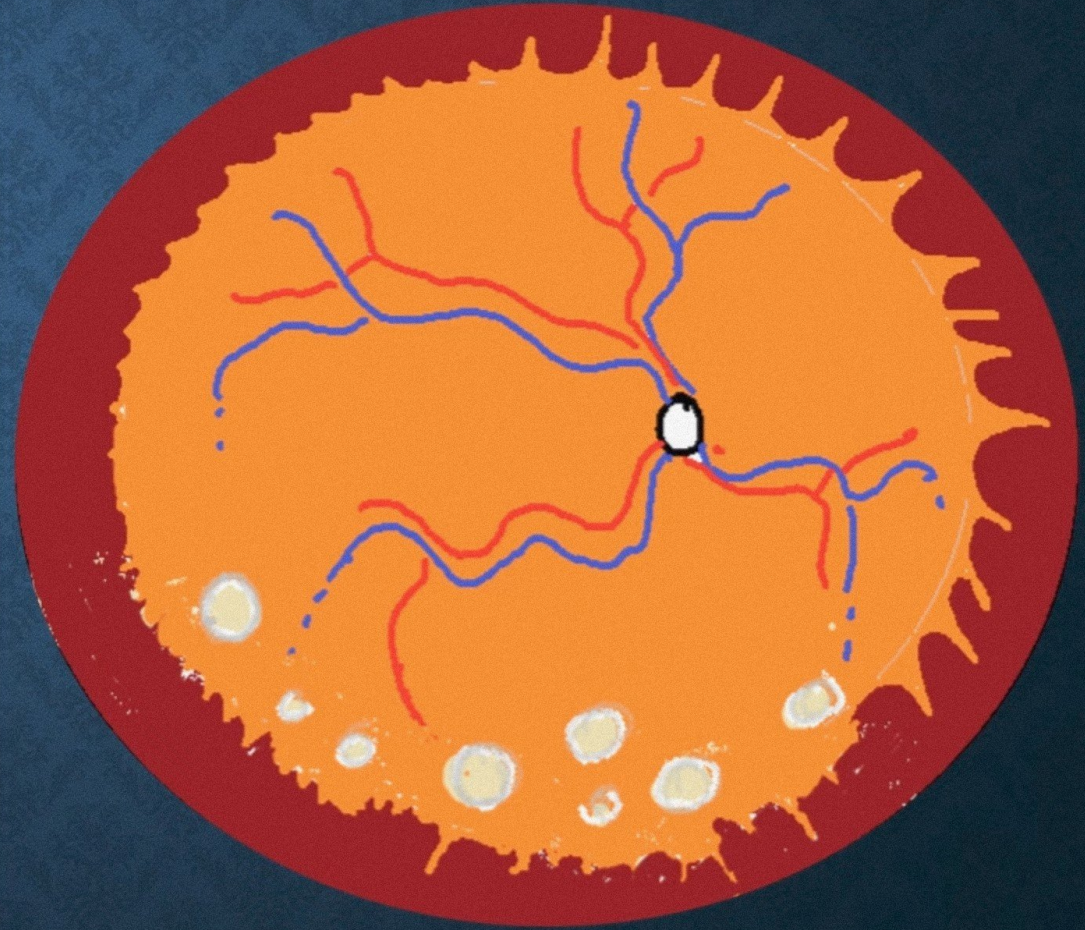
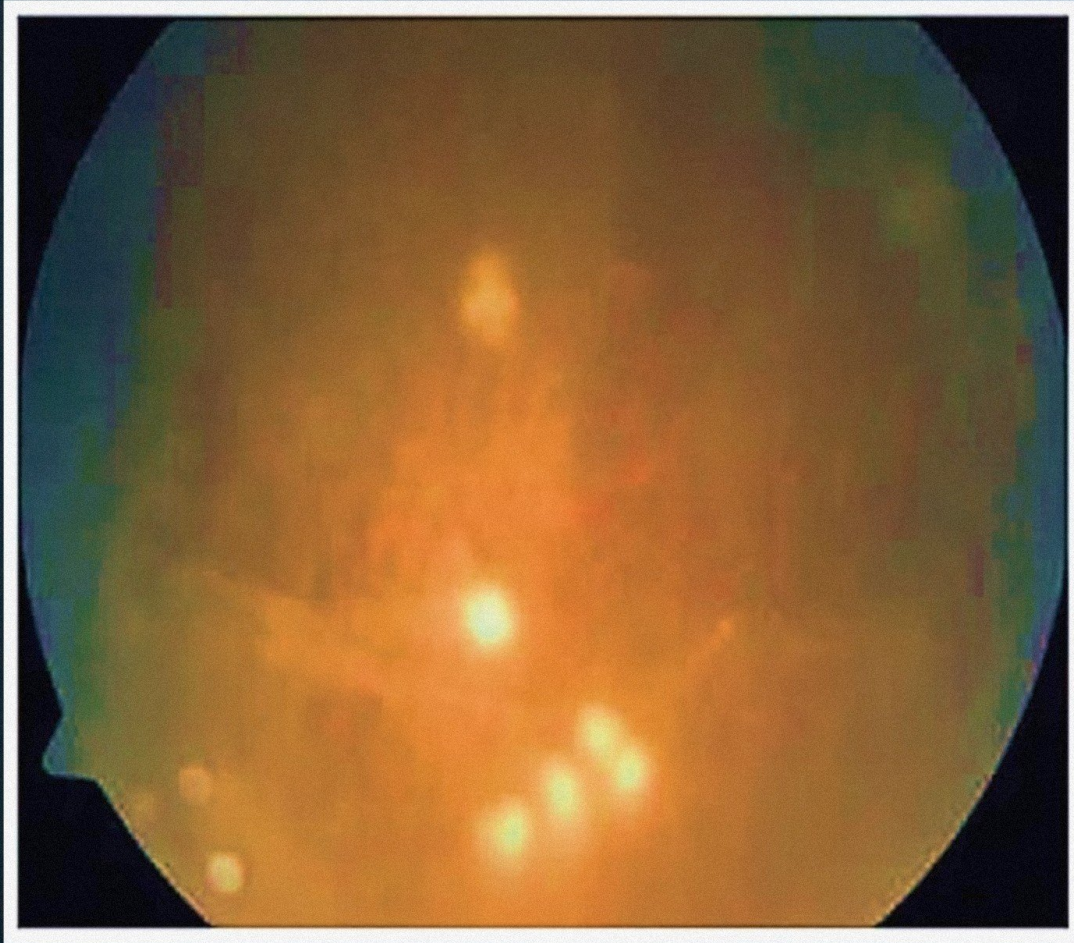
Score "4"



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

SNOWBALLS are whitish focal collections of inflammatory cells and exudate, usually most numerous in the inferior vitreous





ACTIVE V/S INACTIVE SNOWBALLS

- Fluffy , fuzzy margins
- Larger in size
- Surrounded by vitreous cells
- Well defined
- Smaller in size
- Contracted

Do not decide treatment based on the snowballs. They take a long time to go away.
Use other tests to monitor inflammation and response to treatment

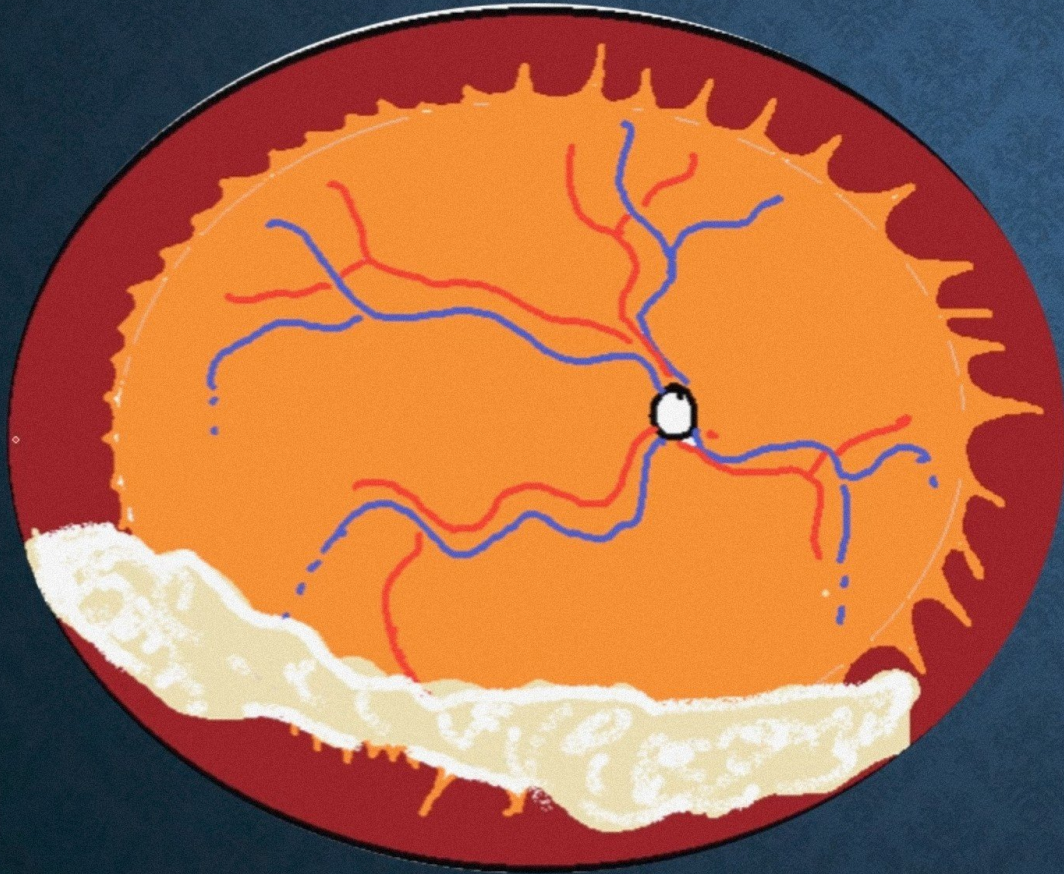


IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

SNOWBANKING

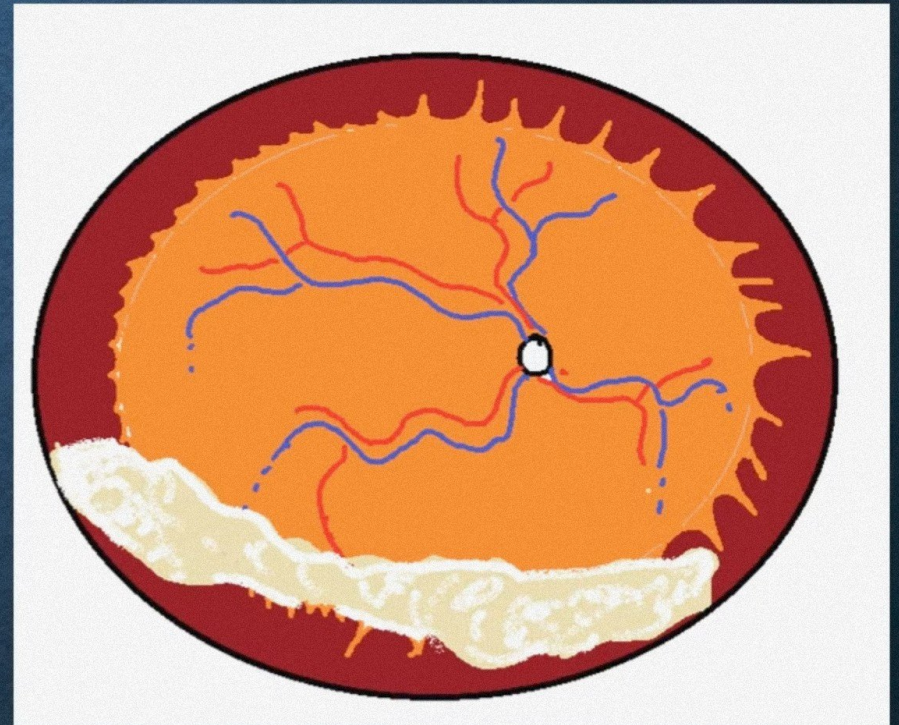
grey–white fibrovascular and/or exudative plaque that may occur in any or all quadrants, but is most frequently found inferiorly.



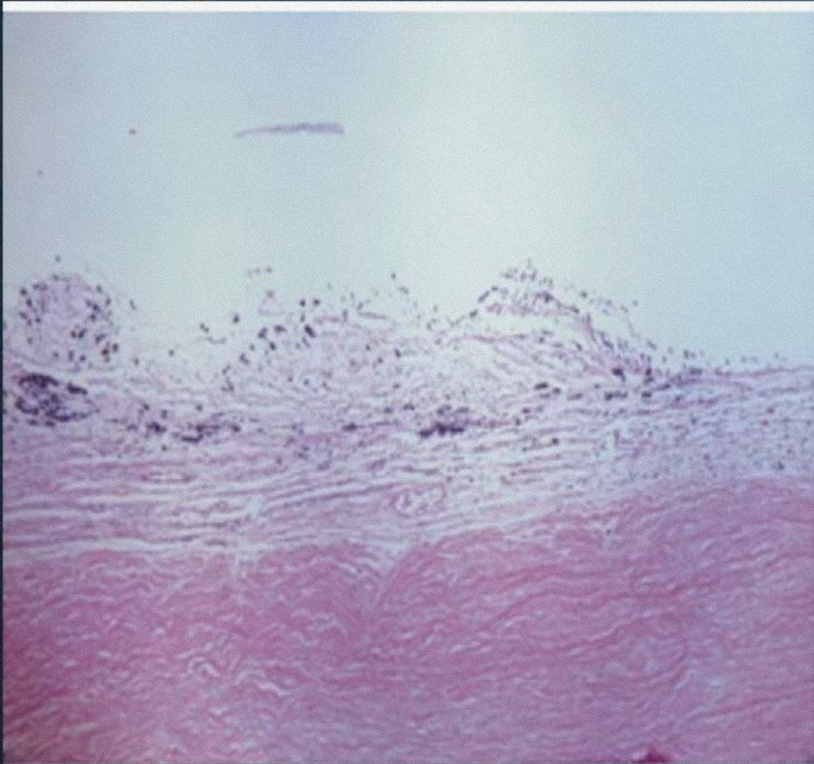


CLINICAL NUGGET

- Snowbanking indicate severe inflammation and treatment should also be aggressive .

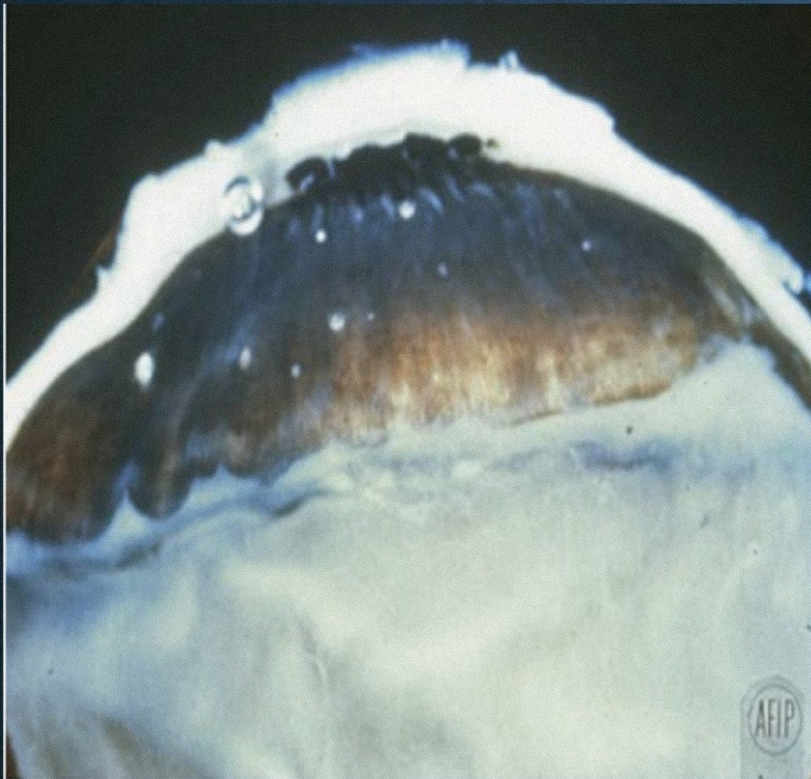


HISTOLOGY OF SNOW BANKING



- Histologic examination of this snowbank reveals **collapsed vitreous; blood vessels; fibroglial cells, including fibrous astrocytes; and scattered inflammatory cells, predominantly lymphocytes.**
- Peripheral veins show lymphocytic cuffing and infiltration.



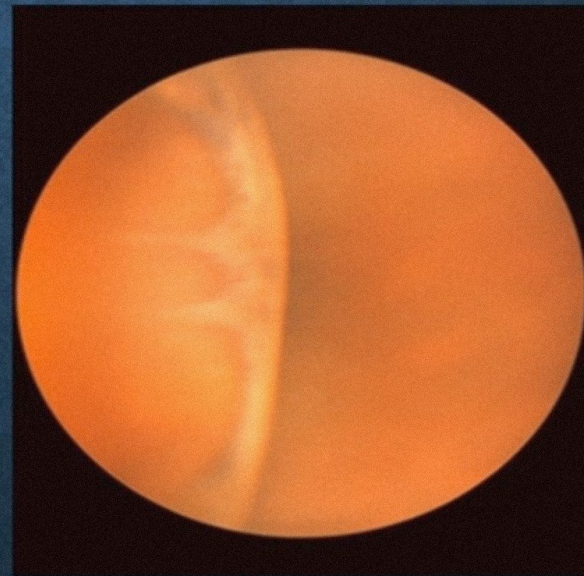
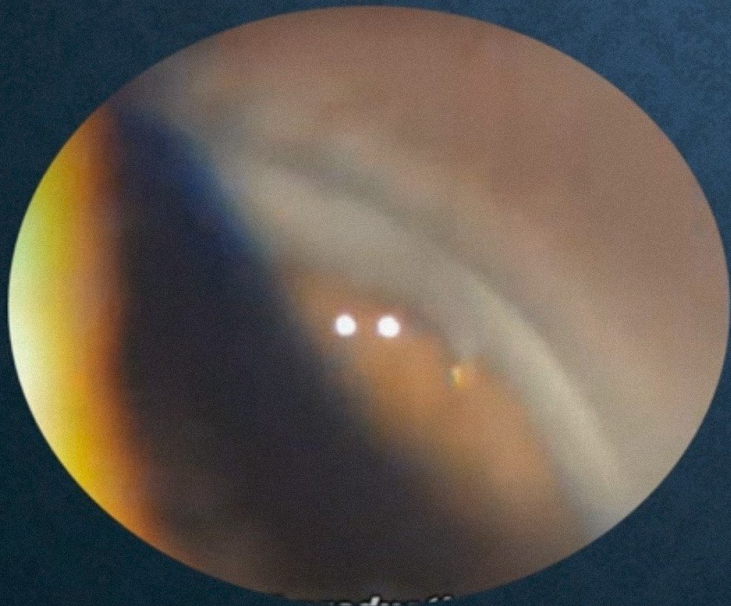


- The vascular component of the snowbank is continuous with the retina in some cases.
- Only mild inflammation is noted in the choroid and the ciliary body, suggesting that the inflammatory process in intermediate uveitis primarily involves the **Vitreous Base And The Peripheral Retina, And Not The Uvea.**



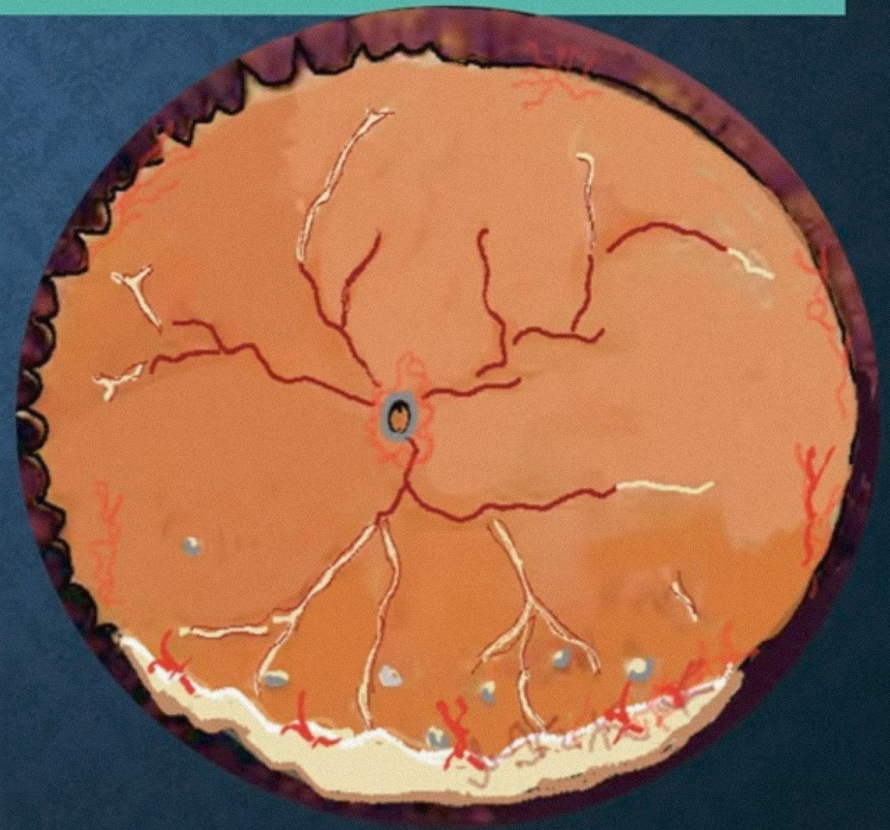
CLINICAL NUGGET : IMPORTANCE OF SCLERAL DEPRESSION

- Snowbanking and snowballs are usually best seen with scleral depression.
- A high, dense snowbank on the pars plana can often be better seen with the indirect ophthalmoscope without using the 20-diopter lens while the patient looks down.



CLINICAL TIP

When a snowbank is observed, the area should be carefully examined for the presence of neovascularization because these areas are a source of potential vitreous hemorrhage.

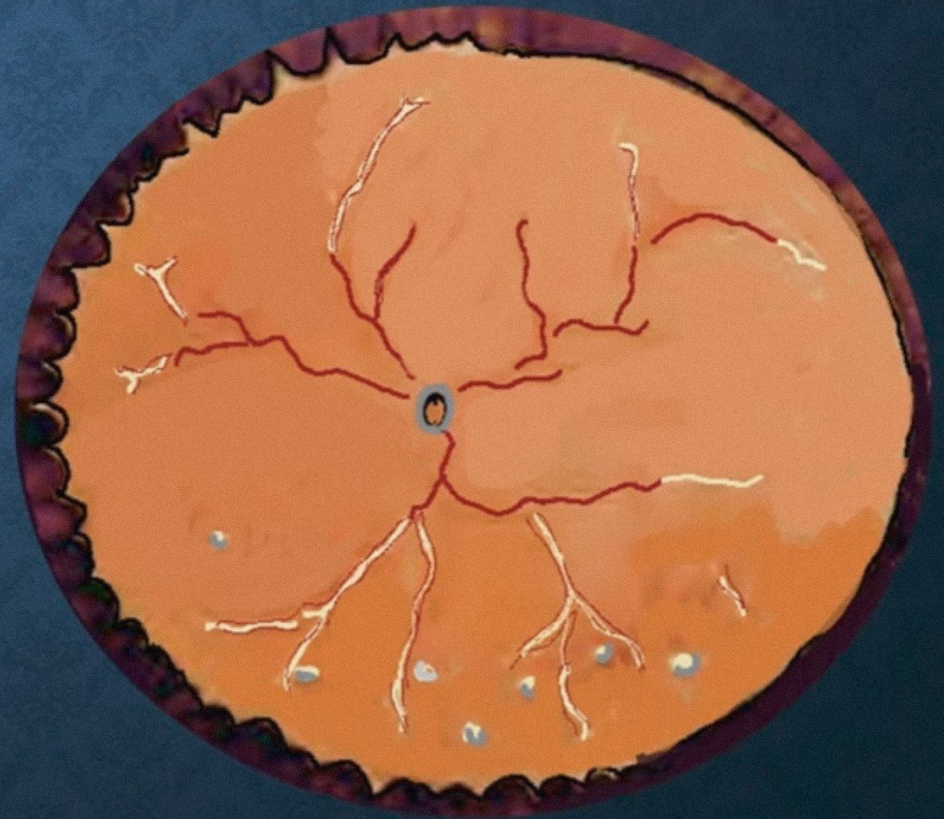


IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

PERIPHERAL VASCULITIS /PERIPHLEBITIS

Common, particularly in multiple sclerosis. → **Superior Quadrant**

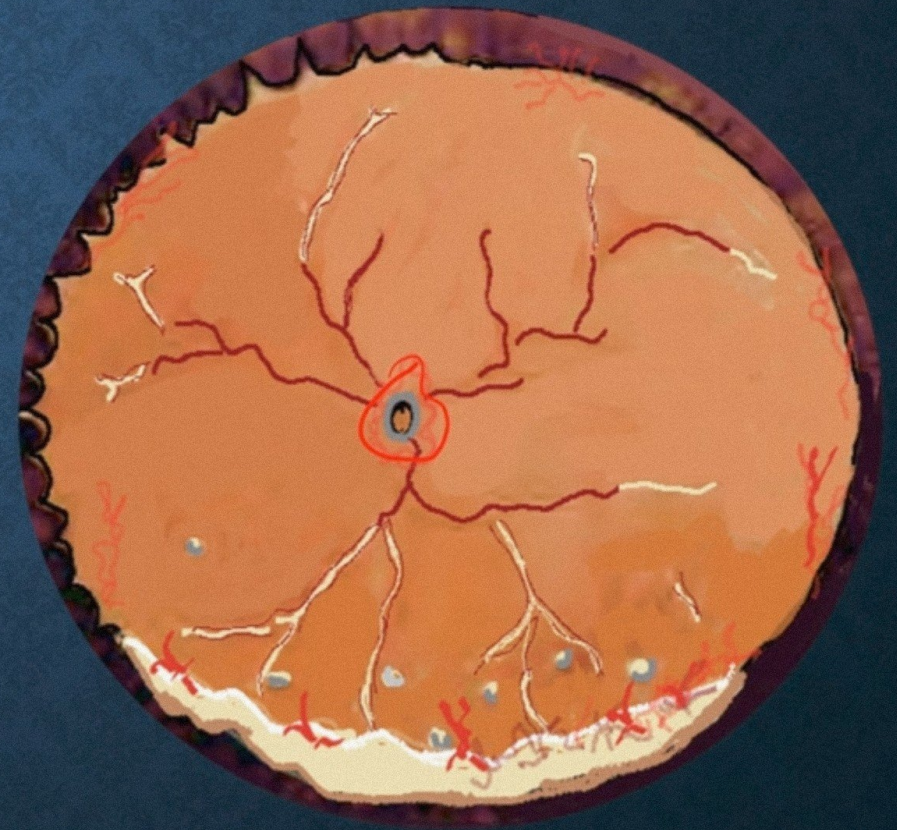
- Perivascular cuffing, occlusive vasculitis and sheathing



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

NEOVASCULARISATION

- particularly in the retinal periphery (often associated with snowbanks) and on the optic nerve head
- The latter usually resolves when activity is controlled.
- This can sometimes lead to vitreous hemorrhage, retinal detachment and cyclitic membrane formation.



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

NEOVASCULARISATION

- particularly in the retinal periphery (often associated with snowbanks) and on the optic nerve head
- The latter usually resolves when activity is controlled.
- This can sometimes lead to vitreous hemorrhage, retinal detachment and cyclitic membrane formation.
- **Vitreous haemorrhage is more common in children**





A diffuse phlebitis leads to breakdown of the blood-ocular barrier and release of inflammatory cells, cytokines, and other inflammatory mediators that settle inferiorly

Inferior Position is attributed to gravity .

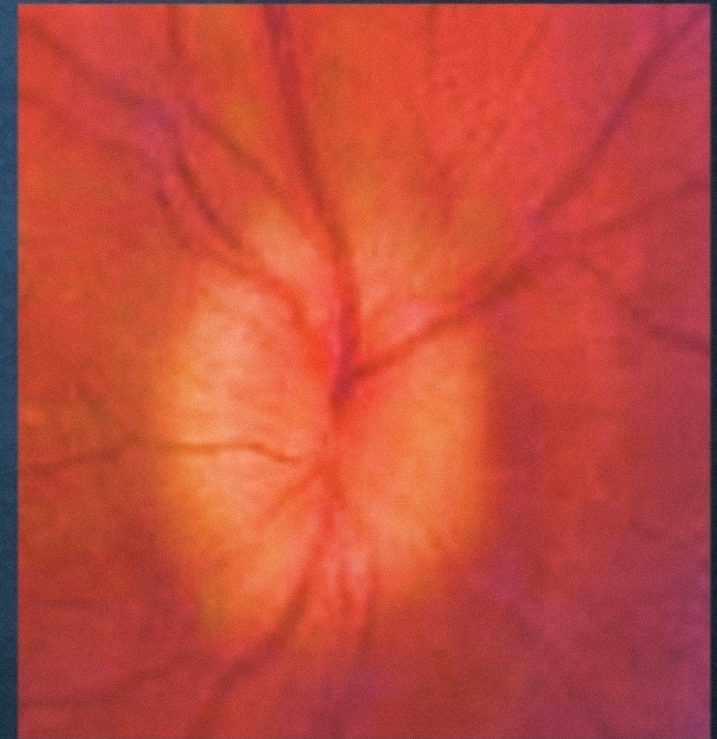


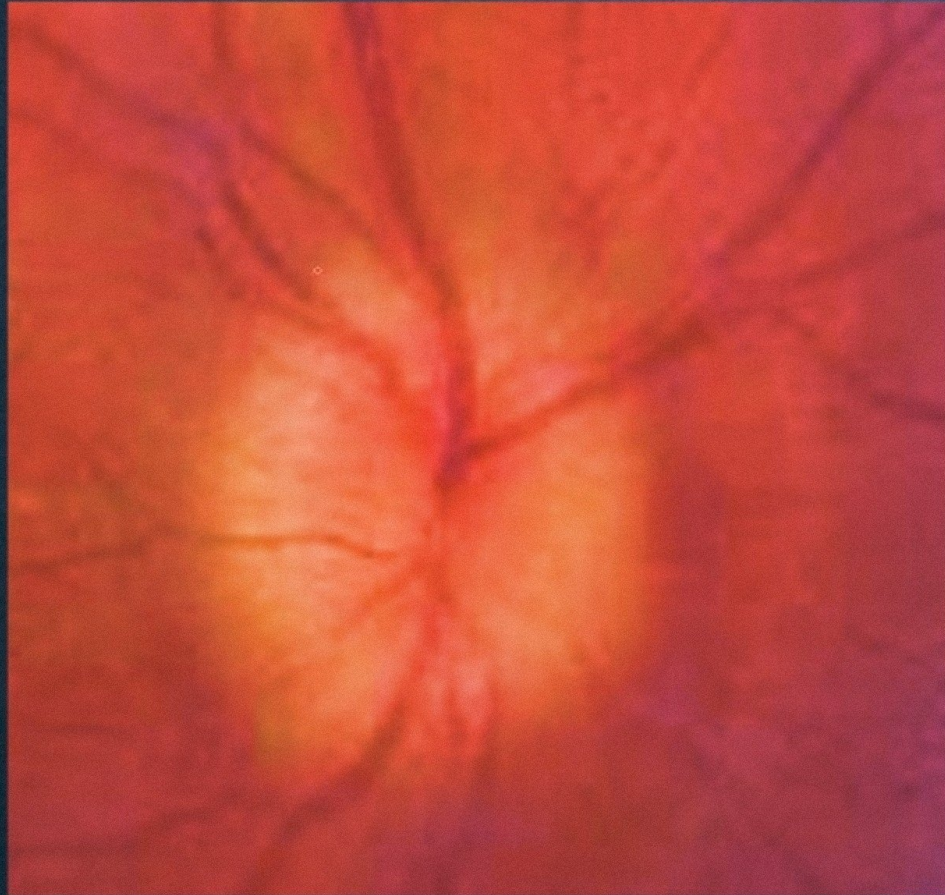
IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

OPTIC DISC EDEMA

Optic disc swelling is common, especially in younger patients.

Disc edema is seen in 50% of the children with IU





Neovascularization of the
disk is associated with
severe retinal ischemia
but responds to
panretinal laser
photocoagulation



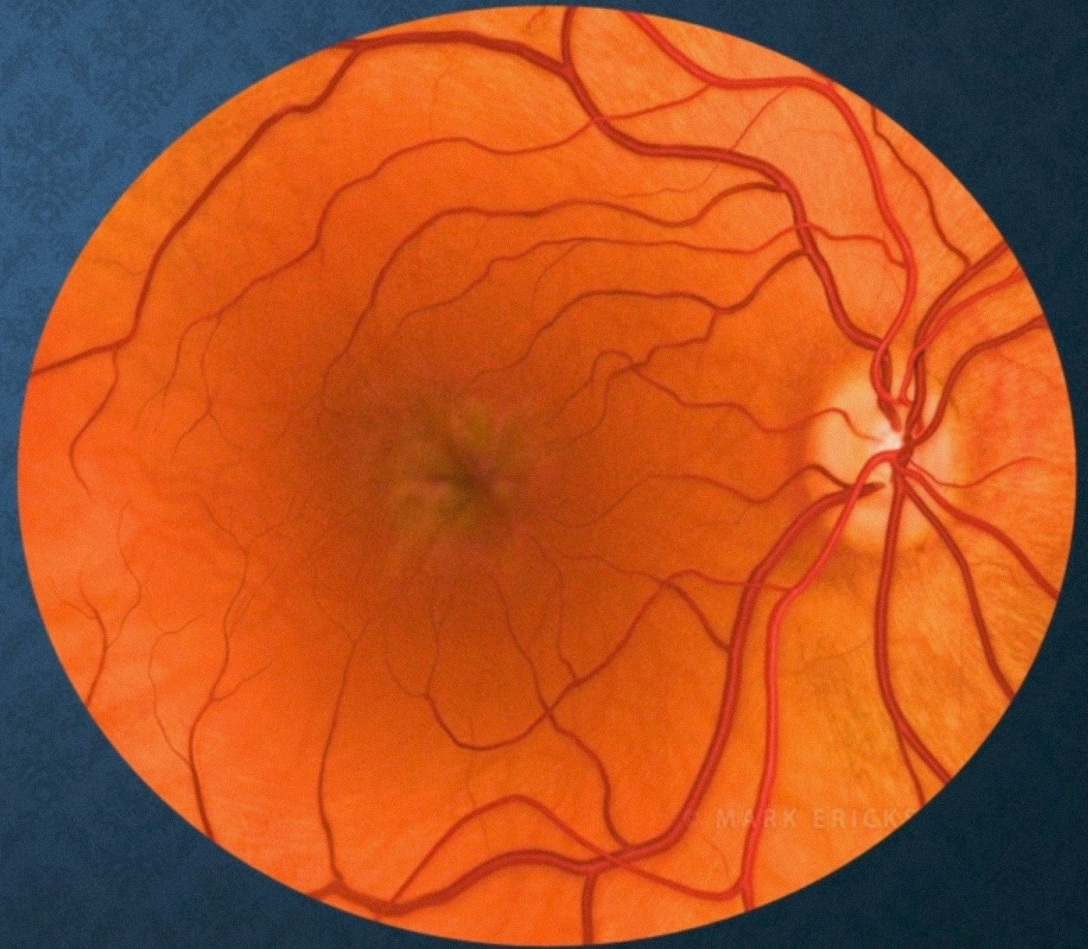
COMPLICATIONS OF INTERMEDIATE UVEITIS



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

CYSTOID MACULAR EDEMA

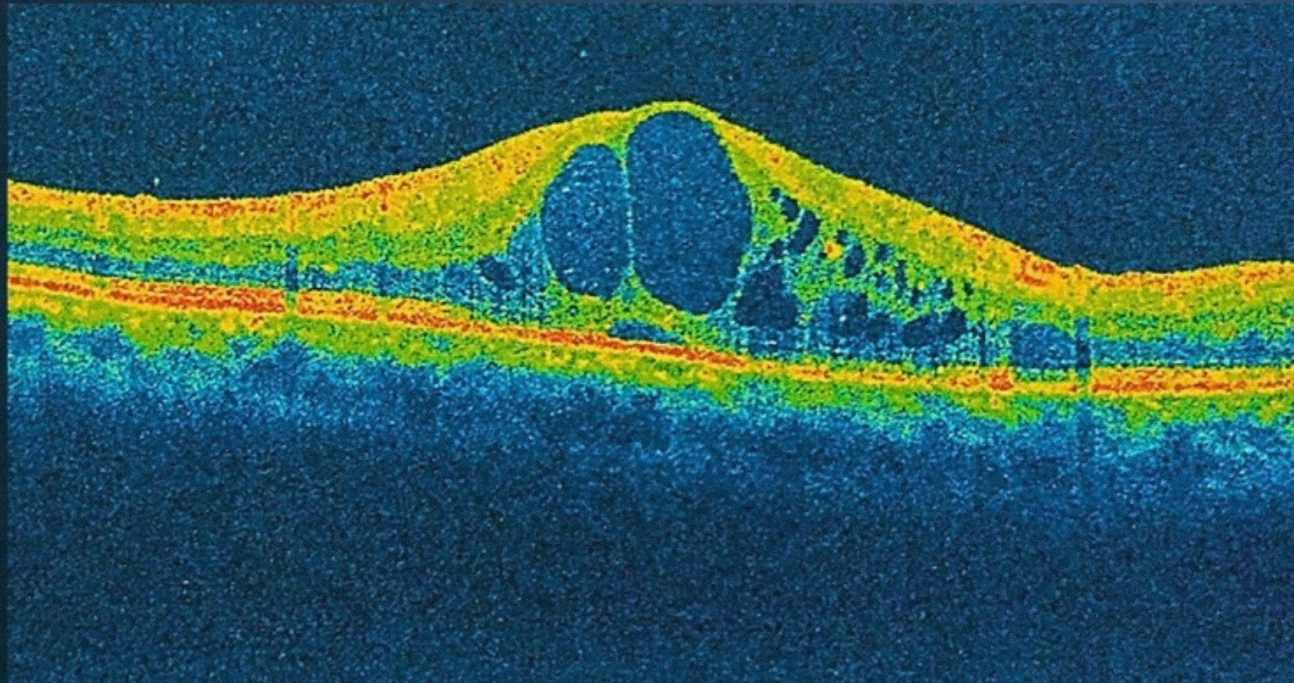
CME occurs in up to half of patients and is the major cause of impaired visual acuity



MARK ERICKSON



CLINICAL NUGGET



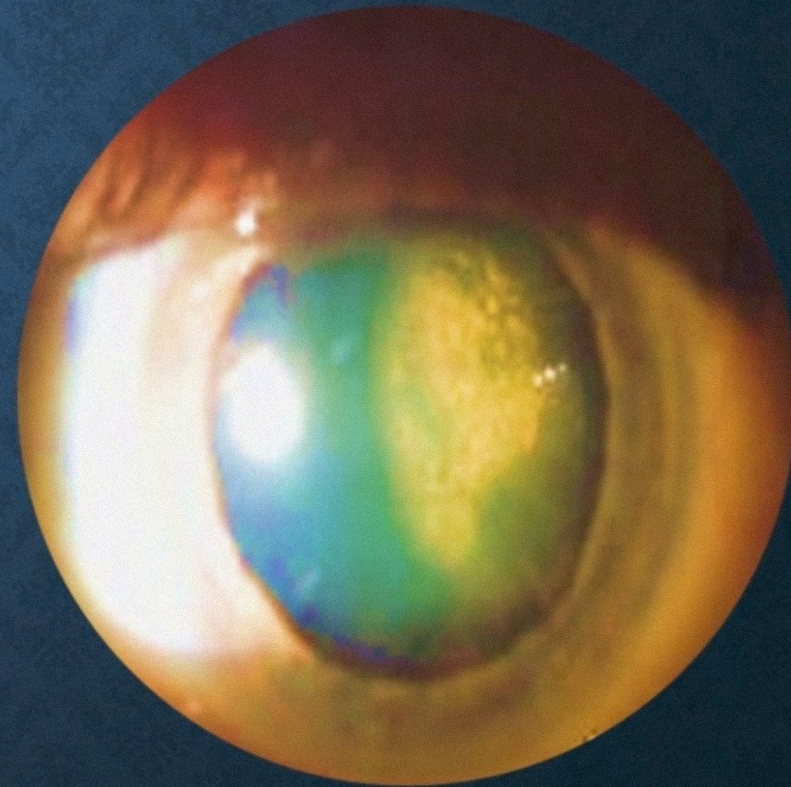
- Most common cause of visual loss
- The amount of CME does not correlate with the amount of the inflammation or vitritis



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

CATARACT AND

- Cataract can be caused by **steroid treatment** or by the **inflammation itself**.
- Posterior subcapsular cataract is the most common lenticular opacity



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

GLAUCOMA

- ❖ Prolonged inflammation
- ❖ Steroid therapy ✖
- ❖ Incidence is 7.6 %



HYPOTONY

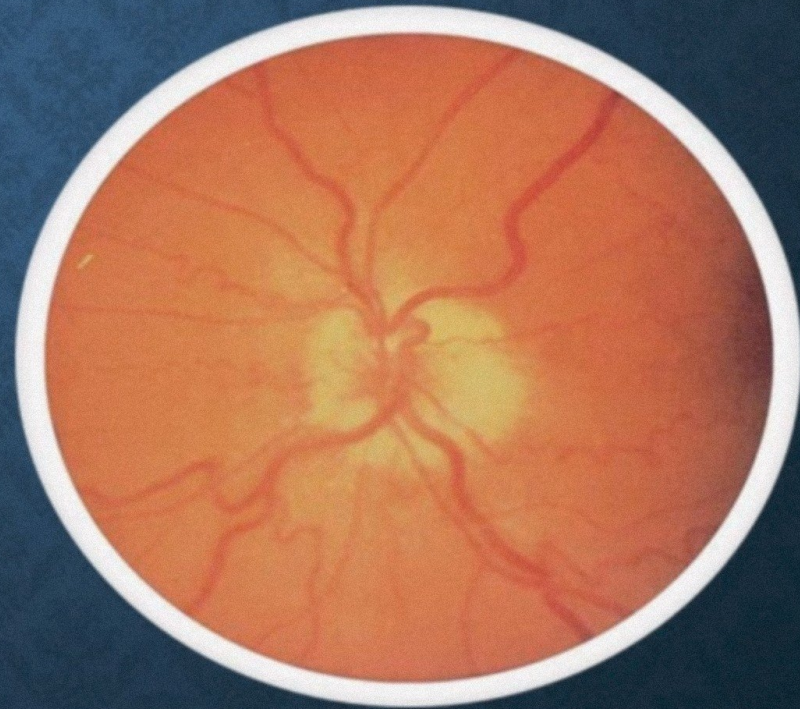
- ❖ Ciliary body process atrophy
- ❖ Cyclitic Membrane
- ❖ Ciliary shutdown



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

OPTIC NEURITIS

❖ Suspect multiple sclerosis

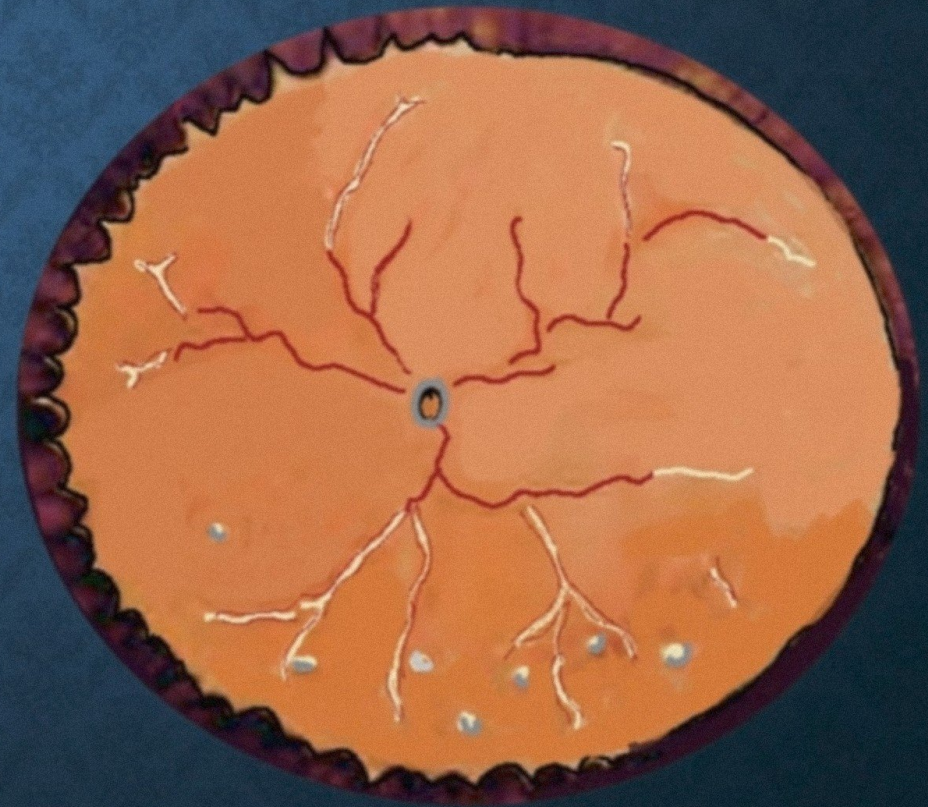


IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

PERIPHERAL VASCULITIS /PERIPHLEBITIS

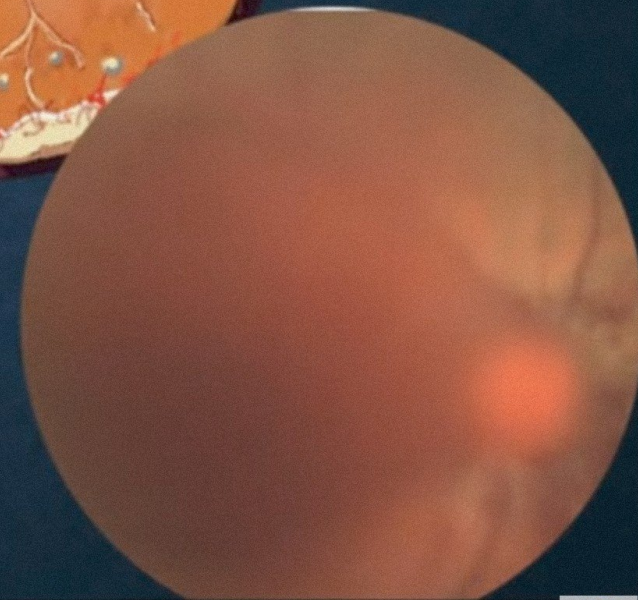
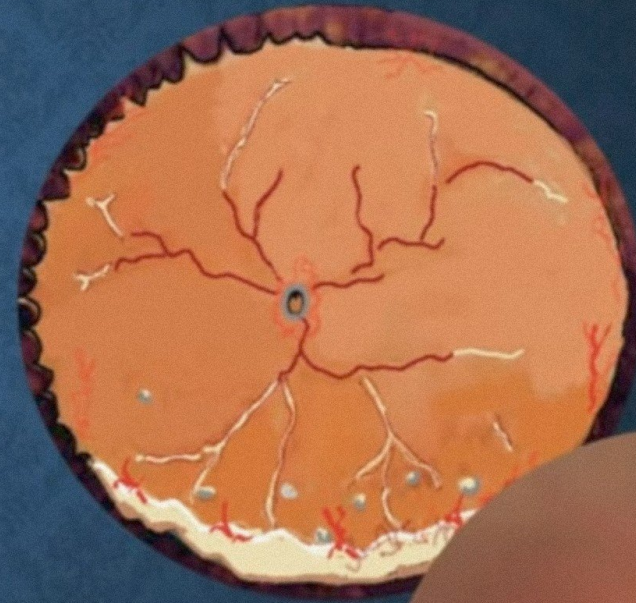
Common, particularly in multiple sclerosis. → **Superior Quadrant**

- Perivascular cuffing, occlusive vasculitis and sheathing



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

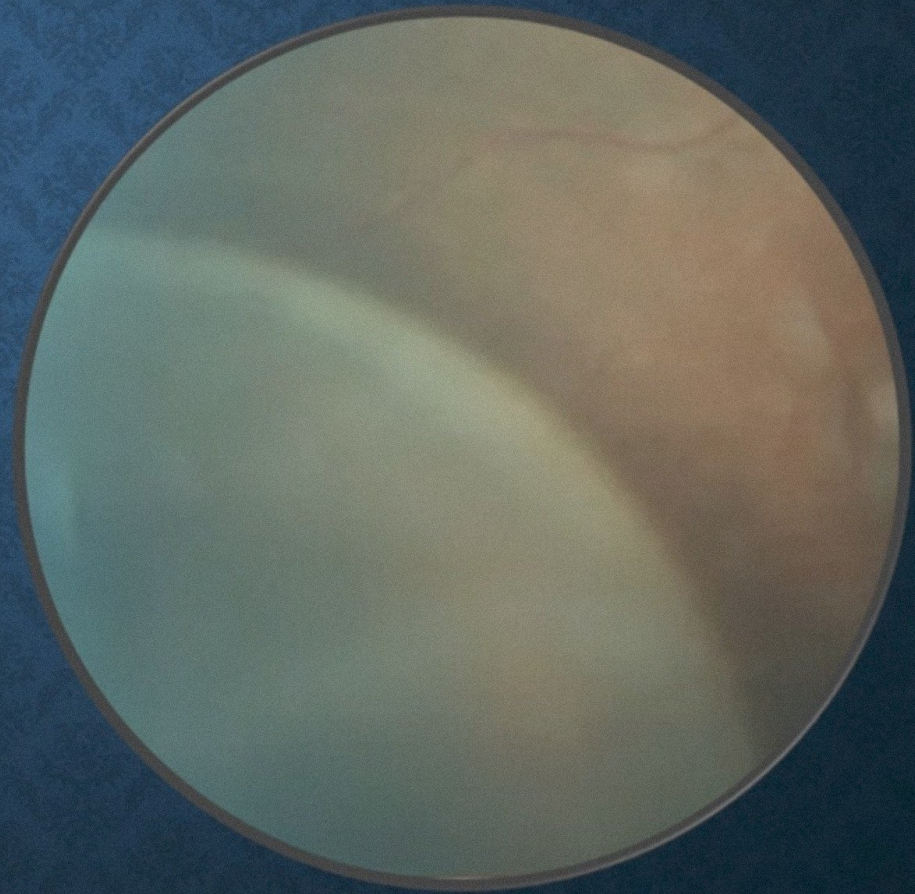
NEOVASCULARISATION

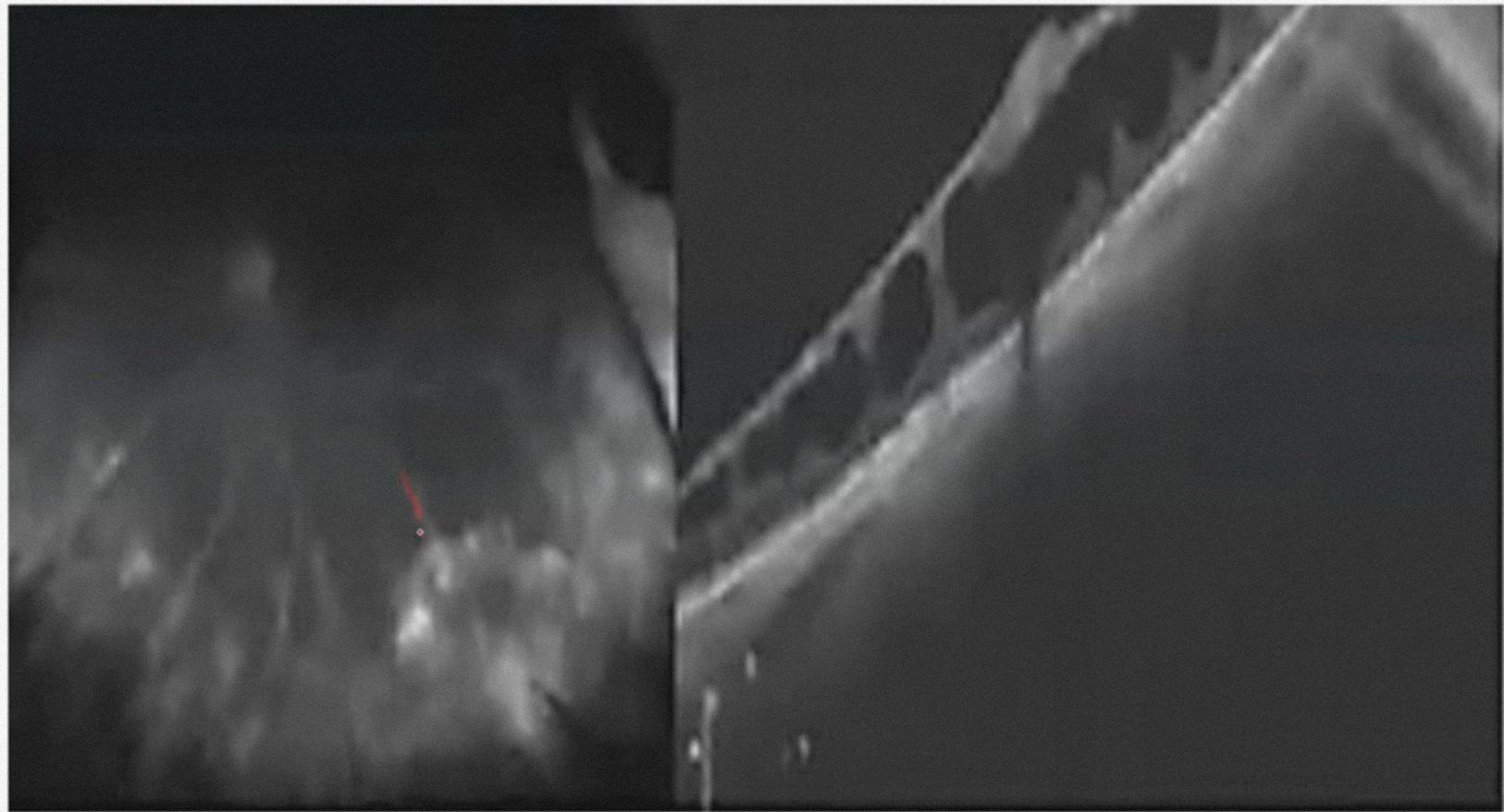


IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

RETINOSCHISIS

- Uncontrolled intermediate uveitis
- Persistent capillary leakage
- Subclinical peripheral ischemia and constant low grade vitreous inflammation
- Vitreous shrinkage and traction
- Peripheral Retinoschisis





Pichi F, Srivastava SK, Nucci P, Baynes K, Neri P, Lowder CY. PERIPHERAL RETINOSCHISIS IN INTERMEDIATE UVEITIS. *Retina*. 2017;37(11):2167-2174. doi:10.1097/IAE.0000000000001463



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

RETINAL DETACHMENT

- 2.2-5.1 %
- Exudative RD : secondary to inflammation in IU
- Tractional RD
- Rhegmatogenous RD



IMPORTANT SIGNS IN INTERMEDIATE UVEITIS

VASOPROLIFERATIVE TUMOURS (VPTs)

- Mix of **vascular** and **glial** proliferation
- Inflammatory insult
- Breakdown of the blood retinal barrier]Uncontrolled release of the cytokines and angiogenesis occurs
- Uncontrolled proliferation of the fibrous tissue and angiogenesis

Pichi F, Neri P, Agarwal A, Invernizzi A, Choudhry N, Amer R, Lembo A, Nucci P, Thompson I, Sen HN, Shields CL. VASOPROLIFERATIVE TUMORS IN INTERMEDIATE UVEITIS. *Retina*. 2020 Sep;40(9):1765-1773.



ANTERIOR SEGMENT INFLAMMATION?



ANTERIOR SEGMENT INFAMMATION ?

- These patients typically develop a granulomatous anterior uveitis with formation of mutton-fat keratic precipitates (KPs).

- ❖ Multiple sclerosis
- ❖ Paediatric IU
- ❖ Lyme's disease
- ❖ Sarcoidosis
- ❖ Tuberculosis

