Do You Want Steroids with THAT?!

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Disclosure Statement:
Nothing to disclose
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NO DISCLOSURES
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?
- CONTRAINDICATIONS
- SIDE-EFFECTS
- 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 → PROSTAGLANDINS

CYCLOOXYGENASE

LIPIDXYGENASE

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?
DO YOU WANT STEROIDS WITH THAT?

1. ALWAYS

2. YES, BUT FIRST TX WITH........

3. CONTRAINDIATED
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
DO YOU WANT STEROIDS WITH THAT?

1. ALWAYS

2. YES, BUT FIRST TX WITH.......

3. CONTRAINDICATED
STEROIDS?
Am I GOING BLIND?
DO YOU WANT STEROIDS WITH THAT?

1. ALWAYS

2. YES, BUT FIRST TX WITH ......

3. CONTRAINDICATED
• VIRAL

EKC-Subepithelial infiltrates and pseudomembranes - minimize loss of accessory lacrimal apparatus
Dr. my eyes itch like crazy, started after I met my boy friends cat.
DO YOU WANT STEROIDS WITH THAT?

1. ALWAYS

2. YES, BUT FIRST TX WITH....... 

3. CONTRAINDIcATED
WOW-A CORNEAL ULCER
DO YOU WANT STEROIDS WITH THAT?

1. ALWAYS

2. YES, BUT FIRST TX WITH . . . . . .

3. CONTRAINDICATED
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
AKC- A PROSTAGLANDIN AND LEUKOTRIENE RESPONSES
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……
KID #1: BAD GPC

- Two identical twins
- Multiple drug allergies, asthma, and acne
- Non-disposable CL's
- ONLY THREE YEARS OLD - per mom
- Child abuse??
- Nice brown tint to CL's
- Same disease As 16th president

- What did they look like??
DO YOU WANT STEROIDS WITH THAT?

1. ALWAYS

2. YES, BUT FIRST TX WITH........

3. CONTRAINDIATED
DO YOU WANT STEROIDS WITH THAT?

• 1. ALWAYS

• 2. YES, BUT FIRST TX WITH.......

• 3. CONTRAINDIкатED
DO YOU WANT STEROIDS WITH THIS OR THAT?
DO YOU WANT STEROIDS WITH THESE?

1. ALWAYS

2. YES, BUT FIRST TX WITH...

3. CONTRAINDIANTED
A NEW USE FOR DOXYCYCLINE?

Doxycycline inhibition of interleukin-1 in the corneal epithelium.


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.
RESULTS: Doxycycline significantly decreased IL-1beta bioactivity in the supernatants from LPS-treated corneal epithelial cultures. These effects were comparable to those induced by the corticosteroid,

CONCLUSIONS: Doxycycline can suppress the steady state amounts of mRNA and protein of IL-beta and decrease the bioactivity of this major inflammatory cytokine. These data may partially explain the clinically observed anti-inflammatory properties of doxycycline. 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.
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.
BACTERIAL

- Staph can produce secondary corneal inflammatory disease
- Marginal ulcers/phleecnular disease
- Useful in bacterial corneal ulcer management?
DO YOU WANT STEROIDS WITH THAT?

CASE 2

• 1. ALWAYS

• 2. YES, BUT FIRST TX WITH......

• 3. CONTRAINDICATED
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
NSAIDS OF COURSE THEY’RE SAFER?

- Only anti-inflammatory in high doses
- Think RK good for -11.00 myope or LASIK
- GI ulceration
- Renal failure
- Congestive heart failure
- All diabetics/No No No No
- POOR anti-inflammatory effect
Steroids Are Safer?
You must be kidding

- Extremely effective anti-inflammatory effect
- Safe for short term use if..............
- No GI ulcer
- No psychotic
- No high BP
- No diabetes
DO YOU WANT STEROIDS WITH THAT?
STEROIDS? IF NOT, THEN WHAT?
FIRST: HEAL IT
Bandage CL
8.4 BC
Second: Keep it healed. Steroids and Dry Eye

- Recognized Inflammatory component to dry eye
- Risk VS Benefit
- “Jump start” Restasis TX
Topical nonpreserved methylprednisolone therapy for keratoconjunctivitis sicca in Sjogren syndrome.

Marsh P, Pflugfelder SC.

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

CONCLUSIONS: These findings indicate that topical nonpreserved methylprednisolone is an effective treatment option for patients suffering from severe keratoconjunctivitis sicca who continue to experience bothersome eye irritation despite maximum aqueous enhancement therapies. They also suggest that inflammation is a key pathogenic factor in this condition.
“Got poked with a stick”
DO YOU WANT A STEROID WITH THAT?
Fungal Keratitis: The Patient at Risk

- Hx of injury from organic material
- “scratched eye with tree branch”, then steroid treated with long term antibiotic/steroid combo
- Immunocompromised - Local vs systemic
- Diabetics/systemic disease
- HIV
- Chemotherapy
- Post-organ transplant
- Oral steroid user
Poked in the eye with a stick #2
DO YOU WANT A STEROID WITH THIS?
CL Overwear?
DO YOU WANT STEROIDS WITH THAT?
Epithelial herpes is associated with the (2) BIG “I”’s

- Inflammation and Infection
DO YOU WANT STEROIDS WITH THAT?

IOP = 62/ (+) 3 C AND F
Stromal H. simplex - A whole new ball game

- Mechanism is primarily inflammation
- Stromal infiltrates are the critical sign
- Balanced use of topical steroid (FML) with anti-viral cover
- Consider oral acyclovir at this point in time
DO YOU WANT STEROIDS WITH THAT?

THE REST OF THE STORY
THANK YOU FOR YOUR HOSPITALITY