

# 3- DD Red eye

RED EYE: DD

8:4:4:2

8 conjunctival diseases

4 Corneal diseases

4 Lid diseases

2 Anterior chamber diseases

Cause irritable red eye

Cause painful red eye

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Difference between red eye & red reflex

## Red eye OR Red reflex

Red Reflex



Red eye



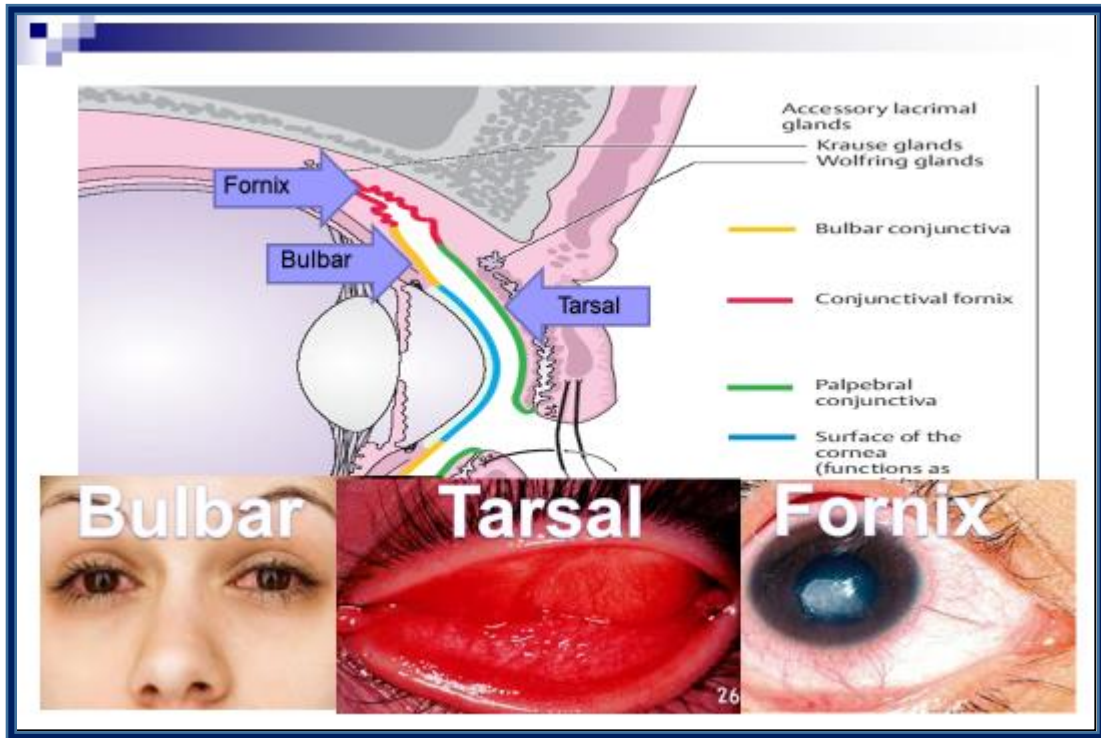
Difference between red eye & pink eye

## Pink eye or Red eye



Same thing

## Clinical anatomy



Differential diagnosis 8:4:4:2

## Red eye: Differential diagnosis 8:4:4:2

	8 Conjunctival/ sclera	4 Cornea	4 Lid	2 AC
Localized	Obscuring vessels (Subconj)	Abrasion	Stye	Uveitis
	Localized bulbar (Episcleritis)	Foreign Body	Chalazion	Angle Closure G
	Leash of vessels (Pterygium)	Peripheral keratitis	Preseptal cellulitis	
Generalized	Circumcorneal (Uveitis)	Central keratitis	Dacryocystitis	
	Fornix (Exudation/discharge)			
	Mainly palpebral (Infective)			
	Generalized swelling (allergic)			
	General redness (Dry eye)			

**Cause  
Irritable red eye**

**Cause painful red eye  
Except chalazion**

## 8 Conjunctival causes

### 08 Conjunctival patterns

Irritable red eye

Localized

1 subconjunctival hge

2 Scleritis/episcleritis

3 Pterygium

4 Uveitis

5 Allergic conjunctivitis

6 Dry eye

Generalized Bulbar

7 Palpebral Allergic conjunctivitis

8 Fomis Infective conjunctivitis

## 4 Corneal causes

### 4 Corneal patterns- All painful

1 Corneal abrasion

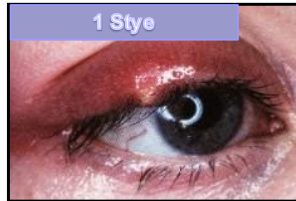
2 Corneal foreign body

3 Marginal ulcer

4 Corneal ulcer

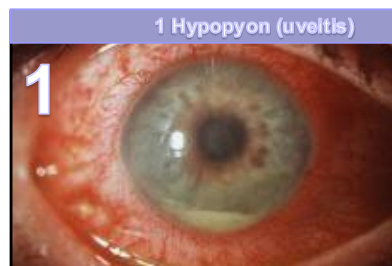
## 4 Lid causes

4 Lid patterns: All painful except chalazion



## 2 Anterior chamber causes

2 Anterior chamber patterns: Painful



# History taking: painful gritty red eye

## **Chief complaint:**

Pain or gritty eye but also ask about other symptoms

## **History of present illness:**

Points to emphasize on history:

Type of pain: Pain / Discomfort / Irritation

Severity of pain

Onset of pain: sudden or gradual

Relation of pain to work

Discomfort more in morning or evening

Unilateral / bilateral

Duration or repeated attacks

Associated loss of vision

Associated symptoms like nausea and vomiting

History of trauma

## **Past ocular history:**

Patient may have been treated for same condition before so it makes diagnosis easy. History of past eye operations or treatment should be taken.

## **General systemic history:**

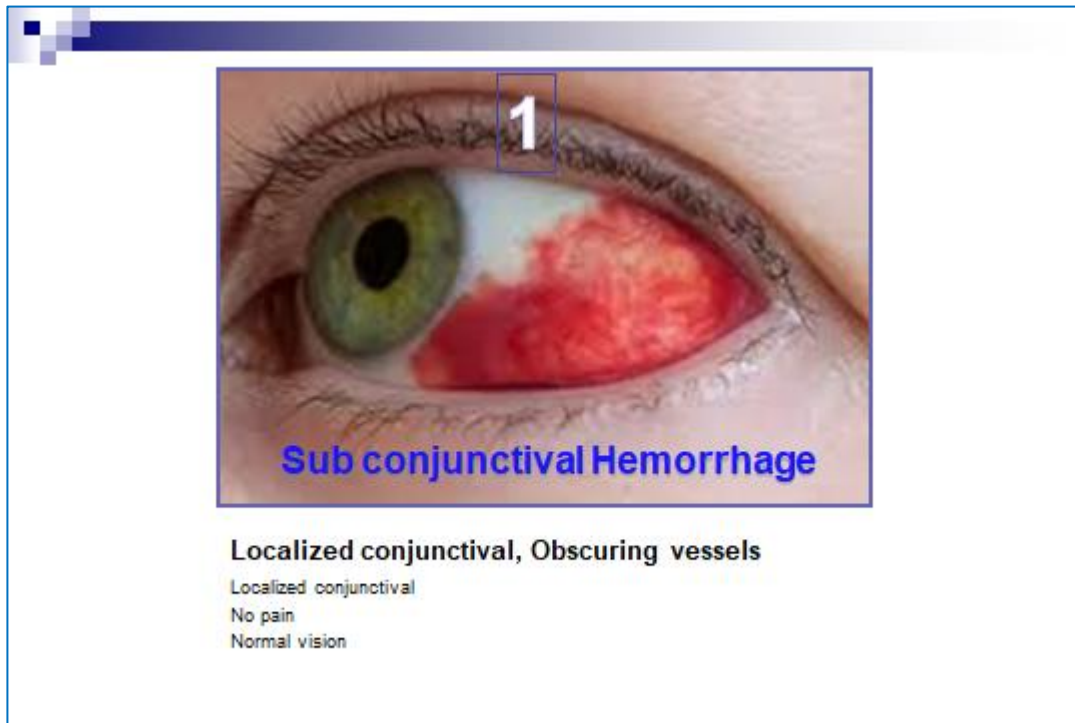
Certain systemic diseases are particularly associated with eye diseases. History of severity and duration of diabetes and hypertension are of prime importance.

## **Family history:**

Certain diseases like congenital cataract, refractive errors and macular diseases are inherited.

# OPD cases with explanation

**Case 1:** A 59 year old hypertensive lady woke up with red eye. There is no pain and vision is normal. On examination there is localized conjunctival redness with blood vessels not visible. What is diagnosis?



## Workup:



Redness is conjunctival and **localized** so could be one of three localized

- Subconjunctival hemorrhage: painless, sudden onset, normal vision, obscure vessels  
Patients may have heart problem/hypertension and on anti-clotting medication
- Episcleritis/scleritis: painful, sudden onset  
Patient may have arthritis or collagen diseases
- Pterygium: long history, painless, slowly progressing towards cornea  
Patient usually male and works outdoors in dry sandy areas

Since this swelling is sudden onset, painless and on examination redness is obscuring vessels so most this is possibly subconjunctival hemorrhage.

**Case 2:** A 29 years male suffering from arthritis complaining of redness and photophobia. On examination there is congestion with dilated blood vessels. What could be possible diagnosis.

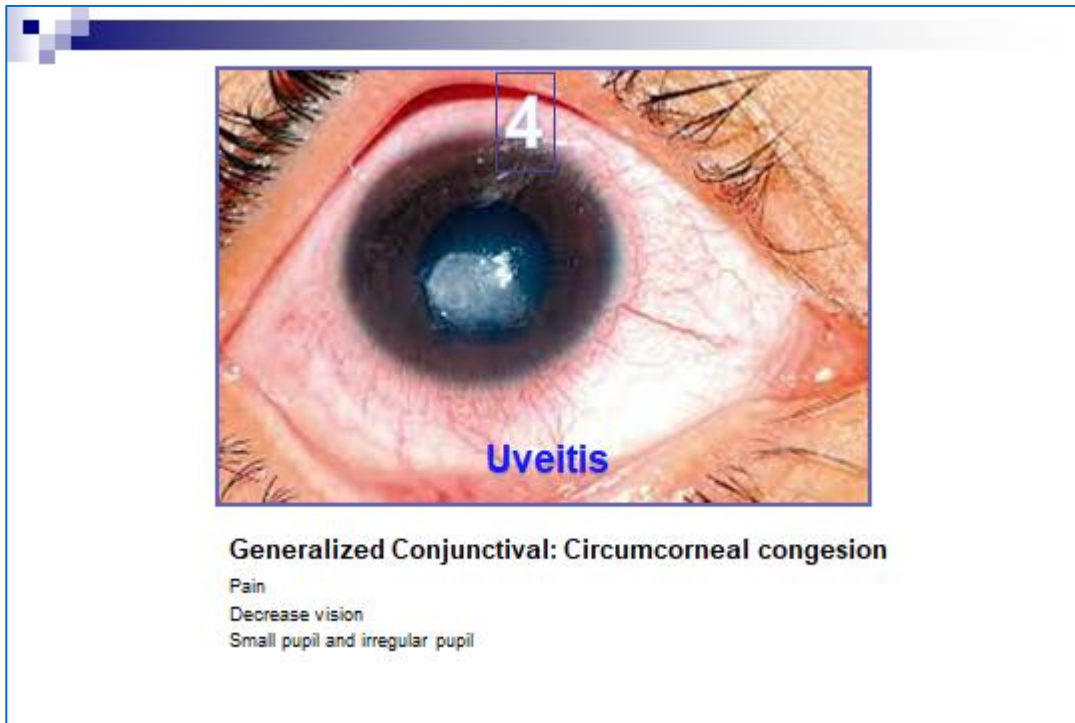


**Case 3:** A 40 year old male working in fields is complaining of swelling medially in left eye. Swelling is painful and at times causes irritation. He worried about possible damage to eye. What is diagnosis?





**Case 4:** 27 year young man complaining of difficulty with lights and pain in right eye. On examination there is swelling around cornea with cells and flare in anterior chamber. He had similar episodes in past. What will be your diagnosis.



**Workup:**



Redness is conjunctival and **generalized** so could be one of three

- Uveitis: Symptoms are photophobia, pain and decreased vision. On examination eye is red and congested around cornea, haze in anterior chamber with cells, flare, hypopyon, exudate in anterior chamber and posterior synechiae (adhesion of pupil to lens).
- Allergic conjunctivitis: Symptoms are watering and foreign body sensations. Both eyes affected and more members of family may be affected
- Infective conjunctivitis: Patient complains of foreign body sensation, pain and sticky eyes in morning. Both eyes affected. More congestion in fornix and discharge can be seen.

In this patient swelling is around cornea with typical symptoms of uveitis (photophobia, decrease vision) and typical signs like cells and flare in anterior chamber so diagnosis is uveitis.

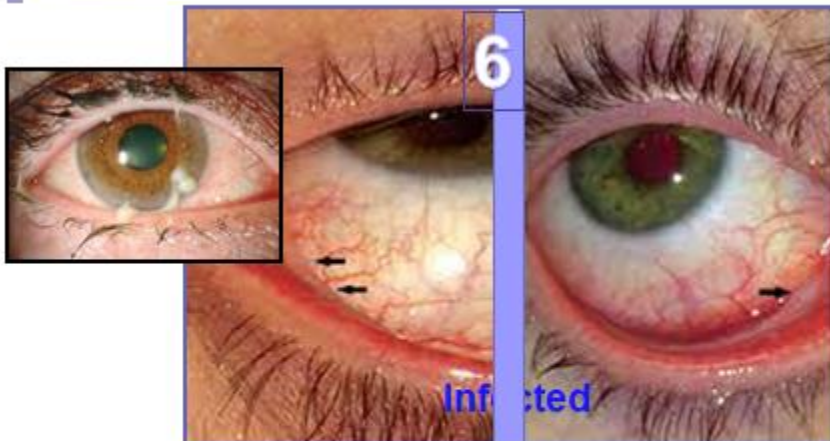
**Case 5:** A 22 year young man came to outpatients with watering and foreign body sensation in both eyes for two days. On examination both eyes have conjunctival swelling with **watery** discharge. What is your diagnosis.



**5th Conjunctival: General swelling**

Discomfort  
Normal vision  
watering

**Case 6:** A 37 year female is complaining of redness in right eye followed by left eye. Both eyes have **yellowish discharge** with eyes **sticky** in morning. What is your diagnosis?



**6th Conjunctival: Fornix**

Photophobia  
Normal vision  
Discharge

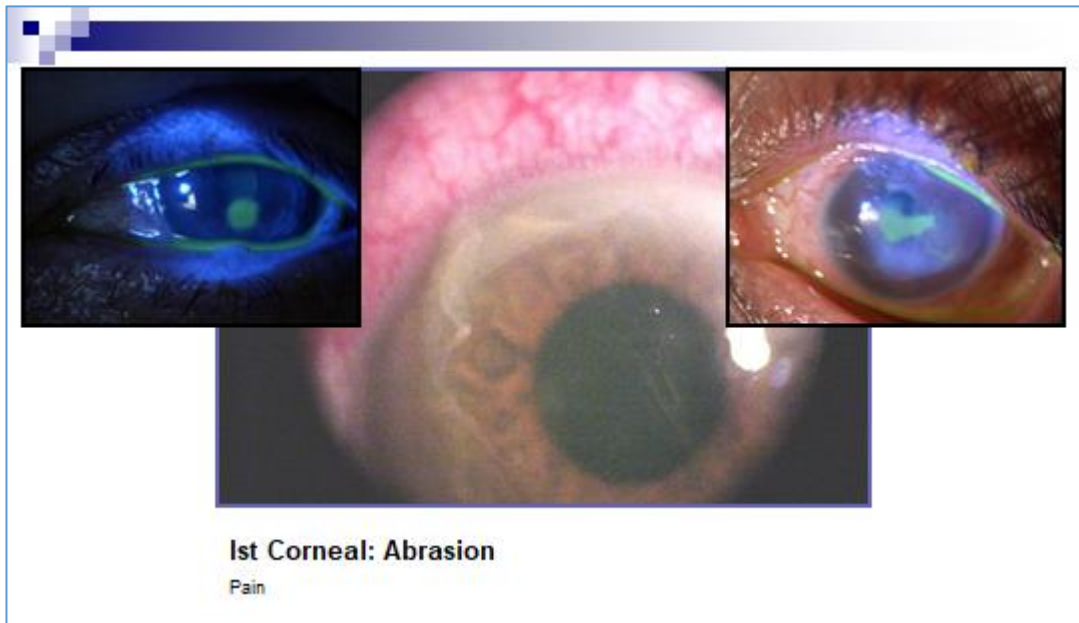
**Case 7:** A 7 year boy is complaining of irritable red eyes with difficulty in opening eyes. On examination **both palpebral** conjunctiva are red with watery discharge. He had similar complaints **in last summer**. What could be diagnosis.



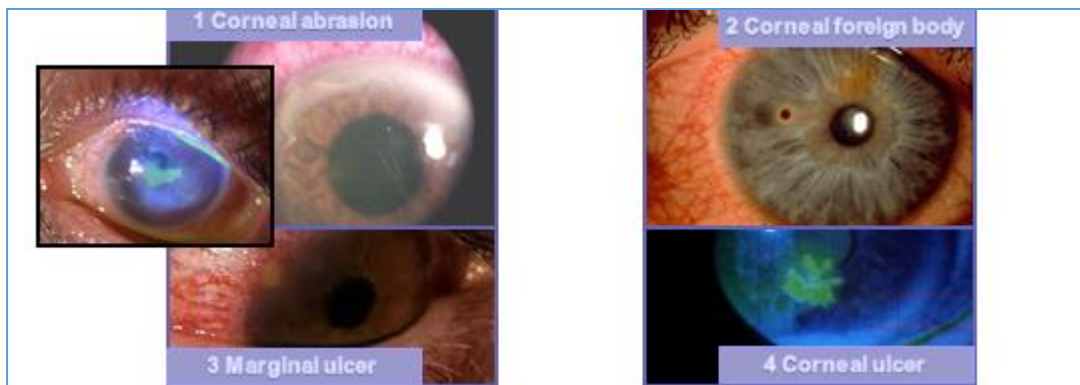
**Case 8:** A forty year old lady suffering from rheumatoid arthritis is complaining of irritation and foreign body sensation in both eyes. On examination bulbar conjunctiva is red with spots on cornea. What could be diagnosis?



**Case 9:** A young mother is complaining of severe pain in eye after her child accidentally poked her eye. On examination there is fluorescein staining area.



**Workup:**

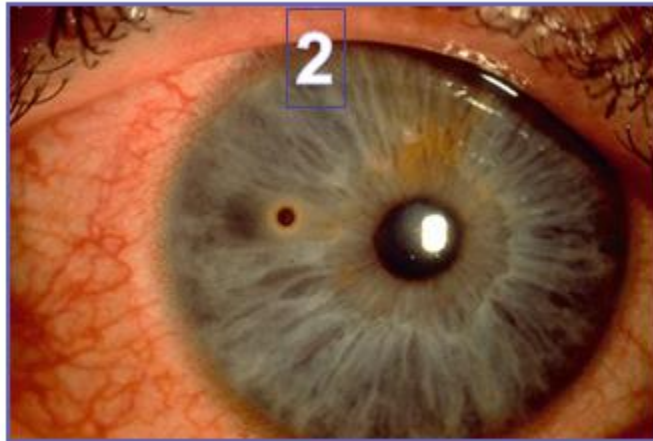


There is conjunctival redness with corneal involvement so it can be one of four corneal conditions.

- Corneal abrasion: In corneal abrasion there is history of trauma with severe pain. On examination there is corneal scratch with stains with fluorescein.
- Corneal foreign body: In Corneal foreign body there is history suggestive and on examination foreign body is visible along with conjunctival congestion
- Marginal keratitis: It is hypersensitivity reaction. In marginal ulcer there is pain and photophobia. Fluorescein staining ulcer is present which always close to limbus
- Corneal ulcer: In corneal ulcer there is pain and redness. Usually, whitish lesion on cornea which stains with fluorescein

This patient gives history of trauma with figure. She has severe pain and photophobia. On examination there is abraded cornea which stains with fluorescein so this case is corneal abrasion.

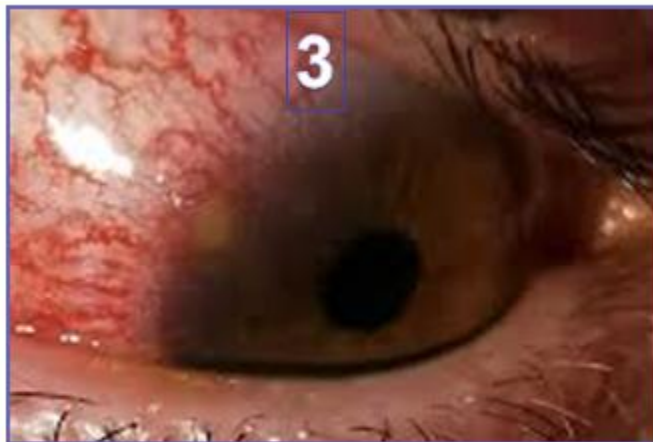
**Case 10:** A young manual worker complaining of pain in eye after doing grinding job. On examination eye is red with black spot on cornea. What could be this.



**2<sup>nd</sup> Corneal: FB**

Pain

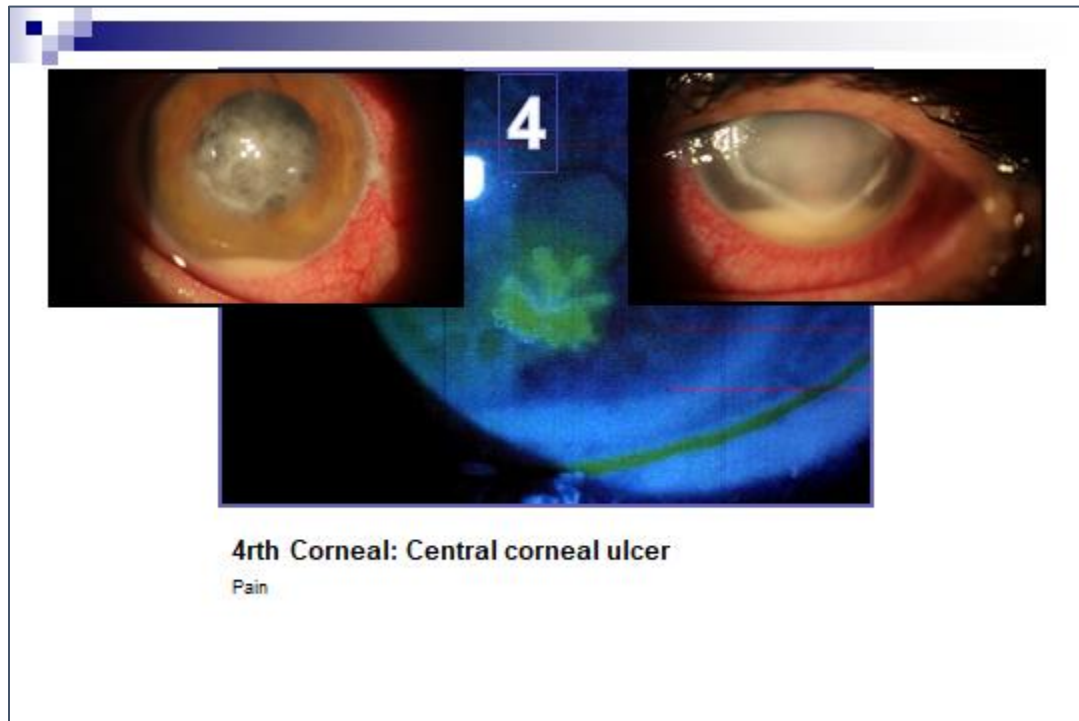
**Case 11:** A 17 year young boy is complaining of pain in eye along with photophobia. There is localized conjunctival congestion with no discharge. There is white spot on cornea close to limbus which stains with fluorescein. What could be this.



**3<sup>rd</sup> Corneal: Peripheral keratitis**

Pain

**Case 12:** An immune compromised patient is complaining of pin in eye for last 7 days. There is conjunctival congestion with white lesion on cornea. Corneal lesion is branching pattern and stains with fluorescein. What could be diagnosis.



**Important points to note:**

Most common cause of corneal ulcer is bacterial

If there is agriculture trauma then ulcer may be fungal

If there is contact lens history then ulcer may be acanthamoeba

If corneal ulcer is with yellowish sticky discharge in conjunctiva, then likely to be bacterial ulcer.

If ulcer has hypopyon then likely to be fungal though can be bacterial.

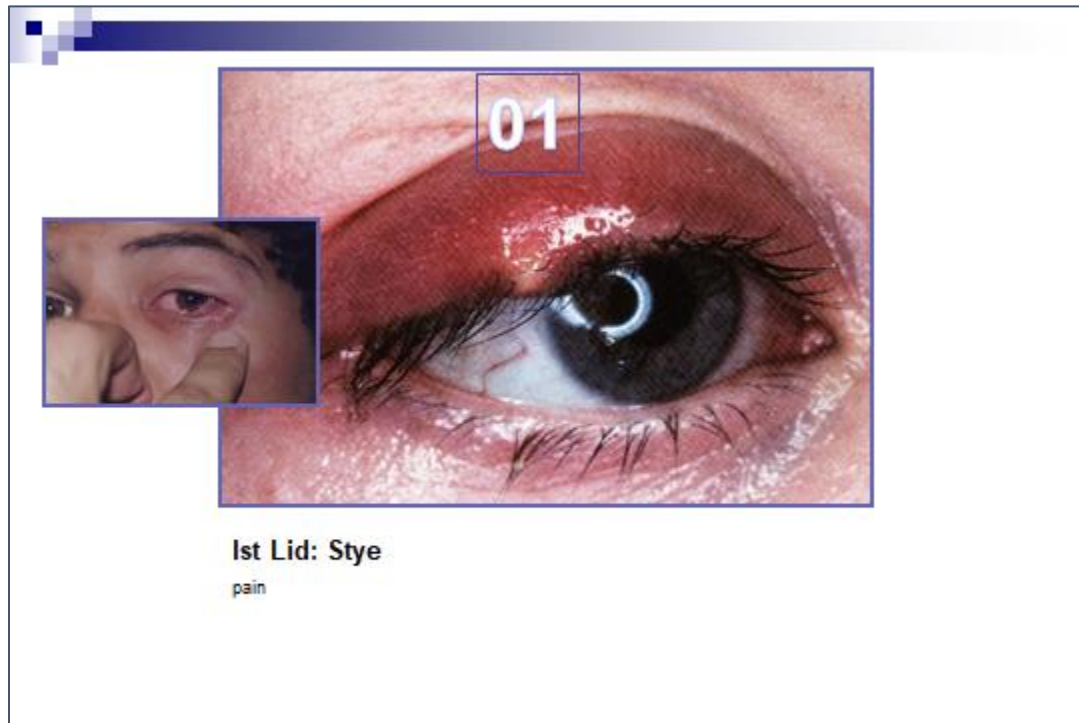
If ulcer has other characteristic of fungal ulcer as described in video handbook VHB 7.2

If ulcer has branching pattern, then it may be viral (dendritic ulcer)

The answer for case 12 is corneal ulcer.

For more details in above picture central big photo has branching pattern ulcer so this is dendritic ulcer which is viral. In two small photos there is hypopyon with satellite lesion and elevated edges which are features of fungal ulcer.

**Case 13:** A 29 year man is complaining of painful eye. On examination there is swelling at lid margin with whitish mark on it. Lid is painful to touch. What is diagnosis



**Workup:**



There is conjunctival congestion with lid lesion so it could be one of four lid conditions.

- Stye: If there is lid margin swelling with pain and redness then possibility is stye.
- Chalazion: If swelling slightly away from lid margin and painless then could be chalazion
- Preseptal cellulitis: If whole lid is swollen and swelling is tense and painful then possibility is preseptal cellulitis. Patient may have fever
- Acute dacryocystitis: If swelling is painful and on nose close to medial canthus then it could be acute dacryocystitis.

In above patient there is short history. Swelling is painful and at lid margin. So, this is stye.

**Case 14:** A young man is complaining of swelling in lid for last 2 months. There is no pain. On examination the swelling is not tender and away from lid margin. What is diagnosis



**Case 15:** A child is brought to outpatients with red swollen eye. Mother is also complaining of fever. On examination lids are painful to open and swelling is tense and painful to touch. What is diagnosis?





**Case 16:** A 75 year man is complaining of watery eye for last 3 year. For last 7 days there is swelling on nose close to eye. The swelling is painful with discharge when he presses the swelling. Diagnosis please.



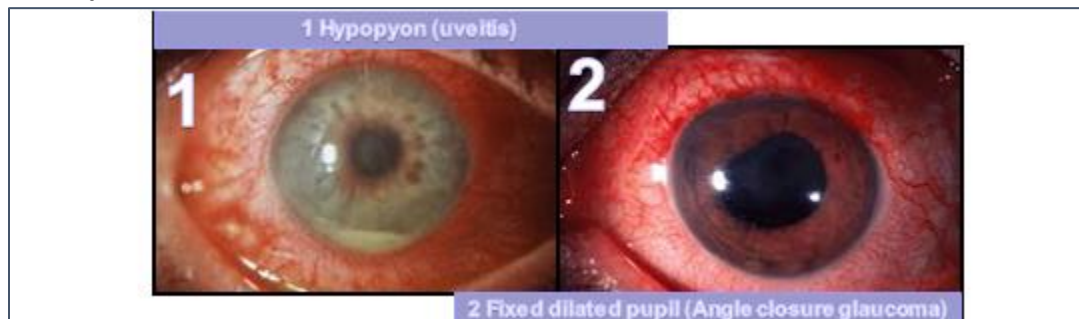
**4rth Lid: Dacrocystitis**

Painfull  
Normal vision

**Case 17:** A young patient has presented with photophobia, redness and decrease vision. On examination there is conjunctival congestion, cells, flare and hypopyon inn anterior chamber. What could be diagnosis?



**Workup:**

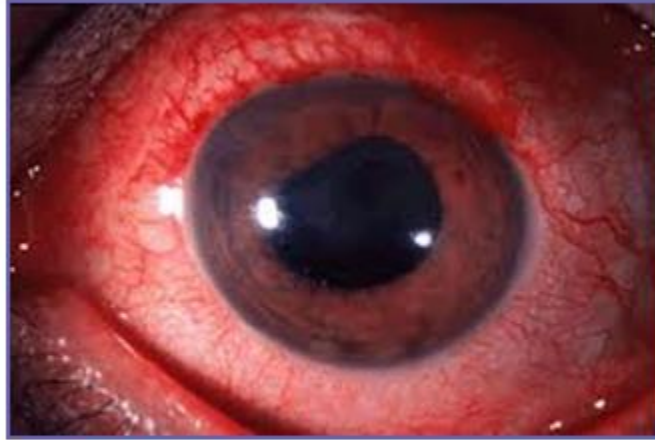


There is conjunctival congestion with hazy anterior chamber and pupil abnormality. This could be one of 2 conditions

- Anterior uveitis: In anterior uveitis there is conjunctival congestion which more prominent in perilimbal area. Because of inflammation there is reaction in anterior chamber. Inflammatory exudate may settle inferiorly in the form of hypopyon. Pupil may be irregular because of posterior synechiae.
- Angle closure glaucoma: Because of sudden increase in intra ocular pressure the is corneal edema which gives hazy look to anterior chamber. Eye is painful and hard to touch. Pupil may be fixed and mid dilated because of sudden ischemia.

In above patient there is conjunctival congestion with hypopyon so this is anterior uveitis.

**Case 18:** A 50 year old patient starts complaining of pain in eye on a winter evening. Pain is associated with nausea. On examination eye is hard to touch. Anterior chamber is shallow in both eyes. Affected eye has non-reacting mid dilated pupil. What is diagnosis?



**2<sup>nd</sup> AC: Angle closure glaucoma**

Pain  
Decrease vision  
Fixed dilated pupil