

Sudden Loss of Vision

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OPTOMETRISTS

Outline

- Pathophysiology
- Differential diagnosis.
- Patient scenarios in community practice:
 - What should you ask?
 - What should you examine?
 - When, where and how urgent should be any referral?

Summary

- Eye problems – 3 red flag Ps
 - Poor vision
 - Pain
 - Photophobia
- Is it 'just' an eye problem?
 - Consider vascular or neurological disease
- If it's not simple trauma then they need to go somewhere for a Dx

Pathophysiology

- Opacification of normally clear media
- Retinal abnormality
- Visual pathway problems

Differential diagnosis (common)

- AMD (wet)
- Retinal vascular occlusions
- Ischaemic optic neuropathy
- Vitreous haemorrhage
- Retinal detachment
- Amaurosis fugax
- TIA & CVA

Differential diagnosis (less common)

- Corneal trauma
- Corneal infection
- Anterior uveitis = iritis
- Acute glaucoma
- Optic neuritis

Age-related macular degeneration = AMD

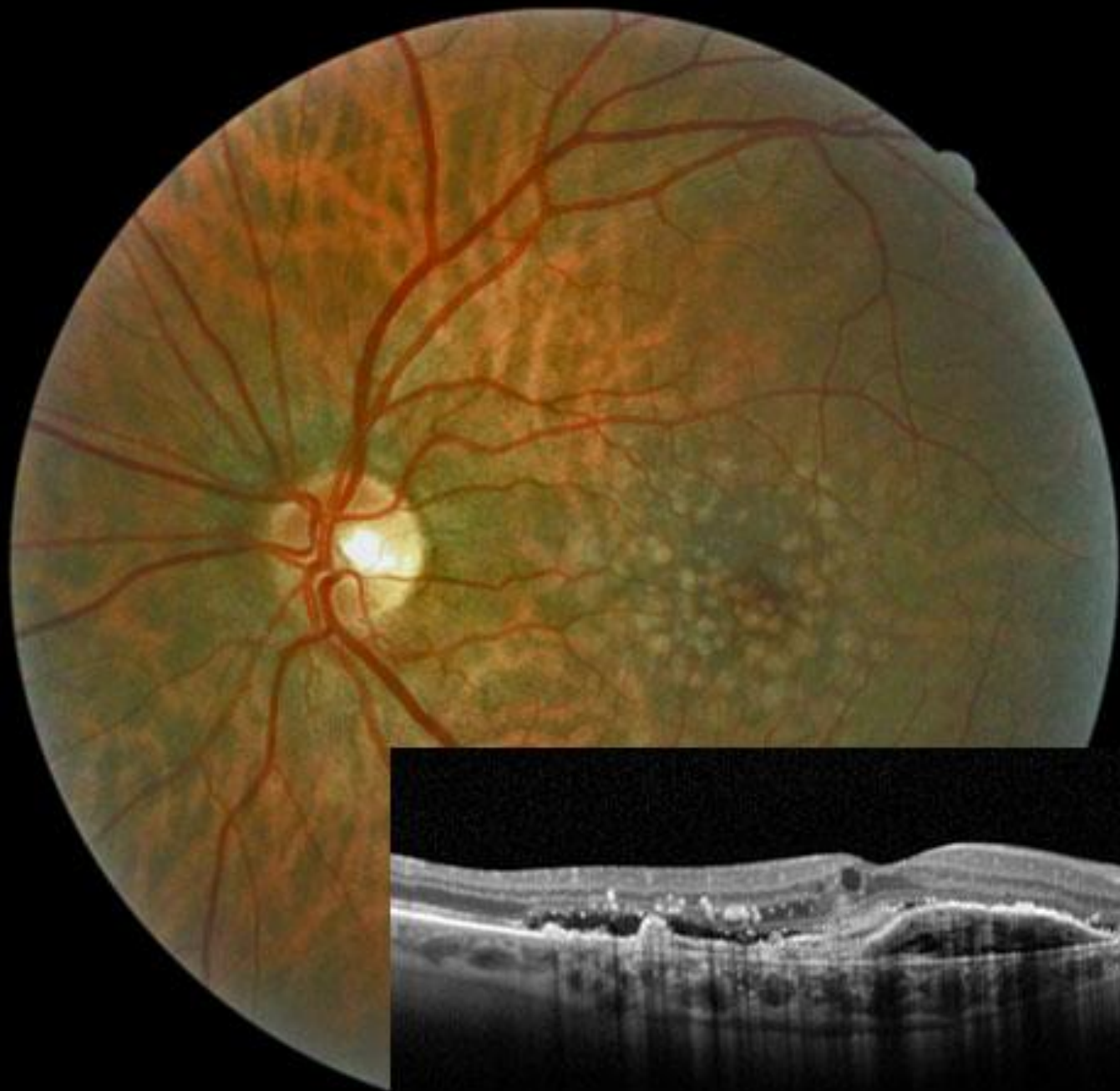
- Cells of central retina no longer work properly
- Impairment of central vision
 - Reduced acuity
 - Distortion (more commonly when “wet”)
- Functional consequences
 - Difficulty reading
 - Unable to identify road signs
 - Cannot recognise people’s faces



AMD (wet)

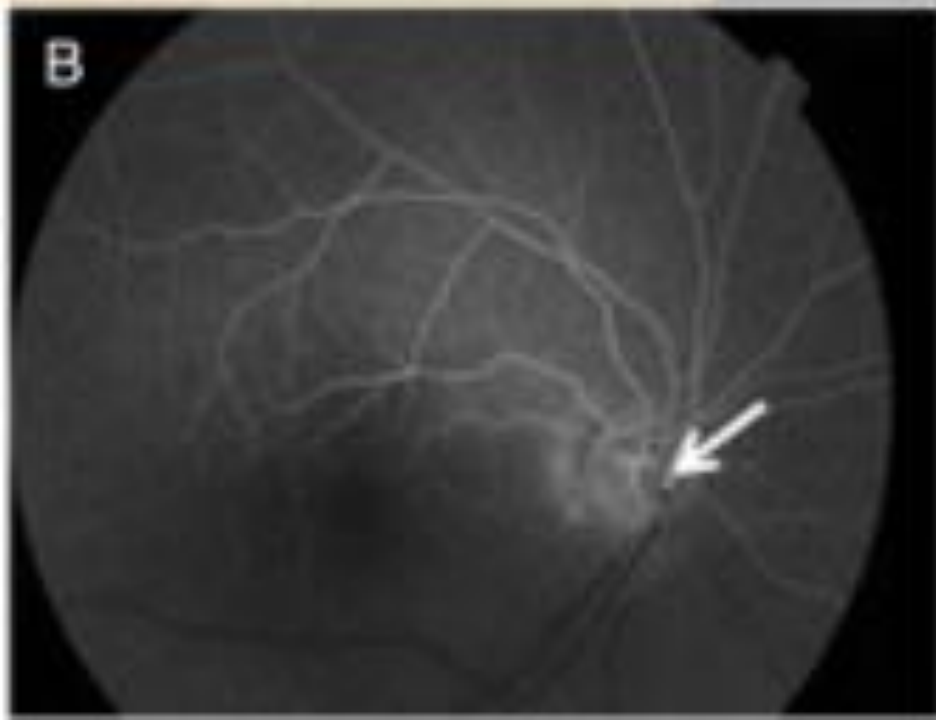
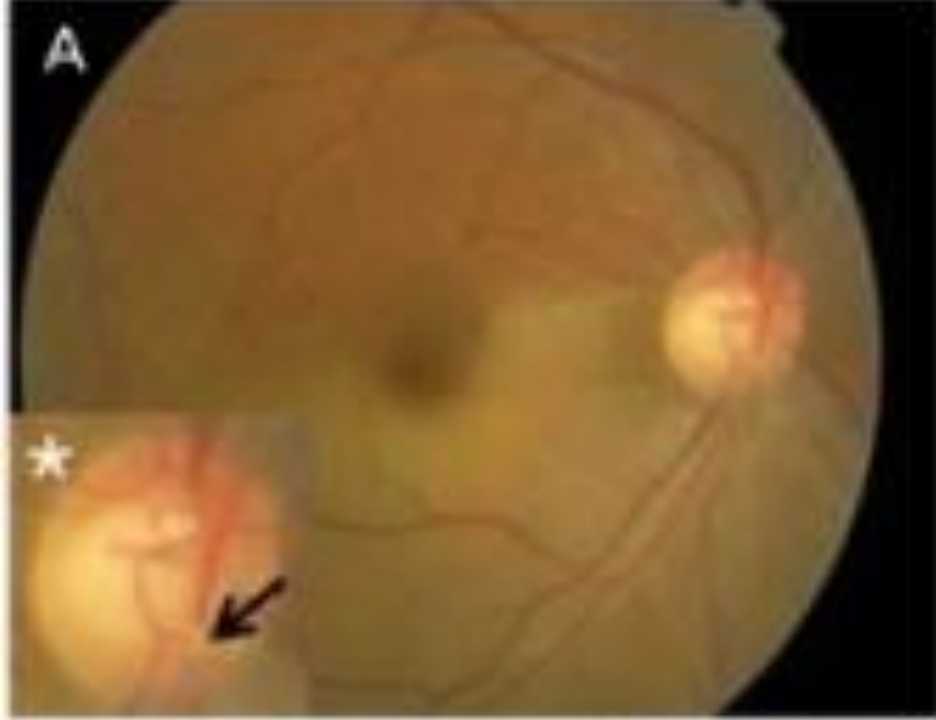
- Dry changes accompanied by neovascularisation
- New blood vessels are leaky
- Characterised by more abrupt reduction in central vision
- Distortion is common

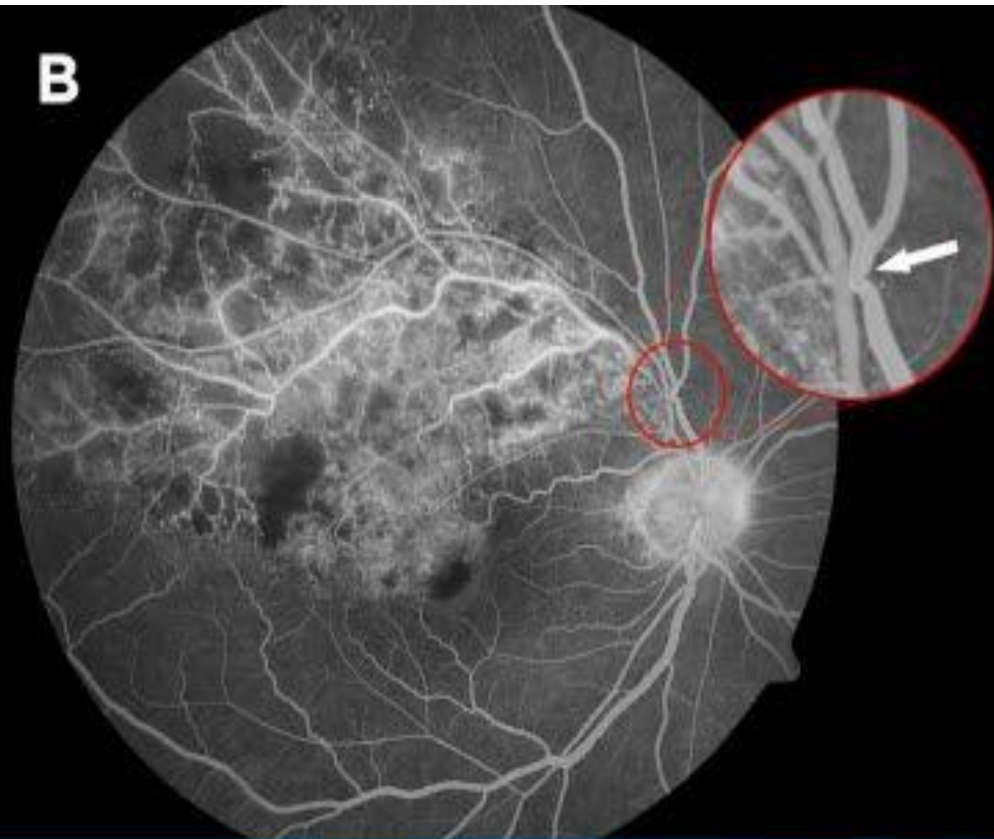
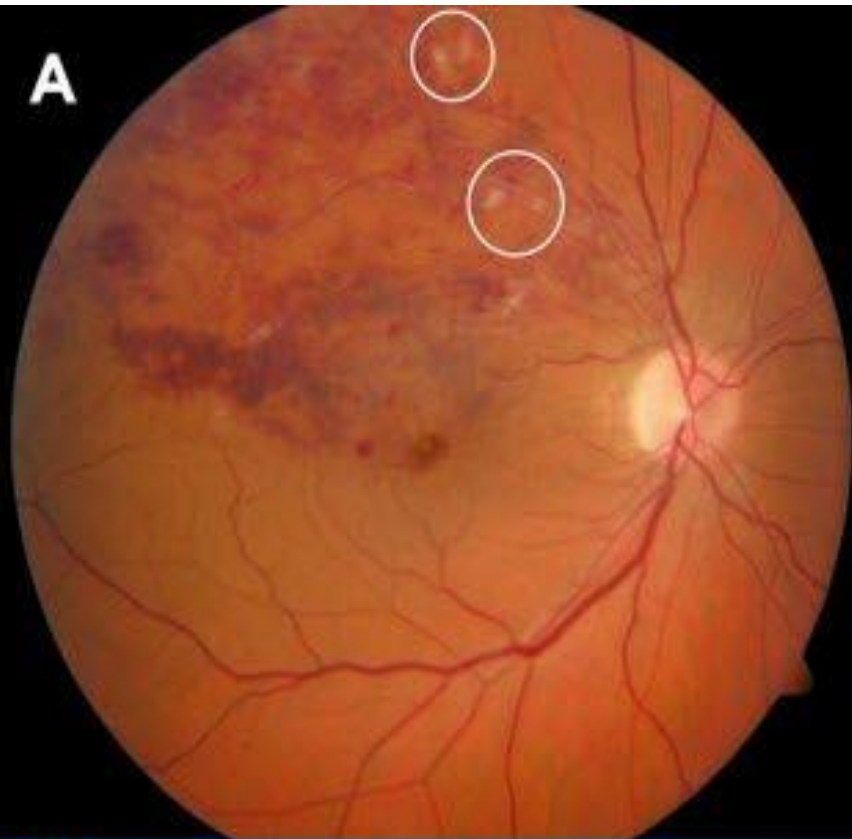




Retinal vascular occlusions

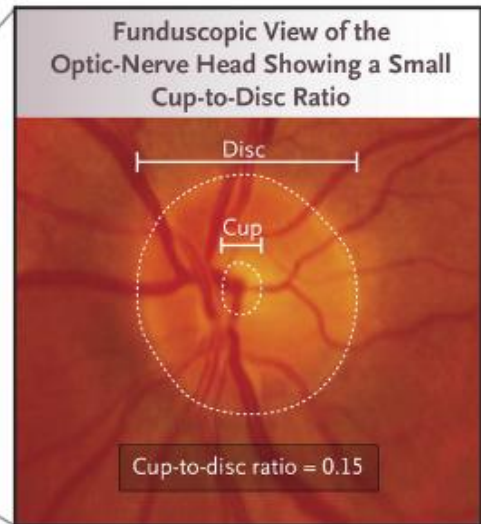
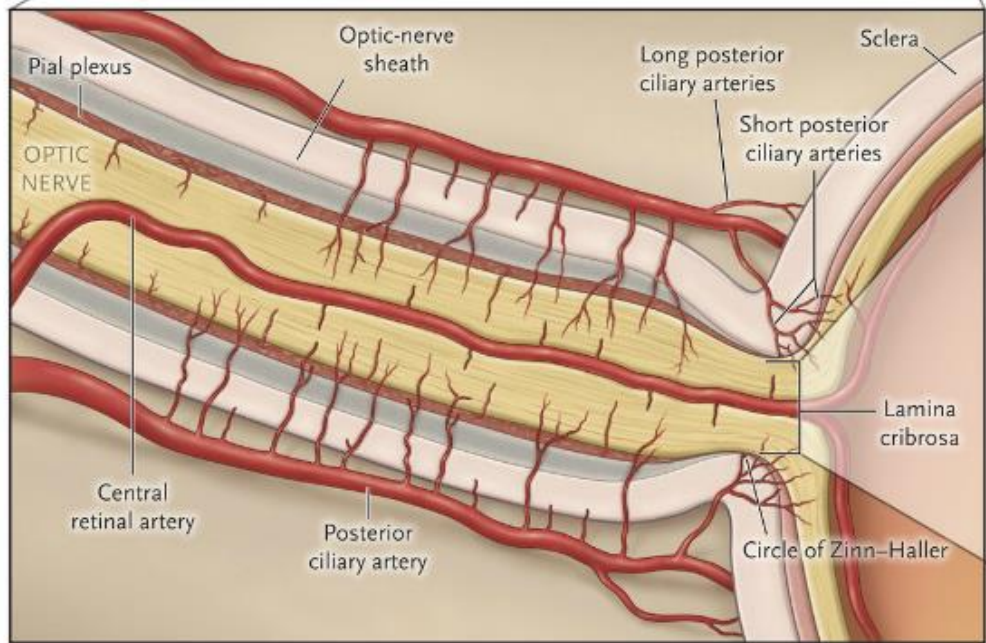
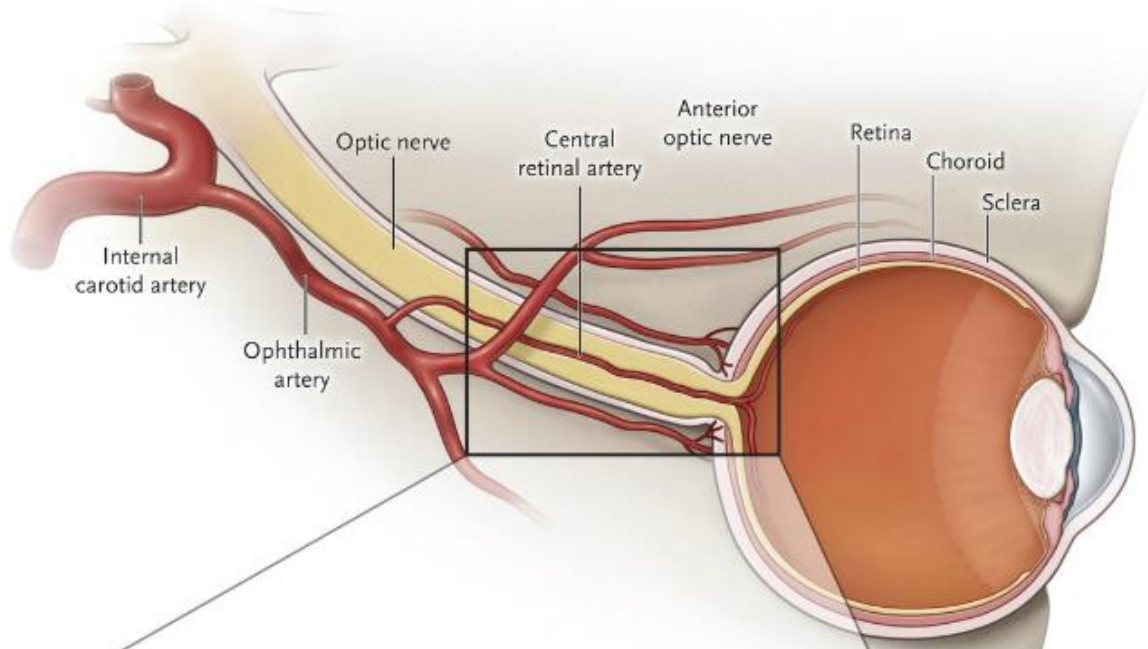
- Blockage by emboli travelling to eye from carotid
- Thrombus from localised factors causing turbulent flow & endothelial damage
- Result:
 - Ischaemia
 - Venous occlusion leads to leakage of fluid





Ischaemic optic neuropathy

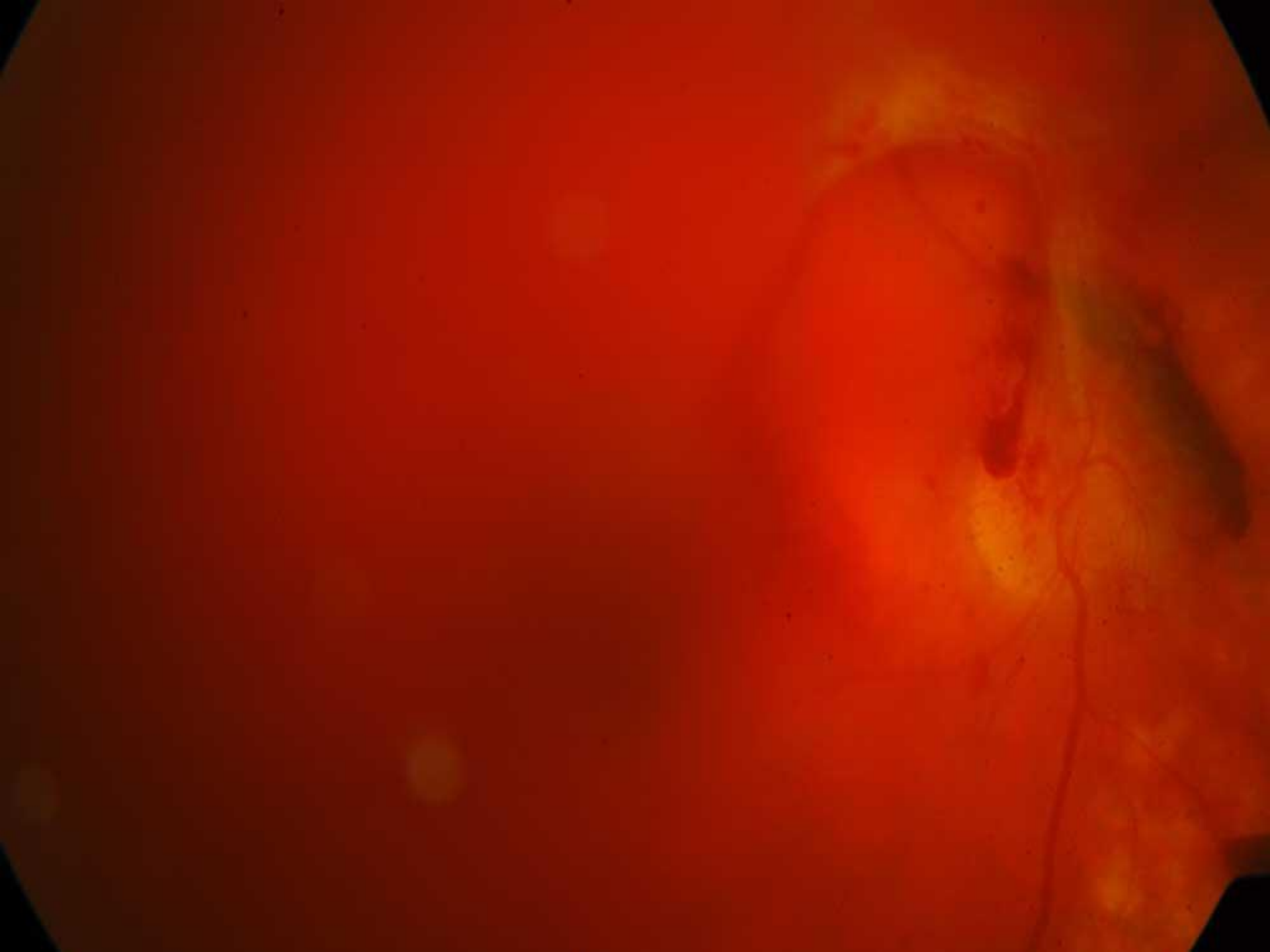
- Two diseases
 - Non-arteritic
 - Systemic and ocular pre-disposition
 - Precipitated by period of hypotension, often nocturnal
 - Very rarely due to embolism of feeding arteries
 - Arteritic
 - Normally due to GCA
 - Rarely other types of vasculitis



Vitreous haemorrhage

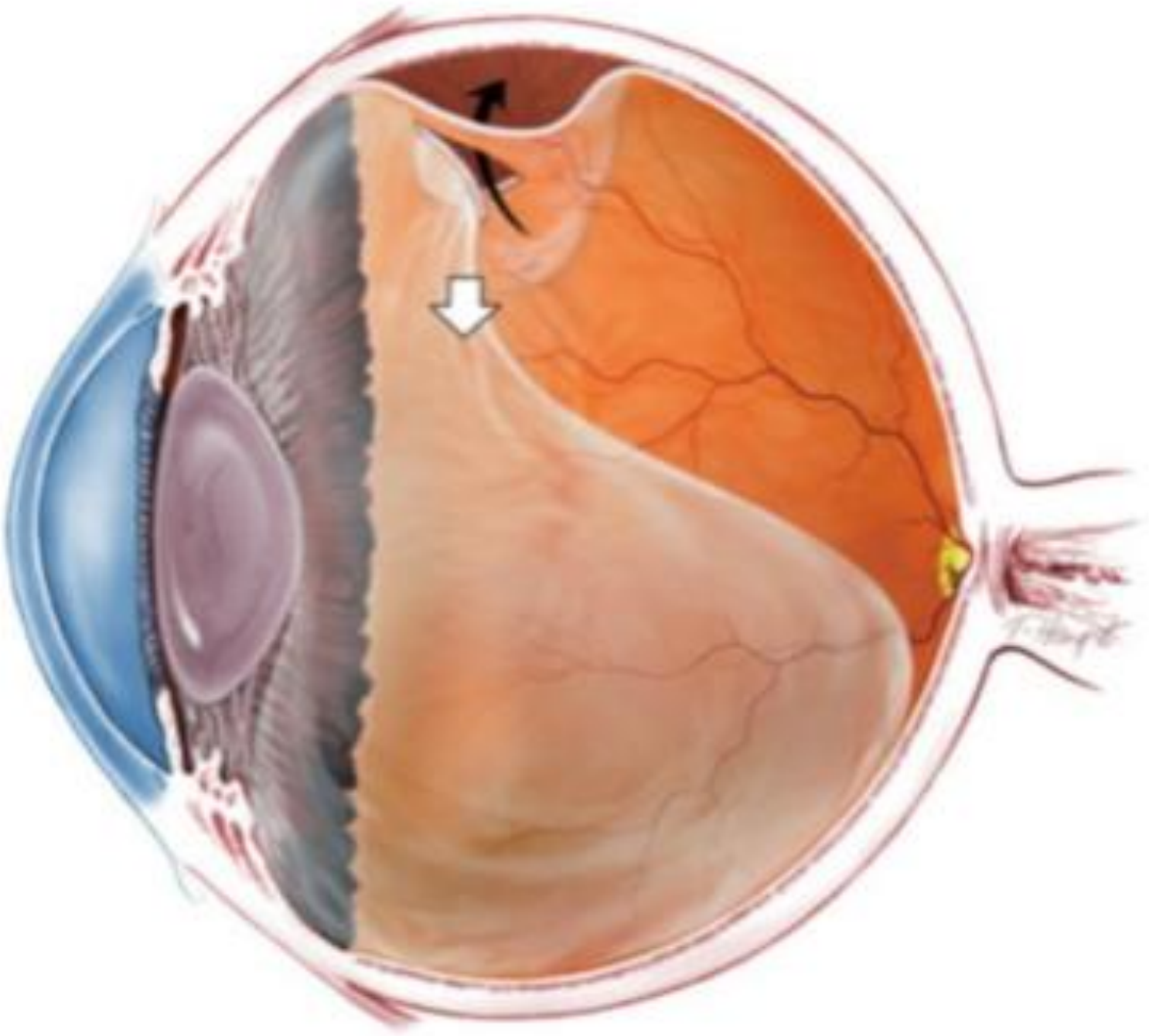
- Blood inside the eye between the lens and retina
- Normally the result of proliferative diabetic retinopathy
- Less common causes include a retinal tear and ocular tumours
- Sudden, painless loss of vision
 - Mild = Increase in floaters/streaks and blurred vision
 - Severe = Profound reduction in vision to perception of light





Retinal detachment

- Separation of the retina from the back of the eye
- Big risk factors are myopia and trauma
- Most symptom related to triggering PVD
 - Sudden increase in the number of floaters
 - Flashes of light
 - Dark shadow that starts at the edge of vision and extends centrally
 - Impression of a veil or curtain over vision





Amourosis fugax

- Amourosis = darkening. Fugax = fleeting
- Embolic / hypoperfusion / migraine
- Consider associated Sx of CVA and medical Hx
- If confident not migraine then refer to stroke clinic

TIA & CVA

- Vision loss tends to be sudden over seconds, not minutes
- Often associated neuro Sx

Differential diagnosis (less common)

- Corneal infection
- Anterior uveitis = iritis
- Acute glaucoma
- Optic neuritis

Red flags

- Sudden loss of vision
- Pain
- Distortion
- Light sensitivity
- Red eye, especially in contact lens wearer
- Associated with new neurological Sx
- Associated with Sx suggestive of GCA

What to ask

- How bad is vision?
- One eye or both eyes?
- How sudden? – seconds/minutes vs days vs months
- Pain? – versus annoying discomfort.
- Recent trauma/surgery?
- Associated with new neurological Sx
- Associated with Sx suggestive of GCA

What to examine

- Consider demographics
- Consider general health, principally vascular health
- Is the eye red
- Visual acuity – RE & LE tested separately
- Pupil reflexes – is constriction to light symmetrical
- Optional:
 - Crude assessment of peripheral vision with confrontation
 - Assessment of red reflex with the ophthalmoscope
 - Ophthalmoscopy
 - Blood pressure

Anyone you do not refer to Eye Casualty?

- Superficial trauma
- High suspicion of CVA
- Reasonable to ask to see optometrist in next few days depending on local arrangements for extended services, especially if:-
 - Reduction in vision modest
 - Vision reduced more than 2 weeks ago
 - No pain or redness
 - Pupil reflexes symmetrical
 - No new neurological Sx

Case 1

- 82 year old lady
 - C/O reduced vision
 - What questions to ask?
 - What to examine?
 - What is the differential diagnosis?
 - How would you manage?

Case 1

- What questions to ask?
 - When and how sudden? = **Reduced over past week**
 - One eye or both eyes? = **RE**
 - How bad is vision? = **Blurred**
 - Pain? = **No**
 - Recent trauma/surgery? = **No**
 - Associated with new neurological Sx = **No**
 - Associated with Sx suggestive of GCA = **No**

What to examine

- Demographics = **AMD or vascular cause**
- Consider general health, principally vascular health = **Nil remarkable**
- Is the eye red = **No**
- Visual acuity = **RE: 6/12, LE: 6/9**
- Pupil reflexes = **Normal**
- Optional:
 - Crude assessment of peripheral vision with confrontation = **NA**
 - Assessment of red reflex with the ophthalmoscope = **OK**
 - Ophthalmoscopy = **NAD**

Case 1

- Differential diagnosis
- Management

Case 1

- Differential diagnosis
 - **Age-related macula degeneration – suspect wet**
 - **Vascular occlusion of retinal vein**
 - **Non-arteritic AION**
- Management
 - **Urgent referral to eye casualty**
 - **Referral to community optometrist (maybe)**

Case 2

- 23 year old man
 - C/O reduced vision in RE following brawl at weekend
 - What questions to ask?
 - What to examine?
 - What is the differential diagnosis?
 - How would you manage?

Case 2

- What questions to ask?
 - When and how sudden? = **Yesterday, noticed shadow in vision**
 - One eye or both eyes? = **RE**
 - How bad is vision? = **OK**
 - Pain? = **Achy discomfort**
 - Recent trauma/surgery? = **Yes**
 - Associated with new neurological Sx = **No**
 - Associated with Sx suggestive of GCA = **No**

What to examine

- Demographics = **RD, iritis, hyphema, vitreous haemorrhage**
- Consider general health, principally vascular health = **Nil remarkable**
- Is the eye red = **No, but periorbital bruising**
- Visual acuity = **RE: 6/6 (poor) , LE: 6/6**
- Pupil reflexes = **Normal**
- Optional:
 - Crude assessment of peripheral vision with confrontation = **OK**
 - Assessment of red reflex with the ophthalmoscope = **OK**
 - Ophthalmoscopy = **NAD**

Case 2

- Differential diagnosis
- Management

Case 2

- Differential diagnosis
 - RD
 - Iritis
 - Hyphema
- Management
 - Urgent referral to eye casualty

Case 3

- 80 year old man
 - C/O sudden reduction in vision 3 weeks ago
 - What questions to ask?
 - What to examine?
 - What is the differential diagnosis?
 - How would you manage?

Case 3

- What questions to ask?
 - When and how sudden? = **3 weeks ago**
 - One eye or both eyes? = **RE**
 - How bad is vision? = **Blurred**
 - Pain? = **None**
 - Recent trauma/surgery? = **No**
 - Associated with new neurological Sx = **No**
 - Associated with Sx suggestive of GCA = **No**

What to examine

- Demographics = **Wet AMD, retinal vascular occlusion, AION**
- Consider general health, principally vascular health = **Hyp**
- Is the eye red = **No, but periorbital bruising**
- Visual acuity = **RE: 6/12 , LE: 6/6**
- Pupil reflexes = **Normal**
- Optional:
 - Crude assessment of peripheral vision with confrontation = **OK**
 - Assessment of red reflex with the ophthalmoscope = **OK**
 - Ophthalmoscopy = **NAD**

Case 3

- Differential diagnosis

- Management

Case 3

- Differential diagnosis
 - **Wet AMD**
 - **Vascular occlusion**
 - **AION**
- Management
 - **Refer to optometrist < 1 week due to delayed presentation**

Gradual Loss of Vision

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