Identifying and Managing Eye Emergencies

Signs, symptoms, management and avoiding major disasters

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OUTLINE

Assessment
  – History
  – Examination

Common Acute Presentations

Sight threatening conditions

Life threatening conditions
Presenting Complaint

Mostly a combination of a small number of the following symptoms:

- Loss of vision
- Photopsia
- Diplopia

- Redness
- Pain
- Photophobia
- Grittiness
- Itchiness

- Discharge
- Watering
HISTORY

TRAUMA

DISCHARGE

PAIN
  – Nature
  – Onset
  – Photophobia
HISTORY: EYE AND THE SOMA

PAST MEDICAL HISTORY
– Ocular history
– Medical and drug history
– Family history
EXAMINATION

DACHSHUND, BEAGLE, POODLE
AND, UM... EITHER YORKIE
OR BOSTON TERRIER...

Fido gets his nose checked
SNELLEN VISUAL ACUITY

Distance patient read chart

Line read

6/60
6/18
6/6
6/4
RECORDING POOR VISUAL ACUITY

CF   HM   PofL   NPL
OCULAR APPEARANCE
APPEARANCE : CONSIDER DYE
APPEARANCE
EYE MOVEMENTS
Eye Emergencies

**Common Conditions**
- Subconjunctival haemorrhage
- Conjunctivitis
- Keratitis
- Episcleritis/Scleritis
- Uveitis
- BRVO/CRVO
- BRAO/CRAO
- Retinal Detachment

**Sight Threatening**
- Endophthalmitis
- Acute Angle Closure
- Giant Cell Arteritis
- Trauma

**Life Threatening**
- Orbital Cellulitis
- Third Nerve Palsy
SUBCONJUNCTIVAL HAEMORRHAGE
VIRAL CONJUNCTIVITIS

- Usually caused by adenovirus
- Clear watery discharge
- Highly Contagious
- Associated features
  - Viral
    - URTI
    - Pre auricular nodes
- Treatment
  - Hygiene
  - Supportive measures
BACTERIAL CONJUNCTIVITIS

• Purulent discharge
• Staphylooccus, streptococcus, haemophilus, neisseria etc
  – Secondary to nasolacrimal duct obstruct
• Treatment
  – Chloramphenicol
BACTERIAL CONJUNCTIVITIS
CHLAMYDIA

• Mucopurulent discharge
• Associated features – Reiters Syndrome
• Treatment
  – Doxycycline 100mg po bd one week
  – Azithromycin 1g stat dose
OPHTHALMIA NEONATORUM

- Conjunctivitis in the first three weeks of life
- Infection transmitted during delivery
  - Chlamydia
  - Gonorrhoea
  - Staph aureus
  - Herpes Simples
ALLERGIC CONJUNCTIVITIS

Watery itchy eyes

Types
- Seasonal (hayfever) / Perennial (dust mites)
- Vernal
- Atopic

Treatment
- Mast cell stabilisers
- Antihistamine
KERATITIS
# Keratitis: History

**Key points in history:**

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Predisposition to infective Keratitis

- Dry eye
- Lid malposition
- Trauma
- Prior surgery
- Contact lenses
- Topical Corticosteroids
VIRAL KERATITIS

Herpes Simplex virus
Dendritic lesion

Treatment
– Acyclovir ointment
  5x day
EPISCLERITIS AND SCLERITIS
EPISCLERITIS AND SCLERITIS

SCLERITIS
• Relatively uncommon
• Severe boring pain
• Injection of deep scleral vessels

EPISCLERITIS
• Relatively common
• Mild ocular discomfort
• Injection of episcleral vessels
SCLERITIS AND EPISCLERITIS

SCLERITIS
• Can be associated with systemic conditions
  – Rheumatoid arthritis
  – HZO
• Can lead to blindness if untreated

EPISCLERITIS
• Generally no systemic associations
• Symptomatic relief
SCLERITIS AND EPISCLERITIS

SCLERITIS (systemic Rx)
• Usually associated with rheumatoid in general practice
• Requires systemic Rx
  – NSAIDS
  – Prednisone
  – Immunosuppressants

EPISCLERITIS (Topical Rx)
• Trivial
• Topical lubricants
• Topical NSAIDS
• RARELY topical steroids

Practice Points
Episcleritis does not progress to Scleritis.
Episcleritis can generally be managed in practice scleritis should be referred
ANTERIOR UVEITIS

- Moderate aching pain
- Photophobia
- Past History
- Screen for systemic symptoms
ASSOCIATIONS

Seronegative arthropathies
Inflammatory bowel disease
Sarcoid
Behcets
Infections
e.g. TB, Syphilis
IRIS APPEARANCE: Synechiae
SUDDEN PAINLESS LOSS OF VISION

"And you say you drove here Mr Smith?"
RETINAL DETACHMENT
BRANCH RETINAL VEIN OCCLUSION
CENTRAL RETINAL VEIN OCCLUSION
BRANCH RETINAL ARTERY OCCLUSION
ARTERY OCCLUSION
SIGHT THREATENING CONDITIONS
ACUTE ANGLE CLOSURE
PREDISPOSITION

• Incidence
  1/1,000 pop’n > 40 yrs
  4:1 female to male

• Predisposition
  – Short Eye
  – Narrow Angle
  – Large Lens

  – Therefore older hypermetrope at risk
ACUTE ANGLE CLOSURE GLAUCOMA

- Intense ocular pain
- Decreased vision
- Headache
- Photophobia
- Haloes around lights
- Nausea and vomiting
- Premonitory symptoms
- Hypermetrope
Lesson of the Week

Acute glaucoma presenting with abdominal symptoms

N J Watson, G R Kirkby

Acute angle closure glaucoma is a rare condition that affects 0.1% of the population aged over 50 years. Patients usually present with sudden onset of severe pain in or over the affected eye and reduced vision. They may have had prodromal attacks of aching, blurred vision, and haloes round lights, particularly at night. The eye is red, with oedema of the cornea and a fixed semidilated pupil, and is hard when palpated.

Rarely patients present not with severe eye pain but with abdominal symptoms predominating that result from effects of an appreciable rise in intraocular pressure. The symptoms are prostration, nausea, vomiting, and pain. Patients and their doctors may therefore ignore serious eye disease.

We describe two patients who illustrate this unusual presentation of the disease.

Case 1
An 86 year old woman with senile dementia was admitted to hospital with increasing confusion, nausea, vomiting, and colicky lower abdominal pain. Urinary tract infection was diagnosed. She was prescribed systemic antibiotics and chloramphenicol eye drops for her left eye, which was red.

Four days later the abdominal pain had not settled, no abdominal abnormality was found, and a midstream urine sample (taken before she started taking frequency of micturition. Urinary tract infection was diagnosed at her day hospital and by her general practitioner. Her right eye was uncomfortable and conjunctivitis suspected. She was prescribed systemic antibiotics and chloramphenicol eye drops. Two days later the left eye became red, and it was assumed that the conjunctivitis had spread. Chloramphenicol was then prescribed for both eyes. A midstream urine specimen contained no cells and grew no organisms.

Two days later she fell and broke her arm, and it was established that this was the result of poor eyesight. An opinion was sought from an ophthalmologist. Her visual acuities were hand movements right and count fingers left. She had oedema of the cornea with fixed semidilated pupils in both eyes. The intraocular pressures were 9.6 kPa right and 7.9 kPa left. The fundus was not visible. Bilateral acute angle closure glaucoma was diagnosed.

The intraocular pressures returned to normal with medical treatment, and the abdominal symptoms resolved. Later she had drainage surgery to both eyes. Her vision did not improve, and she remained blind.

Discussion
An early diagnosis of acute glaucoma is essential because a prolonged rise in intraocular pressure can result in permanent loss of vision due to ischaemia of
ACUTE ANGLE CLOSURE Rx

- REDUCE IOP
  - Medical
    - Topical:
      - Alpha-agonist, Beta-blockers, Mitotics (Pilocarpine)
    - Systemic
      - Carbonic anhydrase inhibitors (Diamox), Osmotics (Mannitol)
  - Surgical
    - Peripheral iridotomy
    - Clear lens extraction/trabeculectomy
TEMPORAL ARTERITIS

- SIGHT THREATENING
- Systemic inflammatory vasculitis of unknown Aetiology
- Time is vision
TEMPORAL ARTERITIS

• General History
  – Jaw claudication,
  – scalp tenderness,
  – weight loss, sweats, shoulder girdle pain

• Ophthalmic presentation
  – Sudden vision loss,
  – amaurosis fugax,
  – visual obscurations,
  – diplopia
TEMPORAL ARTERITIS

• Investigations
  – ESR, CRP, FBC, temporal artery biopsy

• Treatment
  – IV methylpred 1g for three days
  – High dose oral prednisone
ENDOPHTHALMITIS

- Inflammatory condition of the intraocular cavities.
- Typically caused by infection
- May be endogenous or exogenous
- “Tap and inject”
- SIGHT THREATENING
BLUNT TRAUMA

• Mild – moderate
  – “bruise” ocular tissues
  – Eye wall intact
• Moderate – severe
  – Rupture eye wall
  – Very severe consequences
BLUNT TRAUMA
BLUNT TRAUMA
BLUNT TRAUMA
BLUNT TRAUMA
BLUNT TRAUMA
BLUNT GLOBE RUPTURE
ORBITAL FRACTURES
ORBITAL FRACTURES
CORNEAL FOREIGN BODY
FOREIGN BODY
SUB TARSAL FOREIGN BODY
LACERATING TRAUMA
LACERATING TRAUMA
CHEMICAL BURNS

• SIGHT THREATENING
• Acid vs Alkali
IMMEDIATE AND COPIOUS IRRIGATION
LIFE THREATENING CONDITIONS
THIRD NERVE PALSY

LIFE THREATENING
THIRD NERVE PALSY

- Trochlear nerve [IV]
- Abducent nerve [VI]
- Internal carotid artery
- Oculomotor nerve [III]
- Pituitary gland
- Dura mater
- Diaphragma sellae
- Sphenoidal (paranasal) sinus
- Cavernous (venous) sinus
- Ophthalmic division of trigeminal nerve [V₁]
- Maxillary division of trigeminal nerve [V₂]

ORBITAL CELLULITIS

• LIFE THREATENING
• Proptosis
• Reduced ocular motility
• Chemosis
• Other symptoms
  – Fever
  – Malaise
  – Lid swelling
  – Redness
To see or not to see
that is the question: Quiz
Question 1: Happy labourer

• History

• 26 year old carpenter
• Hammering masonry nail
• Felt something bounce of eye (2pm)
• Foreign body sensation and red eye
• Black “spot” in temporal field
• Attends at 8pm for review
Question 1: Signs

OD: UAVA 6/6
OS: UAVA 6/5
Right eye red
Differential Diagnosis

1. Corneal foreign body
2. Penetrating eye injury
3. Subconjunctival haemorrhage
4. Traumatic macular haemorrhage
Differential Diagnosis

1. Corneal foreign body
2. **Penetrating eye injury**
3. Subconjunctival haemorrhage
4. Traumatic macular haemorrhage
Always suspect penetrating injury

- Hammer & nail
- Hammer and chisel
- Power tools

- **Management**
  - Urgent referral
Obvious foreign bodies
Question 2:
which is the most potent anti-inflammatory corticosteroid?

1. Betnesol 0.5% (betamethasone phosphate)
2. Predforte 1.0% (prednisone acetate)
3. Maxidex 0.1% (dexamethasone alcohol)
4. Predsol 0.5% (prednisone phosphate)
Question 2:
which is the most potent anti-inflammatory corticosteroid?

1. Betnesol 0.5% (betamethasone phosphate)

2. Predforte 1.0% (prednisone acetate)

3. Maxidex 0.1% (dexamethasone alcohol)

4. Predsol 0.5% (prednisone phosphate)
Question 3: male nurse red eye

- **History**
  - 24 year old charge nurse in urology
  - Overnight shift - struck in left eye by catheter wielding patient at 2am
  - Attends same day at 6pm with red eye
  - Watery discharge
  - Vision slightly “fuzzy”
Case 3: signs

- VAR – 6/6   VAL – 6/12
- Right eye white – left moderately red
- Minor discharge
Case 3
Acute Red Eye – differential

1. Conjunctivitis
2. Corneal abrasion
3. Keratitis
4. Uveitis
5. Acute angle closure crisis
6. Scleritis / episcleritis
7. Subconjunctival haemorrhage
8. Ocular Trauma
9. Herpes zoster ophthalmicus
Acute Red Eye – differential

1. Conjunctivitis
2. Corneal abrasion
3. **Keratitis**
4. Uveitis
5. Acute angle closure crisis
6. Scleritis / episcleritis
7. Subconjunctival haemorrhage
8. Ocular Trauma
9. Herpes zoster ophthalmicus
Look again: Michael Segal, photographer
Question 4: Saturday afternoon graft

History

- Attends optometrist 4pm on Saturday afternoon
- Corneal transplant six months earlier
- Advised 4 weeks ago graft healthy and should attend own optometrist for temporary spectacle correction
- Feels vision generally good,
- Eye has been a little gritty and minimally photophobic since graft, perhaps minimally more in last two weeks.
- Would like photosensitive lenses in new spectacles
- Still unhappy comes in for further opinion
Question 4: Signs

• Bilateral penetrating keratoplasties
  – OD 5 year ago, OS 6 months ago

• OD – 6/6 BSCVA (−2.00/-3.50 x 78)
• OS – 6/9 BSCVA (−1.25/-5.00 x 140)

• Both eyes minimally pink
Question 4: slit lamp signs
Question 4: Differential diagnosis

1. Bilateral dry eye with PEE
2. Adenovirus keratoconjunctivitis
3. Corneal allograft rejection
4. Topical drop toxicity
Question 4: Differential diagnosis

1. Bilateral dry eye with PEE
2. Adenovirus keratoconjunctivitis
3. Corneal allograft rejection
4. Topical drop toxicity
QUESTION 5:
bonus points - name those lesions

1. Kaye dots
2. Krachmer’s spots
3. Seilor’s spots
4. Mittendorf’s dots
QUESTION 5: bonus points - name those lesions

1. Kaye dots
2. **Krachmer’s spots**
3. Seilor’s spots
4. Mittendorf’s dots
End of Section 1
Question 6: chronic red, raised lumps

- 32 year old male
- Medial aspect of eye - red, raised lump
- Chronic redness & grittiness
- BSCVA 6/18 & 6/6
- POH – childhood squint
- GP Rx
  - Chloramphenicol
  - Fucithalmic
  - Dexamethasone
Question 6: chronic red, raised lumps

- 26 year old male
- Inner lower lid red, raised lump
- Chronic redness & grittiness
- BSCVA 6/6 & 6/6
- POH - nil
- GP Rx
  - Fucithalmic
  - Dexamethasone
Question 6: chronic red, raised lumps
common differential diagnosis

1. Severe nodular episcleritis
2. Conjunctival granuloma
3. Infective conjunctivitis
4. Ocular surface squamous neoplasia
Question 6: chronic red, raised lumps
common differential diagnosis

1. Severe nodular episcleritis

2. **Conjunctival granuloma**

3. Infective conjunctivitis

4. Ocular surface squamous neoplasia
Question 6: Pyogenic & Suture Granuloma

- Lesions typically follow conjunctival inflammation
- Often post surgery
- Granulation tissue
  - fibroblasts, capillaries & inflammatory cells
- No Granulomas
- May be associated with sutures
Question 7: Severe conjunctivitis
“\textit{It came on with a rash}”

- Three week history of “chest infection”
- Two week history of conjunctivitis
- Severe vesicular rash
Question 7: Severe conjunctivitis
“It came on with a rash”

Diagnosis

1. Measles conjunctivitis
2. Chickenpox conjunctivitis
3. Stevens-Johnson syndrome
4. Severe atopic conjunctivitis
Question 7: Severe conjunctivitis
“*It came on with a rash*”

**Diagnosis**

1. Measles conjunctivitis
2. Chickenpox conjunctivitis
3. **Stevens-Johnson syndrome**
4. Severe atopic conjunctivitis
Q 7 : Stevens Johnson Syndrome (Erythema multiforme major)

Topical or systemic drugs

– Sulfonamides
– Penicillin
– Aspirin

– Tropicamide
– Proparicaine
Question 8: Ancient Egyptian eyes
Question 8: Cleopatra

Which plant did Cleopatra use on Caesar?

1. Juniper berries
2. Foxglove extract
3. Belladonna extract
4. Acacia gum

The correct answer is 3. Belladonna extract.
The seer
Question 9 : a routine refraction?

HISTORY

• In a hurry to get new spectacles and get back on the road – chose optometry practice from the web-site whilst having a cappuccino and donut during regular pit-stop at the internet cafe

• 48 year old business man, low myope

• Overweight, Rx for hypertension, otherwise well

• notes problem driving at night over last 12 months, last saw optometrist 2 years ago
Question 9: signs

• On examination
  – Visual acuity 6/9 Right & Left with
  – Existing spectacles
  – Right –1.50D, Left –1.75D
  – Pinhole 6/5 each eye

• Optometrists Refraction today
  VAR 6/6 with –2.50/-0.25 x 80
  VAL 6/5 with –3.00D
Question 9: fundi
Question 9 : Cause of reduced VA

1. Non-pathological myopic progression
2. Diabetic maculopathy
3. Hypertensive retinopathy
4. Acquired lenticular myopic shift
Question 9: Cause of reduced VA

1. Non-pathological myopic progression
2. Diabetic maculopathy
3. Hypertensive retinopathy
4. **Acquired lenticular myopic shift**
End of section 2
Question 10: Painful red eye 6 weeks

- Keratoconic difficulty with RGP CL fit for 2 years
- Awoke to Sudden pain & redness
- Red eye
- Photophobic
- Watering
- Vision CF
Case 10: diagnosis

1. Bacterial Keratitis
2. Acute corneal hydrops
3. Acanthamoeba keratitis
4. Fuchs endothelial dystrophy
Question 10: diagnosis

1. Bacterial Keratitis
2. **Acute corneal hydrops**
3. Acanthamoeba keratitis
4. Fuchs endothelial dystrophy
When the going gets tough...
Bonus question: eye on the artist

1. Claude Monet
2. Rene Magritte
3. Edouard Manet
4. Henri Matisse
Au revoir  Rene
Question 11. Confused red eye

- 77 year old brought in by son
- Often confused and poorly oriented
- Red painful eye for 3 days
- Watery discharge
- Complains vision is blurred
- Rx g chloramphenicol QDS
Case 11: Signs

- VAR 6/12
- VAL 6/36
- Red eye
- Poorly cooperative
- Appears dehydrated
Case 11. Differential Diagnosis

1. Microbial keratitis
2. Acute closed angle glaucoma
3. Acute anterior uveitis/iritis
4. Adenoviral keratoconjunctivitis
Case 11. Differential Diagnosis

1. Microbial keratitis

2. **Acute closed angle glaucoma**

3. Acute anterior uveitis/iritis

4. Adenoviral keratoconjunctivitis
Eye of the beholder 1: 
Gerry Charm
Question 12: Whose Eyes?
Question 12: Whose Eyes?

WOLF

HIPPOPOTAMOUS

CROCODILE

TIGER

EAGLE

RABBIT
Question 13: what is this red lump on my eye?

- 25 year old male tour guide
- Chronic red eye for 3 months
- Raised "lump"
- Otherwise well
- BSCVA 6/4
Question 13: diagnosis

1. Kaposi’s sarcoma
2. Squamous cell carcinoma of conjunctiva
3. Conjunctival papilloma
4. Pseudo-pterygium
Question 13 : diagnosis

1. Kaposi’s sarcoma

2. Squamous cell carcinoma of conjunctiva

3. Conjunctival papilloma

4. Pseudo- pterygium
Question 13: Conjunctival papilloma

- Benign
- Multiple fibrovascular tissue cores with overlying epithelium
- Sessile or pedunculated
- Papilloma virus
- May be pre-malignant in older adults
A Texas term for a revolver. Its argument is always persuasive, and sometimes unanswerable.

—John Farmer’s Americanisms Old and New, 1889
Question 14: It became worse after my bowel operation

- 23 year old female
- Sectorial redness 4/52
- Gritty
- 6/5
- Crohn's disease
Which of the following statements is most true of episcleritis:

1. Usually self-limiting
2. Typically requires topical steroids
3. Frequently progresses to scleritis
4. Usually associated with systemic disease
Q 14: Episcleritis clinical features

Which of the following statements is most true of episcleritis:

1. **Usually self-limiting**
2. Typically requires topical steroids
3. Frequently progresses to scleritis
4. Usually associated with systemic disease
Question 15: I get terrible headaches when I study too hard!

- 31 year old Italian male registrar
- Studying for postgraduate medical degree
- Severe frontal headaches, from brow spreading back to occiput
- No visual phenomena but occasionally has to lie in dark when really severe
- Worse in the last 3 months
- Often worst at night
Question 15: signs

- **UAVA**
  - OD 6/9
  - OS 6/12

- **Refraction**
  - +2.50D
  - +3.00D

- **BSCVA**
  - 6/5
  - 6/5

- Eyes quiet and comfortable
Question 15: clinical signs
Question 15 : management

1. Urgent referral to Ophthalmologist
2. Routine referral to ophthalmologist
3. Referral to GP
4. Update spectacles and review
Question 15: management

1. Urgent referral to Ophthalmologist
2. Routine referral to ophthalmologist
3. Referral to GP
4. **Update spectacles and review**
Q 15: Diagnosis & management

• Normal or abnormal?
• Headaches with apparently swollen discs
• However, has uncorrected hyperopia
• Studying hard – near work +++
• Otherwise well
• Management – trial with correction, reassurance, no referral, but inform GP
"Since my corrective laser surgery, I have 20/20/20/20 vision."
Question 16: flying and the untoward effects of infra-red light

1. Narcissus
2. Icarus
3. Daedelus
4. Iapetus
Question 16: flying and the untoward effects of infra-red light

1. Narcissus
2. Icarus
3. Daedelus
4. Iapetus
Q 17 : My glasses hurt the side of my head

History
• 85 year old lady
• Rather frail looking, feels tired, otherwise well
• Notes that spectacles hurt right side of head when she puts them on and off
• Generally had a bit of a right sided headache for a few weeks
• Noted vision “blurred” for about 10 minutes, in one or other eye – cant remember which - last week
Question 17 : signs

• UAVA 6/12 OD, 6/7.5 OS
• Refraction +2.00D OD, +1.00D OS
• Pupil reactions normal
• Eye movements normal
• Gonioscopy – angles open
Question 17: Fundus
Question 17: referral

1. Urgent referral to Ophthalmologist
2. Routine referral to ophthalmologist
3. Referral to GP
4. Update spectacles and review
Question 17: referral
giant cell (temporal) arteritis

1. **Urgent referral to Ophthalmologist**
2. Routine referral to ophthalmologist
3. Referral to GP
4. Update spectacles and review
An emergency lunch
Question 18: bilateral acute painful red eye over 1 week

56 year old female
Rheumatoid arthritis
Onset over 2-3 days
No discharge
Pupils reactive
Pain keeping patient awake at night
BSCVA 6/6 and 6/5
Question 18: bilateral acute painful red eye over 1 week

Diagnosis?

1. Conjunctivitis
2. Anterior uveitis
3. Keratitis
4. Anterior scleritis
Question 19.
The news doesn’t look so good!

• 42 year old overweight female
• Recently noticed problems reading newsprint
• Distance vision fine - never had eye test for spectacles before
• Diagnosed with type II diabetes, 6 months ago - diet controlled
• Has mildly elevated blood pressure - takes ACE inhibitor
Question 19 : Signs

• VAR: 6/7.5    VAL: 6/6
• Rx: R: +1.50 / -0.50 x 100 6/5-
   L: +1.00 / -0.25 x 75  6/5-
• Reads N5 R & L with above Rx
• Gross examination: media clear and eyes white/quiet
Question 19: Ophthalmoscopy RE
1. Urgent referral to Ophthalmologist
2. Routine referral to ophthalmologist
3. Referral to GP
4. Update spectacles and review
Question 19: referral?

1. Urgent referral to Ophthalmologist
2. Routine referral to ophthalmologist
3. Referral to GP
4. **Update spectacles and review**
Q 19: Diagnosis & management

- Normal or abnormal?
- Symptoms of presbyopia
- However, has uncorrected hyperopia
- Systemic disease controlled
- Myelinated nerve fibres
- Management – reassurance, no referral, prescribe spectacles
End of Section 5
Question 20: My eye stings & waters when I wake up early in the morning

- 54 year old astrologer, daily wear SCL
- After driving from London to Glasgow noted a sudden stinging pain in right eye, pain and watering lasted about 30 minutes
- Since then has been awoken on about 7-8 occasions in the early hours of the morning over a three month period
- Sharp stabbing pain, watering, lasts about 5-20 minutes, only when awakening from sleep
Question 20: clinical signs

-3.00D OU SCL

VAR 6/5 VAL 6/5
Question 20: clinical signs
Q 20: Diagnosis & management

1. Sterile infiltrates
2. Map dot fingerprint dystrophy
3. Recurrent corneal erosion syndrome
4. CL related corneal flecks
Q 20: Diagnosis & management

1. Sterile infiltrates
2. **Map dot fingerprint dystrophy**
3. Recurrent corneal erosion syndrome
4. CL related corneal flecks
The Blind Girl
George Everett Millais
Question 21: who is the patron saint of oculists?
Question 29: who is the patron saint of oculists?

1. Saint Kylie
2. Saint Winifred
3. Saint Lucy
4. Saint Charlene
End of section 6
Final Bonus Question 22

Name the artist

1. Jackson Pollock
2. Claude Monet
3. Andy Warhol
4. Georges Seaurat
Thank you