Fun with HerpesManagement of Viral Eye Disease From A-Z:

HEDS 1, 2 and You

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QUESTIONS?? E-MAIL:

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The Simple Conjunctivitis Case

- **65 y/o female recently in LA to visit son**
- **Both developed red eyes**
- **Son told mom he has genital herpes**
- **and chlamydia**
- **Mother seen by local ophthalmologist**

Case : cont'd

- **Mom has Hx of trachoma as child and TB in remission. Worked in a TB ward- Was treated years ago**
- **Mom wears mono-vision CL on OS only. Disposable-wears X wears X 2 weeks. Last worn 9 days ago**

Case : Cont'd

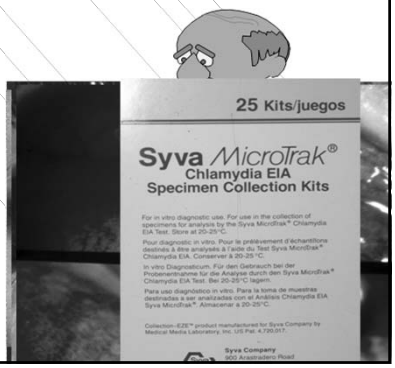
- **Eye now very painful and vision very bad**
- **Calif. Dr said the cornea was all "torn up"**
- **The doctor said the drops (milky white) he gave me would make it better right-away-it made it worse and I stopped it after a day**
- **I've been using the new drops daily (cipro) and taking the pills,(TC) but it's just getting worse every day**
- **Am I going blind?!?**

Viral conjunctivitis is the #1 Cause of ACUTE INFECTIOUS Conjunctivitis@@@

- **Adenovirus**
- **Enterovirus**
- **Herpes FAMILY of Viruses**
- **Miscellaneous**

Differential DX IS CRITICAL

- H. Simplex
- Allergy
- Vernal/atopic
- GPC
- Bacterial
- Chlamydial
- Molluscum
- Moraxella
- Medicamatosa



A IS FOR: Adenovirus Family@@@@

- DNA Viruses
- At least 35 different serotypes
- Type 8 Classic EKC
- Types 10, 13, 19, and 37 new EKC
- Pharyngoconjunctival fever (PCF) Type 3 and 7

Adenoviral Symptoms

- FB sensation
- Watering
- EKC-Photophobia and Pain
- Blurred vision
- PCF-Pharyngitis and pyrexia

Adenoviral Signs@@@@

- Follicular conjunctivitis-Variable most common in lower fornix
- Mild to moderate chemosis
- Lid swelling with mild ptosis
- "Watery" discharge
- Lymphadenopathy in 66%

EKC SIGNS

- Papillary response of upper tarsal conj.
- Subconj. Heme
- Pseudomembrane and conjunctival scarring-Severe form
- Subepithelial infiltrates-Severe form

Treatment

- Cool compresses and ASA
- Lubrication
- Decongestants
- Steroids (infiltrates, membranes, inflammation)@@@@
- Membrane removal
- Antibiotics??
- Cycloplegia??
- A Cure??

FML IS CHEAP, AND EFFECTIVE and safe?

- Rapid taper works well and is safe if your DX is correct

Loteprednol/ B & L
Alrex .2%
Lotemax .5%

- New "Soft" molecule technology@@@@
- High receptor affinity and rapid metabolism@@@@
- High efficacy
- "Reduced" steroid response
- No steroid cataract

HOW ABOUT A CURE

- Current topical antiviral agents (Viroptic) are not effective@@@@
- Povidone Iodine 5%: "Swish and spit!!"
- The ZIRGAN "cure"

E IS FOR: Enteroviruses

- EHC-Epidemic Hemorrhagic Conjunctivitis
- AHC_Acute hemorrhagic conjunctivitis
- Called Apollo 11 disease after outbreak in Africa from 1969-70
- Enterovirus type 70

EHC Symptoms

- Marked conjunctival hemorrhage
- Bilateral
- Follicular conjunctivitis
- MINIMAL SPK
- PA Nodes common

Herpes Family of Viruses

- Herpes simplex@@@@@@
- Herpes zoster
- Epstein Barr-Infectious mononucleosis
- CMV-Cytomegalovirus

Characteristics of Herpes Viruses

- Latency
- Recurrence

Herpes Simplex

- Type I Above waist-Trigeminal ganglia
- Type II below waist-most severe in eye infection-Saccral ganglia
- 50% reoccurrence within 2 years
- Multiple triggers
- 90% carry antibodies by age 10

Herpes Simplex

- Primary disease
- Recurrent disease
  - Conjunctivitis
  - Keratitis
- Stromal disease

Primary H. simplex

- Pre-auricular node common
- Vesicles
- Follicles
- Self-limiting disease- BUT-Treat aggressively to prevent recurrence

QUICK QUIZ

ANYONE THAT WOULD TX HERPES SIMPLEX OCULAR DISEASE WITH TOPICAL STEROIDS WOULD BE CLASSIFIED AS WHAT?

A. A GENIUS

B. A HERO

C. ONLY A PERSON WITH SBS WOULD USE STEROIDS ON HERPES SIMPLEX

Recurrent H. simplex

- Pre-auricular node rare
- Virus involves deeper tissues with each episode
- 50% get recurrence within 2 years
- Steroids will exacerbate infectious H. simplex disease
- Contra-indicated in purely infectious disease

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 antiviral TX at this point in time

Trifluorothymidine@@@

- THE drug of choice for topical management of Herpes simplex ocular disease.@@@@@
- Rapid absorption
- Toxicity occurs when used over 21 days
- Dosage-5-8X daily
- Viroptic 1%-7.5cc-Burroughs

A new TX for H. simplex: Ganciclovir

- Non VS SELECTIVE TOXICITY
- Same efficacy

Famvir Famcyclovir

- Third generation anti-viral medication
- Pro-drug
- Selective toxicity
- Excellent anti-herpetic activity
- Expensive, but cost-effective

The Bridesmaids

- Less potent
- More frequent dosing required
- longer TX period
- Not as proven in prevention of post-herpetic neuralgia

Anti-viral dosages

- SIMPLEX/ZOSTER
- Acyclovir: 400mg 5x/d / 800 5X/D
- Valacyclovir: 500mg TID / 1000mg TID
- Famcyclovir: 250mg TID / 500mg TID
- 125mg-250mg BID for prophylaxis

Reasons to TX H. simplex Orally@@@@

- Patient immuno-compromised
- Chronic oral immuno- suppressives
- HX of genital herpes
- Frequent recurrence of ocular disease
- Disciform disease with steroid tx
- Prophylaxis

The Herpetic Eye Disease Study 1 and 2 (HEDS I and II) and it's impact on the current TX of H. Simplex Eye Disease

HX of HEDS I and II

- Multicenter study of H. Simplex
- 1992-1996
- 5 separate study groups to evaluate benefits of H. simplex TX modalities and prevention benefits of oral antiviral therapies
- HEDS 1 TX studies (active disease)
- HEDS II Prevention studies (prophylaxis)

Major Benefit of Steroids

- Reduction in progression of infl. Keratitis risk =

68%

Learning point:

Addition of steroids in active infl. Keratitis reduces risk of progression

HEDS I – 2 Addition of Oral Acyclovir to steroid group with H. Simplex stromal keratitis

- N = 104, TX X 10 wks
- Patients with stromal keratitis and HX steroid use
- All TX with tapered dose of trifluridine and pred phosphate
- 400mg Acyclovir 5X/D VS placebo X 10 wks

Results

- TX failure:
- Acyclovir group 75%
- Placebo group 74%

Major Benefit of Acyclovir in TX of Stromal keratitis

- **NONE**
- **Learning point:**
- **Oral aycylovir does not hasten resolution of stromal keratitis in it's active form**

HEDS I – 3
Addition of Oral Acyclovir to H. simplex iridocyclitis patients

- **N = 50, TX X 10 wks**
- **Patients with iridocyclitis-minimal corneal signs**
- **All TX with tapered dose of trifluridine and pred phosphate**
- **400mg Acyclovir 5X/D VS placebo X 10 wks**

Results

- **TX failure:**
- **Acyclovir group 50%**
- **Placebo group 68%**

Major Benefit of Acyclovir in TX of Iridocyclitis

- **Marginal/ study group too small, but trend suggests some benefit**
- **Learning point:**
- **Oral aycylovir may be of benefit in active iridocyclitis**

HEDS II – 1-EKT
Addition of Oral Acyclovir to H. simplex EPITHELIAL Keratitis patients

- **Goal – 12 month review of prevention of stromal keratitis or iridocyclitis in acyclovir TX'ed H. simplex epith disease**
- **N = 287, TX X 3 wks**
- **Patients with iridocyclitis-minimal corneal signs**
- **All TX with tapered dose of trifluridine (8X/D)**
- **400mg Acyclovir 5X/D VS placebo X 3wks**

Results

- **1 yr occurrence of stromal keratitis /iridocyclitis:**
- **Acyclovir group 11%**
- **Placebo group 10%**

Major Benefit of Acyclovir in 1 yr prevention of infl. disease

- NONE
- Learning point:
- Oral aycylovir DOES NOT reduce risk of progression from epith. Form to infl. Form of H. Simplex

HEDS II –- 2 Oral Acyclovir to H. simplex patients without active disease

- Goal – 12 month review of prevention of recurrence of herpetic eye disease
- N = 703, TX X 1 year
- TX with 400mg acyclovir BID X 1 year VS placebo

Major Benefit of Acyclovir in 1 yr prevention of recurrence

- 45% reduction in risk in all forms of H. simplex
- 55% reduction in recurrence of stromal disease
- Learning point:
- Low dose oral aycylovir DOES reduce risk of recurrence of all forms of ocular H. simplex

Asbell rabbit study PRK IN H. simplex patients

- Oral valacyclovir reduces risk of recurrent H. simplex after eximer PRK
- Response is highly dose dependant
- 150mg/kg X 14 days 0% reactivation
- Debridmenent did not reactivate virus
- Eximer produced reactivation
- Pre-TX?? Better results??

Scoper study: OSD patients with frequent H. simplex

- Dry eye patients
- Thermal punctalplast
- Topical cyclosporin A
- 3 groups:
- Punctalplasy
- Acyclovir
- Both

Results

- Non-treated group: 6-7 months of disease/yr
- TX with EITHER thermal cautery or topical cyclosporin: 1.1 months/yr of active disease
- TX with both: 0.8 months/yr
- Learning point:
- OSD patients with H. simplex require aggressive management
- Topical cyclosporin A is safe and effective in H. simplex patients

Herpes Zoster

- **Commonly called "shingles"**
- **Lesions "HONOR" the mid-line**
- **Reoccurrence triggered by decreased immunity- MUST consider cause of reoccurrence**

Herpes Zoster-Varicella

- **Most common in immunocompromised patients (possible early sign of ARC or AIDS)**

Herpes Zoster-Varicella

- **Ocular manifestations include conjunctivitis, keratitis, episcleritis, uveitis, cranial nerve palsies, optic neuritits, and retinitis**
- **Ocular manifestations occur 4-6 days after skin vesicles erupt**
- **Conjunctivitis most common presentation**

Who gets Post-herpetic Neuralgia

- **Immunocompromised folk**
- **Those over 50@@@@**
- **Best treatment is prophylactic TX**

Manage Potential Post-herpetic Neuralgia

- **Oral acyclovir 800mg 5X daily**
- **Valacyclovir 1000mg TID**
- **Famcyclovir 500mg TID**
- **Zostrix creme 3-4 times daily**
- **Low dose tricyclic antidepressant- amitryptyline 10mg @ HS**
- **Gabapentin (Neurontin)**

THE END

Many Thanks