DO YOU WANT STEROIDS WITH THAT?

Bruce E. Onofrey, OD, RPh, FAAO

Professor, U. Houston

University Eye Institute

POSSIBLE ANSWERS:

- 1. = A- FOR ALWAYS INDICATED!
- 2. = B- YES, BUT ADJUNCTIVE TX – NOT PRIMARY TX
- 3. = C = CONTRAINDICATED IE NEVER!

RULE #1

- UNDERSTAND THAT ALL TREATMENTS HAVE SOME RISK
- KNOW RISK VS BENEFIT OF THERAPY
- ALWAYS EVALUATE PATIENTS FOR SIDE-EFFECTS AND ADVERSE EFFECTS OF THERAPY

RULE # 2

- YOU MUST HAVE A DIAGNOSIS BEFORE YOU TREAT
- TREATMENT IS EASY DIAGNOSIS IS TOUGH

RULE #3

- TREAT MECHANISMS, NOT NAMES.
- RECOGNIZE PRESENCE OF INFLAMMATION, INFECTION, TRAUMA. THEY CAN EXIST INDIVIDUALLY OR TOGETHER.

Mechanisms: Know the (6) I's

- INFECTION
- INFLAMMATION
- ISCHEMIA
- INJURY
- IDIOPATHIC
- IATROGENIC

STEROID PHARMACOLOGY

- INDICATIONS?

INFLAMMATION

- ADVERSE EFFECTS
- WARNINGS
- DOSAGES
- DOSAGE FORMS

INFLAMMATION -THE GOOD

- The Good

Destroy invading pathogens

Remove dead tissue

Replace damaged tissue with scar tissue-fibrosis

INFLAMMATION-THE BAD

- **The Bad**

  Primary inflammation or inflammation secondary to trauma, infection or autoimmune disorders must be controlled to minimize damage and loss of function ie corneal scarring

- **Always TX underlying cause of inflammation.**

STEROID PHARMACOLOGY

- Mechanism of action@@@@@

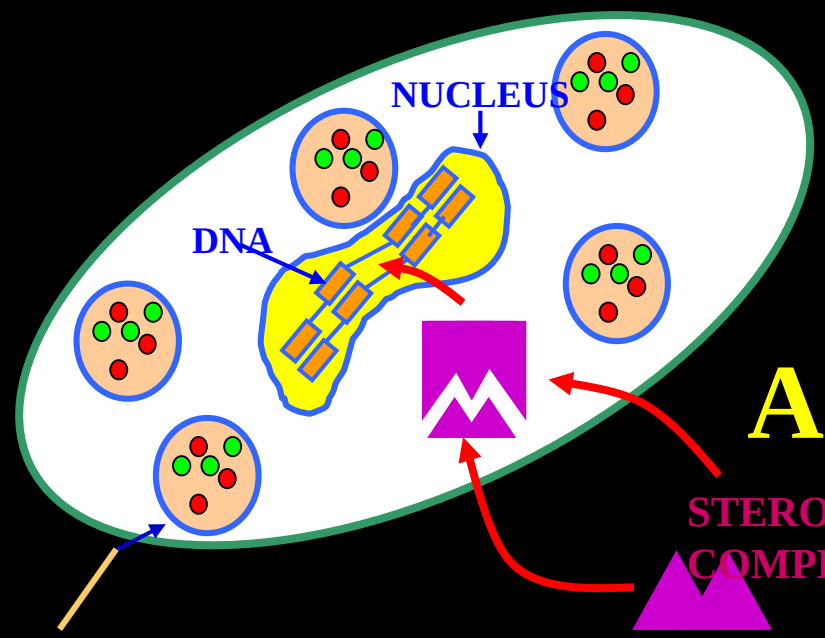
Inhibit EVERYTHING

The major cytokines:

leukotrienes and prostaglandins-

- Inhibit WBC migration
- Inhibit fibroblasts

Stabilization of the Mast Cell by Modulating Gene Expression*



* V.H.J. van der Velden, Carfax Publishing LTD, 1998

THE INFLAMMATORY CASCADE

Cellular phospholipid membrane

PHOSPHOLIPASE A

ARACHIDONIC ACID

CYCLOOXYGENASE

LIPOXYGENASE

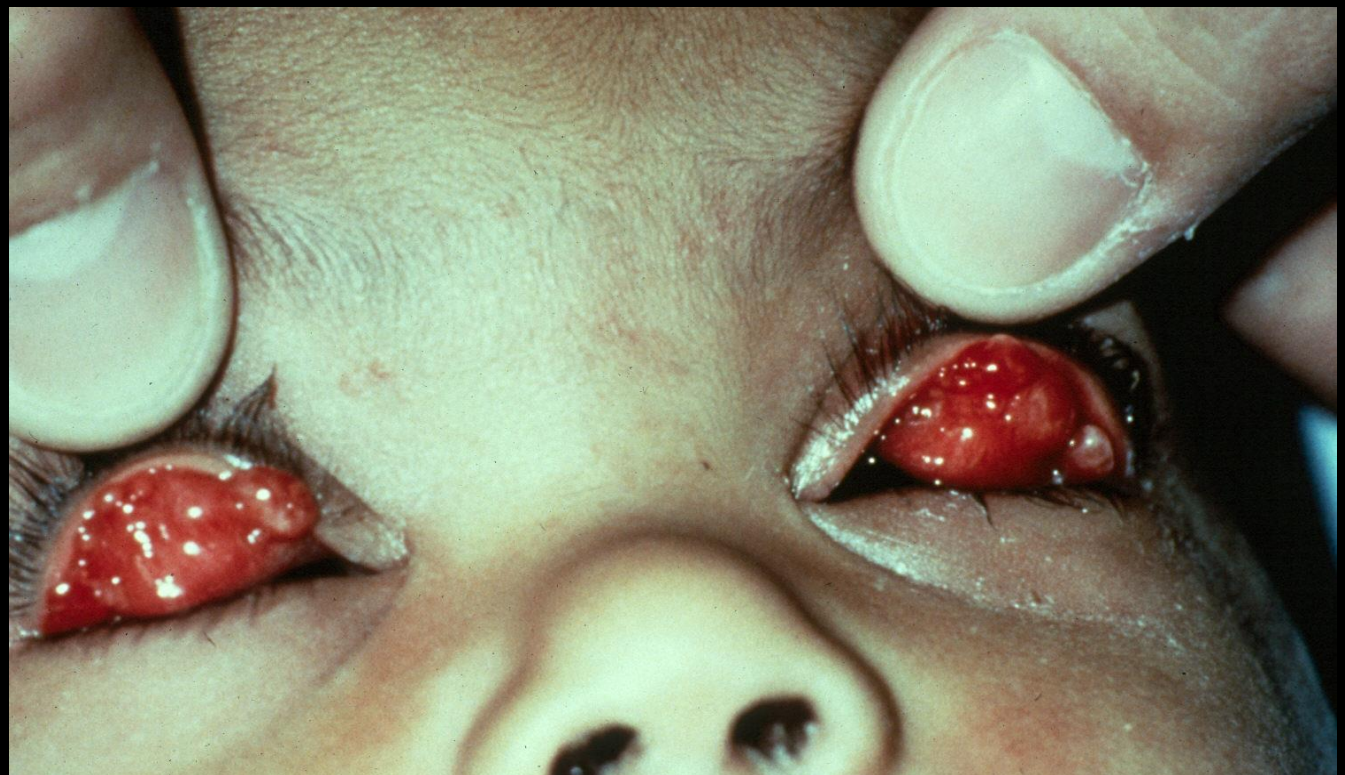
PROSTAGLANDINS

LEUKOTRIENES

REMEMBER :KNOW YOUR ABC's

- A: Always use
- B: use BUT with certain conditions and exceptions
- C: Contraindicated-Never use

Let’s start with a KWIK KASE
21 days old, bilateral conjunctivitis
DO YOU WANT STEROIDS WITH THAT?



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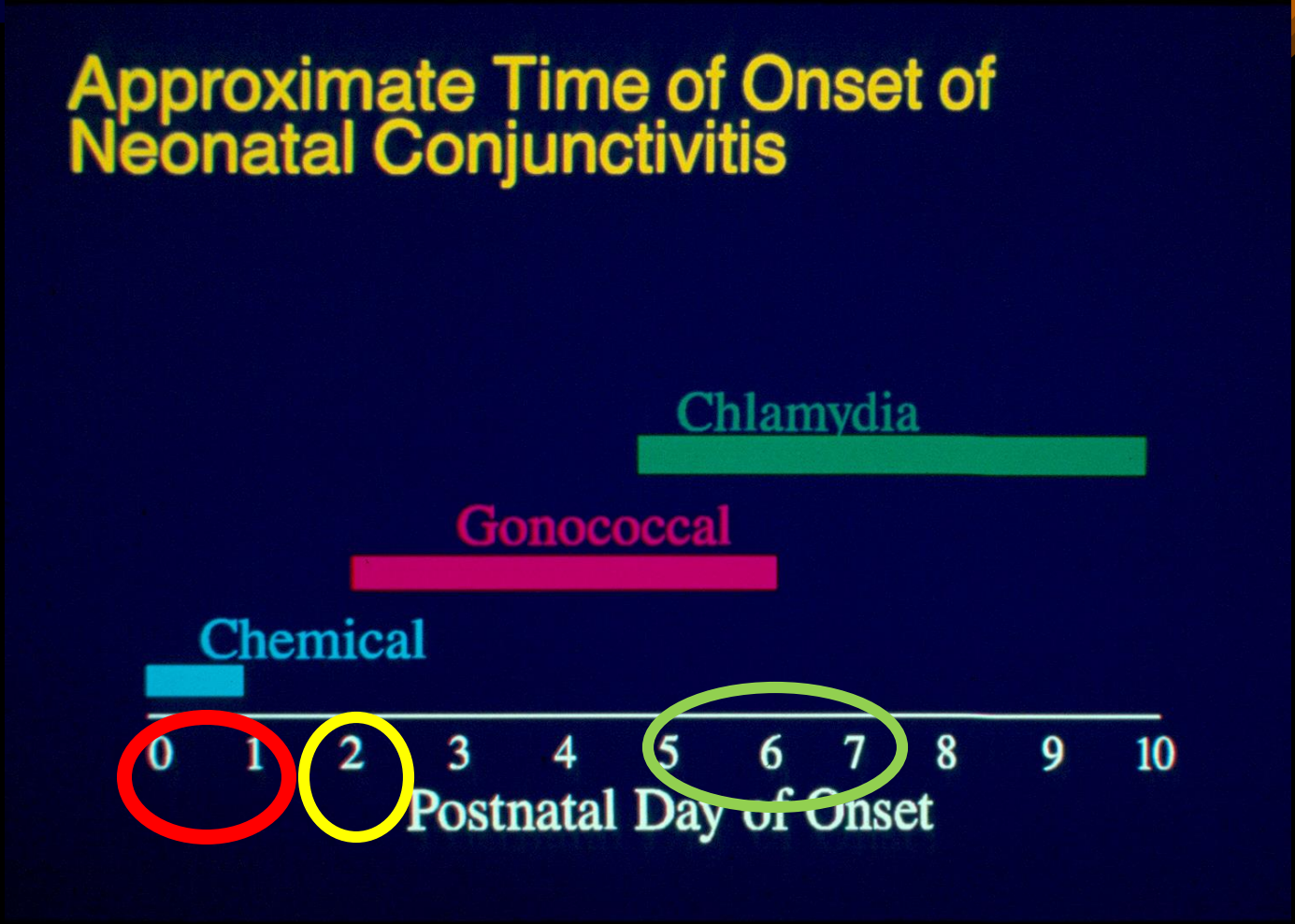
Epidemiology of Ophthalmia neonatorum
J. Clin and Exp Ophthalmology

- In the US:
- Chlamydia = 32% incidence =8.2/1000 births
- N. gonorrhea = 1-5%
- Prophylaxis: 10% silver nitrate (CREDE)
- Topical erythromycin/azithromycin
- Povidone iodine

Timeline of Diagnosis



Chalmydia Treatment

- Both topical and systemic
- Treat parents and friends also
- The family that gets treated together stays together
- Azasite topical
- Azithromycin (pediatric dose) 20mg/kg/day X 3 days vs erythromycin 50mg/kg/D (QID) X 14 D
- Adults: 1 gm X 1dose
- NO STEROIDS

15 Y/O female presents with mom-C/O red eye X 2 months
DO YOU WANT STEROIDS WITH THAT?

- Has seen one nurse practitioner
- Has seen Two Optometrists
- Tx with Ciloxan
- Tx with Tobradex
- Mom wonders why nobody can cure her daughter

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Epidemiology

- STD
- Women > Men
- 20% of acute conjunctivitis*
- Up to 32% of chronic conjunctivitis*
- 54% of men have (+) urethral culture*
- 74% of women have (+) cervical culture*
- Treat topically and systemically (+) partner(S)*

- *Epidemiology of gen. chlamydial infections in patients with chl. Conj., Genitourin. Med. 1996

Systemic therapy

Adult: 1 GM azithromycin PO

Pedes: < 16 over 100LBS = 500mg/D X 3 D

Pedes: < 100lbs 10mg/kg/D X 3 D

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IT'S COMPLICATED (controversial)

- VIRAL

EKC-Subepithelial infiltrates and pseudomembrane

Minimize loss of accessory lacrimal apparatus-OSD

DOES SELF-LIMITING DISEASE NEED TREATMENT?

- SELF-LIMITING DOES NOT MEAN HARMLESS
- INFECTIVE PROCESS IS THE SELF LIMITED FACTOR
- INFLAMMATION IS NOT
- TREAT TO PREVENT INFLAMMATORY DAMAGE

SELF-LIMITING DOESN'T MEAN HARMLESS

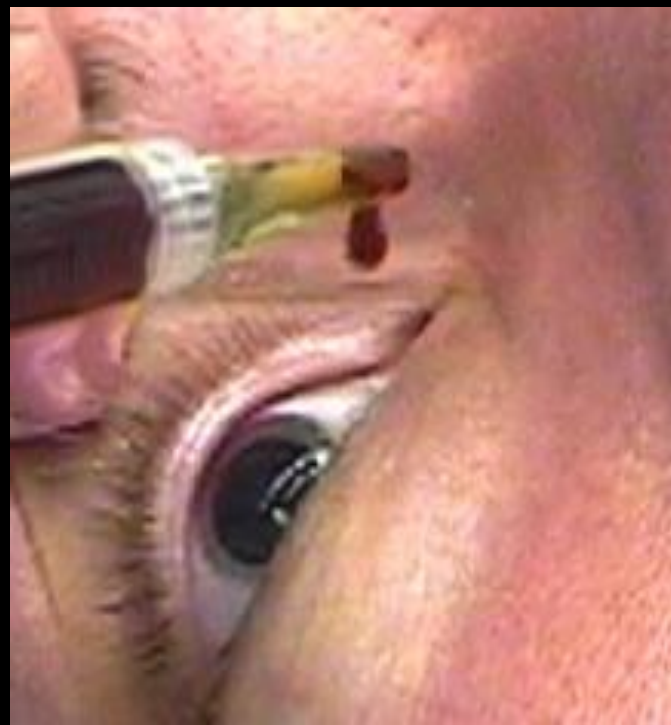
- FIRST-THE CONS:
- Steroids can prolong SEI's*
- Steroids increase viral shedding-contagion*
- The Pros: Reduce occurrence of SEI's and pseudomembranes*
- Infection = tissue damage = inflammation =loss of structure/function
- *Adenoviral conjunctivitis, ASCRS, cornea-Frances Mah, MD
- EKC a review of Mgt. j. optom.

CURATIVE TX options

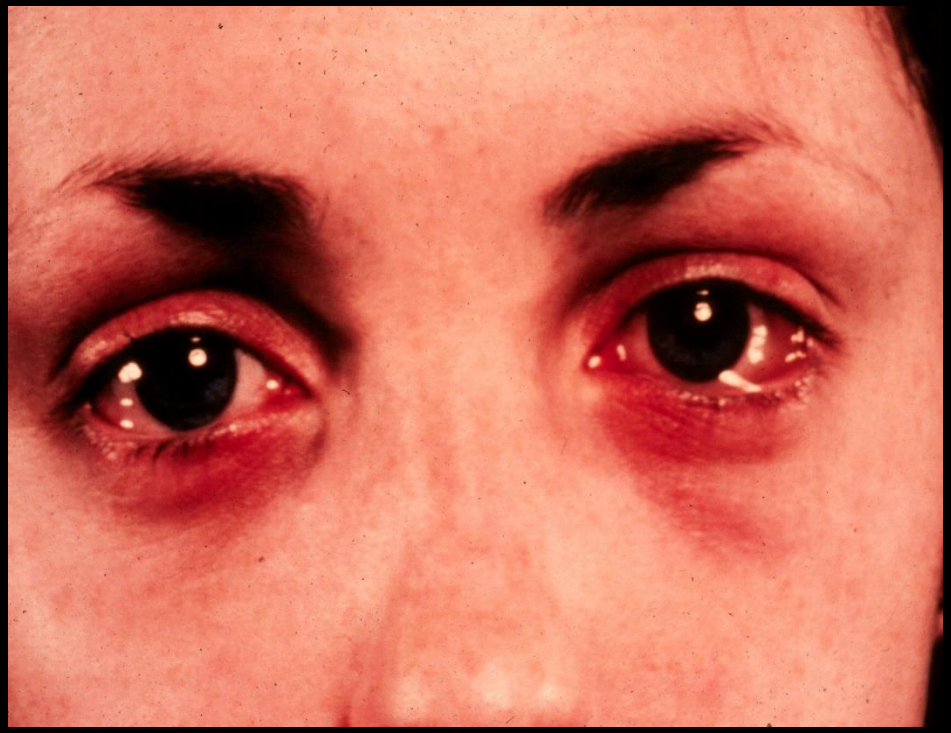
- Ganciclovir gel 0.15%, 5gm = $360.00
- Povidone iodine 5% = 1ml or 5ml per A national compounding pharmacy = $8.00
- Low dose povidone (+) 0.1% dexamethasone (in clinical trials)

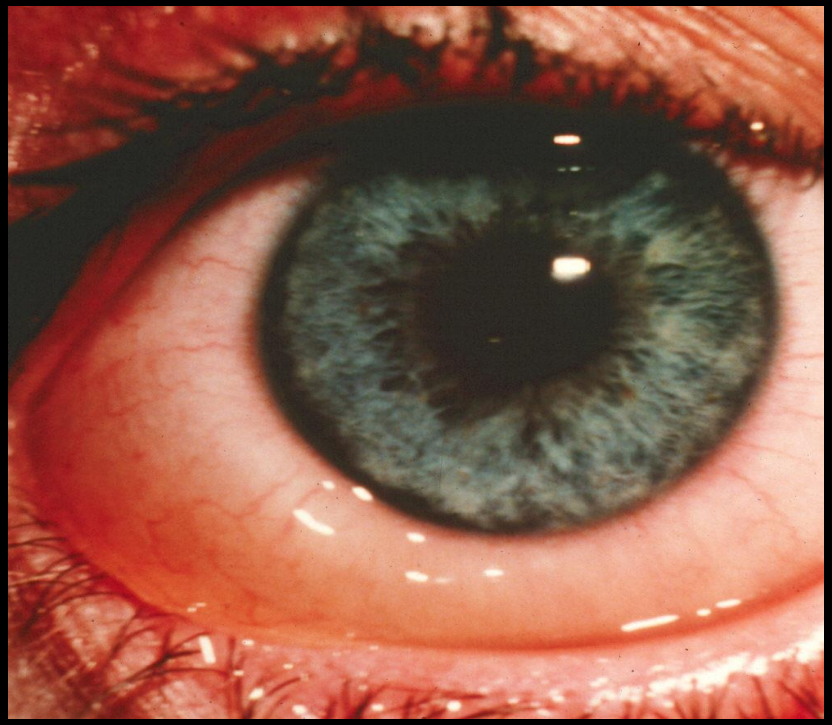
Is there a Cure for the Common Cold of the eye? NOT QUITE

- Spit and swish: Povidone 5% ophthalmic solution
- Don’t spare the steroids



Dr. my eyes itch like crazy, started after I met my boy friends cat





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Don’t forget long-term management

- *Cyclosporin A 0.05%-2%: ONLY 1-2% QID effective as mono-therapy-min 6 month TX

- **Cyclosporin A. 0.05% 8X daily with steroid

- * Cetinkaya A, Ccornea 2004
- **Kumar S, Clinical Exp Optom.

If There are Eosinophils, It Ain't Simple Allergic Conjunctivitis

- Eosinophils-Nasty little WBC's full of "ACID" (Major basic protein)
- Attracted by release of PAF (platelet activating factor) and ECF (Eosinophilic chemotactic factor)
- Produce permanent tissue changes seen in VKC and GPC

TRUE OR FALSE

- All GPC is treated the same?
- GPC is treated by it's severity?
- Doctors of Optometry are experts in grading GPC?
- WHY?
- Because we caused most of it……

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KID 1: GPC-grade the inflammation and be conservative with your adjectives

NO steroid

NO STEROIDS??

- Broad area of GPC, but minimal inflammation
- 1. Change to daily disposable lenses
- 2. 0.7% olopatadine drops BID OU
- 3. Review at 1 month- add 0.1% cyclosporine A BID prn

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Again, with that darn cyclosporine A

- Marked inflammation with mucous (4)
- FML 0.1% TID X 1 month with weekly taper
- At week 3 add 0.1% cyclosporine A QID X 2-4 weeks, then BID
- Resume CL wear with daily disposables after GPC reduced to acceptable levels and start olopatadine 0.7% BID prn

DO YOU WANT STEROIDS WITH THESE?

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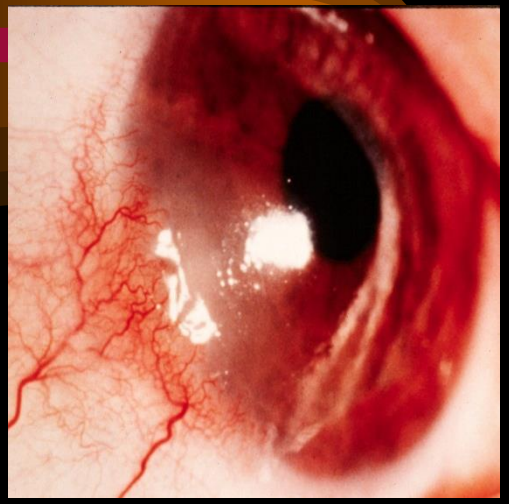
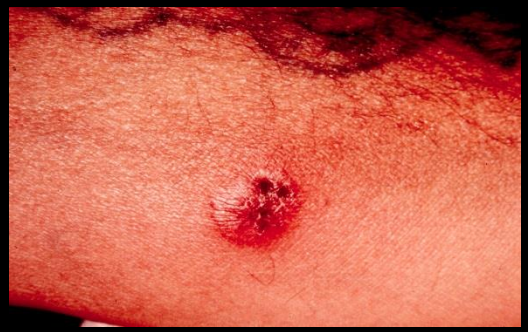
First: Phlyctenular disease

- Fluoromethalone 0.1% TID w/ slow taper
- Consider FQ if epithelial defect
- TX bleph (hold your horses)
- R/O TB if HX of exposure





Corneal ulcer Mgt.

Consider gram stain- C/S

Appropriate antibiotic TX

If sight threatening: Doxycycline 100mg BID*

Prednisolone acetate 1% after controlled (48-72H) per SCUT study exc Nocardia**

*Mah, Scoper, Donnenfeld, Mic. Trends following ref. Surg. JCRS 2012

**Srinivasan, et al, SCUT secondary study 12 mo. Am J Ophth.

A NEW USE FOR DOXYCYCLINE?

Doxycycline inhibition of interleukin-1 in the corneal epithelium.

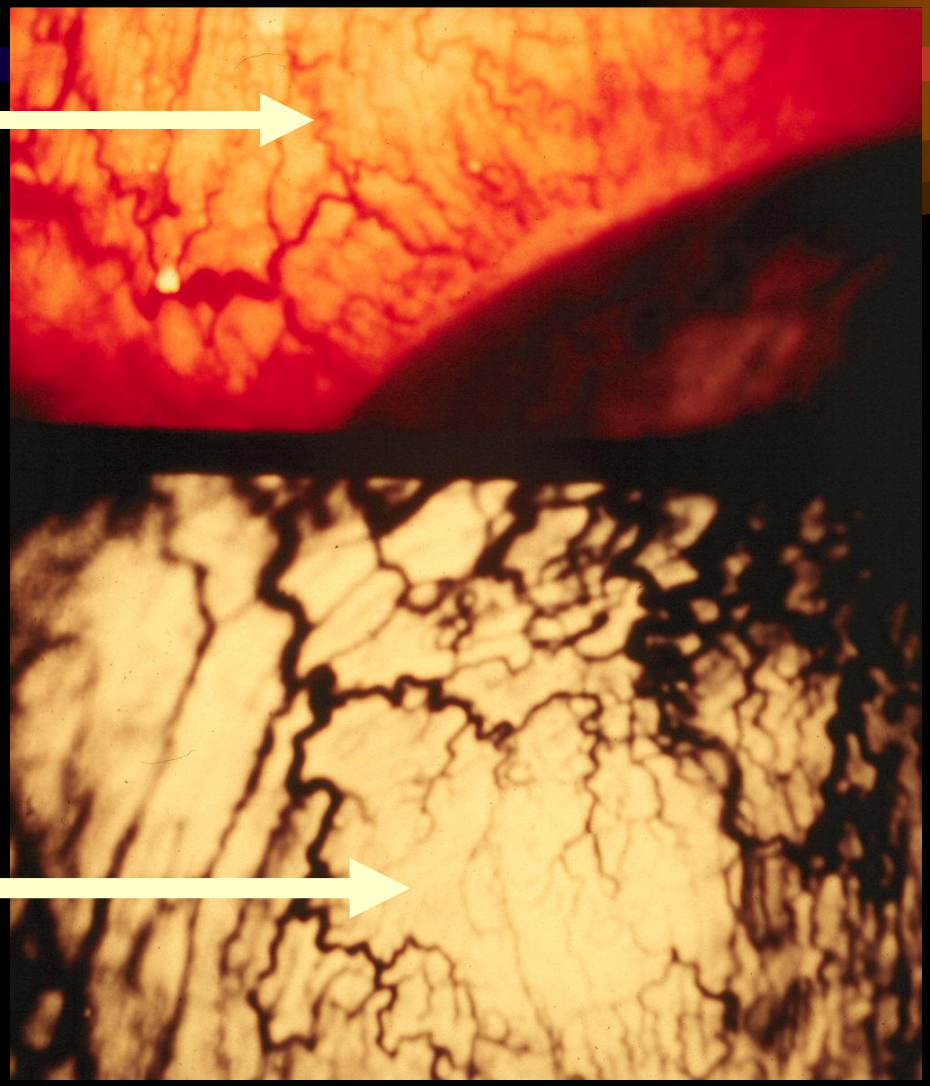
Solomon A, Rosenblatt M, Li DQ, Liu Z, Monroy D, Ji Z, Lokeshwar BL, Pflugfelder SC

Ocular Surface and Tear Center, Bascom Palmer Eye Institute, Department of Ophthalmology, University of Miami School of Medicine, Florida 33136, USA.

PURPOSE: To evaluate the effect of doxycycline on the regulation of interleukin (IL)-1 expression and activity in human cultured corneal epithelium. MP.

The observation that doxycycline was equally potent as a corticosteroid, combined with the relative absence of adverse effects, makes it a potent drug for a wide spectrum of ocular surface inflammatory diseases.

PAINFUL EYE, SECTORAL INJECTION RED WITH A WHITE CENTER, (+) RA



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CASE 2

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AUTOIMMUNE DISEASE

- Episcleritis
- Scleritis-Underlying systemic disease is common-generally avoid topical steroids
- 4 types of scleritis

Anterior diffuse

Anterior nodular

Necrotizing anterior-97% syst. Dis (Avoid topical steroids-scleral melting)@@@@@

Posterior

THANK YOU FOR YOUR HOSPITALITY