

## IN THE MEDALS: MY FAVOURITE CASES

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No matter what side of the pond you live on, or what the laws are, the rules are the same...

- ✓ Be observant and curious
- ✓ Never panic
- ✓ Don't be afraid to tackle new things
- ✓ Always explain VA loss less than 20/20 or have a plan to do so

### Rule 1: Be Observant!

### Rule 2: Don't Panic!

- ❖ **Even if others before you missed the dx doesn't mean you will**
- ❖ **Calmly assess the eye, one medical finding at a time**

### Rule 3: Don't Be Afraid to Tackle New Things

**Glaucoma is an area of untapped potential for optometrists!**

**Lacrimal procedures**

**If you are referring, always ask "what are they going to do that I cannot"**

### Rule 4: Explain VA not 20/20

### Let's Get Started with the Cases!

- On each case, compare and contrast how OD's in England and United states would handle the case

### The Case of the Poppin' Fresh Papilloma

- 38 WM
- Hx of a chalazion removed from LLL a year ago
- For three weeks has noticed that when he presses on his lower lid, .....

Don't forget to evert those lids, upper AND lower!

### What do you call this thing?

1. Squamous cell carcinoma
2. Kaposi's sarcoma
3. Capillary hemangioma
4. Papilloma
5. Pyogenic granuloma

- Variant of capillary hemangioma
- Usually follows trauma or develops over inflammatory lesion like a chalazion
- A localized form of granulation tissue composed of proliferating capillaries and endothelial cells

### Management

- Steroids
- Surgery

### Take Home Point

- Watch out for pyogenic granulomas

### The Case of the Sticky Situation

- 53 WF
- Itchy eyes for a few days
- Reaches into the bathroom closet for an “allergy drop”

### What to do?

1. Calmly assess prior to punting
2. Use force to pry lids open
3. If #2 does not work, use more
4. Use acetone to open lid
5. Warm soaks for three days, then see patient back

### Take Home Point

- Don't be afraid to remove superglue from the eye and lids

### Leukocoria?

- 47 BF
- s/p IOL's OS for milky NS
- Can't afford Zymaxid so replaced with Ciloxan
- 1 day visit 20/20
- 1 week visit 20/40
  - OD notes an abrasion, ups dose of ciloxan
- 1 month visit 20/400

### Microbial Keratitis (MK)

- **Definition:** An *infection* of the cornea by microbes characterized by excavation of the epithelium, Bowman's layer, and stroma with infiltration and necrosis of the tissue.

## Differential Diagnosis

- Definitions:
  - **Ulceration:** A local defect or excavation of the surface of an organ or tissue which is produced by the sloughing of inflammatory necrotic tissue
  - **Infiltration:** The diffusion or accumulation in a tissue or cells of substances not normal to it or in amounts in excess of normal

Differential Diagnosis of Corneal Conditions , Joseph P. Shovlin, OD, FFAO

## Ulcers....may need something more than

- Zymaxid
- Moxeza
- Besivance

## 28 yo WM Smoker Silicone Hydrogels with 5 day EW

- Fortified Vancomycin 25 mg/ml and Tobramycin 14 mg/ml
- Add a steroid within a few days

## Take Home Point

- Use the fourth generation fluoroquinolones!
- Be ready to "spread the joy" on nasty ulcers

## The Case of the Bump in the Road

- 8 yo WF in for routine exam
- VA 20/20
- Slit lamp exam reveals iris elevation temporally OD

- Pupil shape normal
- Gonioscopy normal except for elevation
- Dilated exam using 4 mirror lens: difficult to see anything

### Question:

- A patient with these clinical findings *most likely* has a(n):
  1. Iris cyst
  2. Iris melanoma
  3. Ciliary body melanoma
  4. Anatomical variant

- Differential Diagnosis:  
cyst vs. ciliary body melanoma
- DX: Iris cyst

Benign iris

### Take Home Point

- Take iris bumps seriously and rule out malignancies

### The Creepy Dude

- 24 WM
- “My right eye has been swollen for 5 days”
- Best friend had pink eye lasting 7 days

- Sent by OD for oral antibiotic for “preseptal cellulitis”

- VA 20/40 best with infiltrates
- Huge node on r side
- 4+ follicles and sub-conjunctival hems

### Dx:

- EKC
- Swollen lids can be a hallmark
- Red eye and node distinguish this from a preseptal

### New Dx and Tx??

Adenodetector?  
Betadine?

### Until definitive studies are done...

I prefer a clinical assessment and  
Pred Forte.....or  
Zirgan? Clinical studies to come....  
Tincture of Time and education

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**Ganciclovir 0.15 % Gel** a new treatment of epidemic kerato conjunctivitis (EKC).

Ph. Vérin, B. Mortemousque, D. Barach,  
K. Chraïbi-Hasseimi, N. Dorot - Bordeaux, France

**Purpose** : Despite significant knowledge of adenovirus, no specific antiviral agent has been developed for use in external ocular infection. This contrasts with situation in herpes simplex virus. We intend to use a specific antiviral adgent for treatment in EKC. Ganciclovir 0.15 % Gel was chosen for its in vitro activity against adenovirus.

**Methods** : 36 patients beginning an acute EKC were treated QID with Ganciclovir 0.15 % Gel. All eyes were culture positive on 1-3 days.

**Results** : ocular discomfort was alleviated in one week. No keratitis developed in any patient with this type 8 infection.

**Conclusion** : Ganciclovir 0.15 % Gel showed antiviral activity against this adenovirus serotype blocking the DNA polymerase enzyme. Ganciclovir 0.15 % Gel must be prescribed as soon as possible. It does not blurr vision owing to its water miscible property.

### Take Home Points

- EKC can cause significant lid swelling and lead you away from the correct diagnosis
- Zirgan may have a place in therapy
- Betadine overrated in my opinion, no real clinical data yet

## Doctor Heal Thyself

- 61 WM Optometrist
- Red OS x 8 days
- Was traveling and saw no one
- Self medicated with Tobradex
- Caused plant to grow out of his left ear

## Caution!

- What looks like a delicate dendrite can turn into a large ghost dendrite and scar
- Be careful of visual axis lesions!
- May want to get corneal specialist involved

## ZIRGAN® (US) VIRGAN (UK) Indication and Usage

ZIRGAN® is a topical ophthalmic antiviral that is indicated for the treatment of acute herpetic keratitis (dendritic ulcers).

### Important Risk Information for ZIRGAN®

ZIRGAN® is indicated for topical ophthalmic use only. Patients should not wear contact lenses if they have signs or symptoms of herpetic keratitis or during the course of therapy with ZIRGAN®. Most common adverse reactions reported in patients were blurred vision (60%), eye irritation (20%), punctate keratitis (5%), and conjunctival hyperemia (5%).

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## ZIRGAN® Approved with an Orphan Drug Designation

- Under the Orphan Drug Act, the FDA designates a drug product as an "Orphan Product" if the disease or condition for which the drug is used affects less than 200,000 people in the US
- Orphan Drug Designation in the US was granted to ZIRGAN® on March 22, 2007 for the treatment of acute herpetic keratitis
- ZIRGAN® FDA approved for sale on Sept 15, 2009...Bausch & Lomb purchased the U.S. rights from Sirion
- Shipments to pharmacies began in Q2 2010

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## ZIRGAN™ (ganciclovir ophthalmic gel) 0.15%

- **Product Specifications**
- Polyfoil 5 gram tube with dropper fitting
- Gel formulation (carbomer- based vehicle)
- pH = 7.45
- Osmolality = 300 mOsmol
- Preservative= BAK 0.0075% (75 ppm)
- Store at 15° C-25° C (59° F-77° F)...Do not freeze
- Also available in 1 gram sample size

## ZIRGAN® Mechanism of Action

Activated GCV inhibits the synthesis of viral DNA in 2 ways:

1. Competitive inhibition
  - Activated GCV directly inhibits viral DNA polymerase, preventing viral replication
2. Chain termination
  - Activated GCV incorporates into viral DNA, preventing DNA synthesis

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## ZIRGAN® Development

- Developed to address tolerability concerns with other antivirals
- Over 15 years clinical experience in Europe
  - Marketed as Virgan outside the US
- In clinical trials, compared to ACV 3% ointment
- To date there have been no clinical trials conducted to compare GCV to TFT

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## Summary of Differences: ZIRGAN® Compared to Viroptic®

	ZIRGAN®	Viroptic
Active ingredient	Ganciclovir 0.15%	Trifluridine 1%
Dosage Form	5 gram tube	7.5 mL dropper bottle
Storage	Store at 15°C-25°C (59°F-77°F)	Store under refrigeration 2° to 8°C (36° to 46°F)
Preservative	BAK 0.075 mg	Thimerosal 0.001%

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## Summary of Differences: ZIRGAN® Compared to Viroptic®

	ZIRGAN®	Viroptic
Dosage Frequency	Instill 1 drop in the affected eye 5 times per day until corneal ulcer heals and then 1 drop 3 times per day for 7 days.	Instill 1 drop onto the cornea of the affected eye every 2 hours while awake for a maximum daily dosage of 9 drops until the cornea ulcer has completely re-epithelialized. Following re-epithelialization, treatment for an additional 7 days of 1 drop every 4 hours while awake for minimum daily dosage of 5 drops is recommended.

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## Bungeeeee!

- 18 yo 280 pound white male
- Full football scholarship to USC
- At track practice, bungee cord used to simulate resistance to shotput
- One end of cord held by 90 lb girl, other end pulled by our guy
- Cord lets go, bam!

- Sees OD that night
- Told to go to emergency room, has “no vision” and “large hemorrhage in eye”
- Told he needed “MRI or Ultrasound”
- Parents scared to death, sent to us in a.m.

- Methodical exam yielded VA of 8/200...that is, until I scoped a -6.50 and had him read the chart.....now 20/30!
- Moderate bulbar injection as shown
- Cornea clear



- 2+ cells in AC, some wbc's some rbc's
- TA 16/16
- Followed by gonio...some layered heme in inferior angle, probable angle recession
- Fundus: normal except for.....

What's the best way to wrestle uveitis to the mat?

### Uveitis: Clinical Features

- Cell and flare--grade each separately
- Open up the beam, slit lamp on high, beam splitter off, and room pitch black

### Clinical Features

- Cell and Flare
- Hypopyon
- Cyclitic membranes
- KP
- Corneal edema
- IOP...high or low
- Cells in the vitreous
- Periphlebitis

### Pearl

- DILATE before you make the diagnosis of "anterior uveitis"

### Management

- Be Aggressive!
- Taper slowly: lag tapering behind improvement
- Think about punctal occlusion
- Don't be afraid of steroid responders



### Clinical Pearl

- Have several bottles of 1% Atropine and 10% Phenylephrine on hand at all times, as most pharmacists don't carry either of them!

### Tapering The Drops

- Lag tapering behind improvement (PF + dilating agents!)
- Don't be in a rush to taper
- Warn patients at outset they may be on drops for 4 to 6 weeks

### Tapering Drops

- Example of tapering schedule:

Day 1	4+ c/f	PF	Q1/2 h
Day 2	sx better	PF	Q1/2h
Day 3	2-3+ c/f	PF	Q 1h
Day 5	2+ c/f	PF	Q 2 h

### Take Home Points

- Hit uveitis patients over the head with Pred
- Have atropine and 10% phenylephrine on hand and use it
- Don't forget steroids at night
- Recurrent episodes or bilateral disease need to be worked up

### The Case of the Running Eye

- 41 WF
- Breast cancer survivor
- Worried about itching and "tearing" OS > OD, worse when "out of contacts"

## Pearl

- Always ask about tearing... "do the tears run down your face?"

## Yes Tears Down Cheeks? No



*Check for  
punctal  
apposition  
& patency,  
blockage of  
canaliculus*



*dry eye  
workup*

## True epiphora

- examine punctal openings (size and apposition to globe), then dilate/irrigate to determine site of blockage

## Irrigating Cannulas/Dilators

- Burnstine Lacrimal Cannula 23 ga
- Shahinian Lacrimal Cannula, straight (bullet tip 23 ga)
- KATENA.COM

## Irrigation

## Take Home Pearl

- Always ask about tearing... "do the tears run down your face?"
- Think about adding lacrimal procedures to your practice!

## Pink Eye Gone Wild?

- 73 BF
- 1 week hx of severe mucopurulent drainage OS and a red eye
- Began noting “raw, irritated” skin above and below eye with itching

- Was applying frequent hot soaks to area around OS
- Awoke the morning we saw her with swelling below RLL and “HM Vision OS”

## What about the VA?

- **Initial VA HM...but that was because her OS was closed!**
- **Once open, 20/30**
- **Cornea clear**
- **AC Deep and Quiet**

So what's your diagnosis?

## Atopic Dermatitis

- **Think of it as a form of eczema triggered by a variety of irritants**
  - Soaps, harsh chemicals, heat, stress, foods, and certain infections such as
- **Staph Aureus: a frequent cause of this condition with skin response in periorbital region**
- **NOT RELATED TO SURGERY!**

## Management

- **Antibiotic drops OS QID**
- **Tobradex ointment for eczema**
- **Benadryl OTC 25mg tabs QID**
- **Total resolution 4 days later with photos to prove it!**