ATTACKS ON THE ANTERIOR SEGMENT - RAPID FIRE
SCARRED FOR LIFE

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CAUSES OF CHRONIC CICATRICIAL CONJUNCTIVITIS

- Cicatricial pemphigoid
- Stevens-Johnson syndrome
- Epidemic keratoconjunctivitis
- Rosacea
- Atopic keratoconjunctivitis
- Sjogren’s syndrome
- Trachoma

Foster CS. Cicatricial Pemphigoid. In: Cornea. 3rd ed, Krachmer JH (Ed), Mosby, St. Louis 2010. pp 593
52 YOM

CC Wears unknown soft contact lenses as monovision
Wears lenses 12-14 hours/day, generic multipurpose solution, no extended wear, replaces every 2 weeks

Secondary Complaint: Eyelashes on lower eyelids have been turning in for the past 4-6 months, he has had to trim or remove them to keep the lashes from irritating his eyes-feels better with soft contact lenses on

Eyes have been red on and off for about 2 years, eyes have been irritated for about the past 6-8 months
EXAMINATION

- VA (CC)
  OD 20/20
  OS 20/20

- Conf: WNL

- EOM: WNL

- IOP
  OD 14 mmHg
  OS 12 mmHg

- SLE
  L+L: Trichiasis inf OU
  Conjunctiva: Scarring tarsal conjunctiva inferior and superior
  Minimal ulceration LUL medially
  Cornea: SPK inferior OU
  Lens: + 1 NS OU

- Internal
  CDR: 0.2 OU
  Macula: WNL
  Periphery: WNL
Pt is no longer happy with monovision, would like to be fit in MF lenses

Refraction

OD -4.25 -1.00 X 085
OS -4.75 -1.25 X 095
Add +2.50

Right Eye Dominant

CL Ordered: Proclear MF Toric
OD -4.00 -0.75 X 090 +2.50 D
OS -4.50 -1.25 X 100 +2.50 N
Patient denied a history of:

- Acute conjunctivitis (such as EKC)
- Herpetic infection
- Chemical injury
- Stephens Johnson

- Other involvement such as: mouth ulcers, difficulty in swallowing, hoarseness
ASSESSMENT AND PLAN

Diagnosis: Ocular Cicatrical Pemphigoid
Plan: Refer to ophthalmology

- Biopsy lesion:
  “Consistent with ocular cicatrical pemphigoid”

Biopsy area adjacent to active inflammation
Mucous membrane pemphigoid (MMP) (Cicatricial Pemphigoid)

- Chronic, progressive, cicatrizing autoimmune disease
- Mucous membranes/skin (bullae formation)
- Other mucosal involvement:
  - Scarring of soft palate and oral mucosa; laryngeal scarring can cause pain with swallowing and hoarseness. Esophageal involvement can lead to death from asphyxiation if scarring is left untreated.
  - Urethral, vaginal and anal scarring
- Chronic cicatrizing conjunctivitis 70-75%

Mucous membrane pemphigoid (MMP)

- Systemic autoimmune disorder that attacks the mucosal epithelial basement membrane
- Immunoglobulin IgG, IgA, IgM or C3 is deposited in the epithelial basement membrane zone
- This autoantibody binding at the basement membrane promotes an inflammatory cascade
- Inciting factors are unknown but thought to be a combination of hereditary and environmental factors

Immunofluorescence microscopy
Conjunctival biopsy with deposition of IgG at the conjunctival basement membrane (bright green line) which supports the diagnosis of OCP (Krachmer pg 593)
OCULAR CICATRICIAL PEMPHIGOID (OCP) (subset of MMP)

- Females (2-3X as often as males)
- “Rare” (1 in 8,000-1 in 46,000)
- Average age of diagnosis btw 60-70 years
- Chronic, recurrent, unilateral conjunctivitis leading to conjunctival and corneal scarring
- Disease progresses with remissions and bursts of fulminant exacerbations, without systemic treatment with immunomodulators the end result can be bilateral blindness (topical treatment is not enough to control OCP)

Lambiase, pg 1149
Spalton pg 64
OCULAR CICATRICIAL PEMPHIGOID (OCP) EARLY DISEASE

- Begins unilaterally, progresses to bilateral involvement within a few years
- Relapsing and remitting conjunctivitis
- Tearing, irritation, burning, mucous drainage

Foster S. Ocular cicatricial pemphigoid. In: UpToDate, Zone JJ (Ed), UpToDate, Waltham, MA, 2018
OCP STAGE I

- Chronic conjunctivitis with subepithelial fibrosis

Subepithelial fibrosis coalescing into a “feltwork”

Krachmer pg 593
OCP STAGE II

- Subepithelial fibrosis results in conjunctival shrinkage

Foreshortening of the inferior fornix

Krachmer pg 593
OCP STAGE III

- Symblepharon formation begins, typically in the inferior fornix

Krachmer pg 594
OCP STAGE IV (END STAGE)

- Xerophthalmia
- Keratopathy
- Neovascularization
- Ankyloblepharon
- Keratinization ("leatherization") of corneal surface

Krachmer pg 594
OCP MANAGEMENT - SYSTEMIC
Suppress inflammation with immunomodulators

- Goal to prevent blindness from scarring
- Immunomodulators are not without risks
- Ophthalmologist may co-manage with dermatologist
- Dapsone - sulfonamide antibiotic with anti-inflammatory attributes
  Typical dosages are 50-200 mg/day (Our patient started at 50 mg and now is taking 25 mg- has remained stable, continues to wear CLs)

- Other options include: Methotrexate, Mycophenolate mofetil, Azathioprine, intravenous IgG(IVIG), Retixmutab
- Rapidly progressive disease: Cyclophosphamide plus prednisone

OCP MANAGEMENT

Before and after treatment with systemic cyclophosphamide
Cannot use in Stage IV disease
OCP MANAGEMENT-OCULAR

- Lubrication-gtts/ung/plugs/punctal cautery *
- Epilation-manual removal of lashes or permanent cryoepilation or electrolysis*
- Prevention of secondary infections-lid hygiene
- Contact lenses/scleral lenses*
- Amniotic membrane
- Surgery to remove symblephara, entropion repair*

* Disease should be suppressed, OCP can be triggered by procedure-related exacerbation

Foster CS, Sainz de la Maza M. Ocular cicatricial pemphigoid review. Current Opinion in Allergy and Clinical Immunology. 2004, 4:435-439
OCP MANAGEMENT - TAKE AWAY

- Topical treatment alone will not control the disease
- OCP can progress rapidly without systemic treatment
- Patients will be on systemic treatment indefinitely
- If OCP is suspected, make timely referral to corneal specialist with experience with the disease

Keratoprosthesis treatment for endstage disease

Krachmer pg 595
REFERENCES


Foster S. Ocular cicatricial pemphigoid. In: UpToDate, Zone JJ (Ed), UpToDate, Waltham, MA, 2018


Foster CS, Sainz de la Maza M. Ocular cicatricial pemphigoid review. *Current Opinion in Allergy and Clinical Immunology*. 2004, 4:435-439
Late Onset Fibroblast Induced Haze after PRK in a Low Myope

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PRK

- Older procedure than LASIK or SMILE
- Performed directly on the surface after removal of the epithelium (no flap or lenticule)
- Longer recovery time for best vision, more discomfort, longer use of post-operative drops, so much lower “market share”
- Fewer potential complications than LASIK (no possibility of flap displacement, no ingrowth, etc.)
- Preferable to LASIK in.............

- Thin corneas
- EBMD
- Questionable anterior or posterior corneal topography changes that increase risk for ectasia
- Patients who are at higher than normal risk for trauma later
- Pre-existing superficial corneal scar in the visual axis
PRK complications

- Increased post-operative dry eye
- Increased glare and haloes (substantially less problematic with modern wavefront guided treatment platforms)
- Regression
- Infection
- Post-operative corneal haze
- Late onset fibroblast induced corneal haze
Case

- 20 year old white male college student interested in refractive surgery
- Wears AV True Eyes contacts 12 hours per day successfully
- All anterior and posterior segment findings unremarkable
- No systemic conditions, no medications, no allergies
- Cycloplegic refraction of -2.75 OD and -2.75 OS with 20/15 BCVA in each eye
- IOP 14 mmhg OD, 14 mmhg OS
- Pachymetry: 575 microns OD, 573 microns OS
- Mild irregularities on Pentacam, no frank keratoconus
- Due to Pentacam changes and young age, PRK was chosen over LASIK due to ectasia risk over lifetime
Pentacam enhanced ectasia identification OD
Pentacam enhanced ectasia identification OS
Case

- Underwent uncomplicated PRK OU
- Bandage CL OU with Durezol TID, Ketoralac TID, and Gatifolxacin TID
- Uncomplicated early post operative course

- Day 4:
  - Epithelium intact, removed bandage CL’s
  - Discontinued Ketoralac and Gatifolxacin
  - AT PRN, Durezol BID for two weeks, then QD for two weeks
  - Uncorrected vision 20/20- OD, 20/25 + OD (good for day 4, VA sometimes worse than day 1)
  - Central epithelial dysplasia as expected, no haze or infiltrate OU
Case

- One month visit
- Doing very well with vision, mild dryness OU
- AT PRN OU, last day of Durezol taper, will D/C the next day
- Uncorrected vision 20/20 OD and OS
- IOP 20 mmhg OD, 20 mmhg OS
- Cornea clear OU
4 month visit

- Complaint of decreased vision OD > OS over the last month
- Using AT PRN
- IOP 16 mmhg OD, 16 mmhg OS
- Uncorrected vision OD 20/40, OS 20/20
- BCVA OD -1.00 20/20, OS -0.50 20/20
- Dense central corneal haze OD > OS
Dense haze
OCT of haze at treatment interface

Notice clearly delineated plane of involvement: not scattered depths
Case

- **Month 4:**
  - Diagnosis: Late onset fibroblast induced haze
  - Extensive patient education and reassurance
  - Resume Durezol TID OU
Case

- 2 weeks later (4.5 months post surgery)......
  - Decreased haze
  - IOP 12, 12
  - Uncorrected vision 20/25 OD, 20/20 OS
  - Continue Durezol TID

- One month later (5 months post surgery)......
  - Persistent haze
  - IOP 22, 22
  - Uncorrected vision 20/40 OD, 20/20 OS: BCVA -1.50 20/20 OD, -0.25 20/20 OS
  - D/C Durezol, offered temporary contact lenses
Case

6 months post surgery:
- Haze substantially reduced
- IOP 10,10
- Uncorrected vision 20/20 OD, 20/20 OS

1 year post surgery:
- Trace haze OU, mostly resolved
- Uncorrected vision 20/20 - OD, 20/20 - OS
- BCVA 20/20 in each eye with -0.50 OD, -0.50 OS
Late onset fibroblast induced haze

- Different than typical post PRK haze

- Corneal stroma consists of collagen, ground substance, nerves, and keratocytes

- After PRK, keratocytes under the wound experience apoptosis and disappear, then the corneal healing process begins

- Damaged cells removed and healing begins via macrophages, t-cells, monocytes, PMN’s

- Later in healing, some keratocytes transform into myofibroblasts

- PRK, even uncomplicated PRK, results in a decrease of keratocyte density
Typical PRK induced corneal haze

- Low level corneal haze is expected after PRK, especially in more highly myopic corrections
- Begins around one month
- Greatest density at about 3-6 months, then gradually decreases
- Extra risk with prolonged epithelial defect, male sex, and brown iris
- Due to abnormally deposited extracellular matrix and activated keratocytes (highly reflective)
- Generally not visually significant
Late onset fibroblast induced haze

- Occurs in approximately .5% to 5% of cases
- Induced by fibroblasts later in the healing process (in our patient, about 3-4 months post op)
- Very, very rare with lower corrections
- In corrections of about -5.00 or higher, mitomycin C applied at the time of surgery to reduce risk
- Occasionally vitamin C as well

- Often causes a shift in refractive error, with regression of treatment effect
- Steroids can help to hasten resolution, but many times do not
- Simply have to “wait it out” in many instances
- Can take 1-3 years for haze to resolve and myopia to decrease
- Can provide temporary correction
- Hold on scraping or retreatment for quite a while to allow process to play OU: Consider refractive effect
Late onset fibroblast induced haze

- Our patient did not receive mitomycin C at the time of surgery due to low RX, not being considered to be at risk.
- He actually had a favorable course, as the dense haze had mostly resolved by one year after surgery, with good uncorrected vision and minimal myopia.
- But...........
- He really loved his uncorrected vision for the first few months after surgery, so 20/20- and -0.50 in each eye is bothersome. Will not wear correction, so strongly desires an enhancement.
- And..................his twin sister wants refractive surgery. Should she have it? LASIK only if a candidate?
Ankylosing Spondylitis ...

More Than Meets the Eye

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Uveitis & Rheumatological Disease

• **Ankylosing spondylitis (AS)** is one of many rheumatological diseases which can present themselves to the OD with an anterior uveitis.
• Once considered to be rare, AS has now been found to be more common.
• Diagnosis of AS uveitis requires both ocular & physical diagnosis
• Treatment requires prolonged dilation, frequent topical steroids and oral NSAIDs.
• The following case will give diagnostic pearls and discuss the management of uveitis associated with AS.
Prevalence pre 2000

- Inflammatory arthropathies 2.5% general population
  - Rheumatoid arthritis 1.0%
  - Crystal arthropathies 1.0%
  - Ankylosing spondylitis 0.1% 5:1 male
  - Psoriatic arthritis 0.1%
  - Juvenile arthritis 0.06%
  - SLE 0.02%

- Klippel et al 2000
Ankylosing Spondylitis

Defn: Inflammatory arthritis that primarily affects the axial spine and sacrolilaiac (SI) joints

- Prevalence: 0.7-1.8% in general population
  - 2 to 2.8% Caucasian pop
  - Rare in AA and Japanese populations
  - More common in males (3:1)
  - Females: milder cases (!)

- Onset teens to 35 years, peak mid 20s
  - 85% to 90% are positive for HLA-B27 (96% caucasian AS)
    - 8% in normal population
    - Positive in 20-30% of 1st degree relatives
Ankylosing Spondylitis

» Early symptoms
- Low back pain and stiffness x 3 months = first symptoms*
  - Pain radiates down buttocks and legs, can wake the pt at night
- ROM limitations, decreased chest expansion
- Mild constitutional sx, wt loss & later pain with breathing
  - Teens Hx of IBS and heel tendinitis
- Monocular non-granulomatous (fine) uveitis that alternates
  - *Anterior uveitis first sx in 25% cases
  - Moderate to severe cellular rxn with fibrin
  - Fine, whitish gray KPs, hypopyon not uncommon
  - CC Blurred vision, photophobia, floaters, redness
CASE PRESENTATION 7/13/17

- 26 YO Caucasian Male
- CC Red painful right eye for “3 days”, pain located behind eye 2/10
- 2nd Complaint: Blurred vision and increased light sensitivity
- Hx “same pain as had 1½ years ago”, misdiagnosed by ER then mistreated by eye care provider, 2 mos after 1st Sx referred to Rheumatology, Dx: AS, Tx: dilation and steroid drops x2 mos.
- Current meds: Celebrex 200 qd for hip, back pain x2 yrs
- Current vision correction: AcuVue Oasys x2 years
Ophthalmic EXAMINATION

- VA (CC)
  OD 20/40-
  OS 20/20

- Pupils: OD Irregular & poorly reactive
  OS: Reactive & round

- EOM: Full, OD discomfort

- IOP
  OD 8 mmHg
  OS 13 mmHg

- SLEX: Ext neg crust OU
- Conjunctiva: OD 3+ diffuse injection
  OS Tr injection

- Cornea: Clear x3 OU
- Ant Chamber: OD "Stationary" +2 cells/Tr flare
  OS Clear & Quiet

- Lens & vitreous: Clear w vitreous floaters

- Internal
  CDR: 0.35 OU
  Macula: Flat, +FLR
  Periphery: WNL
Ophthalmic EXAMINATION

- Fine KPs
  - As seen in AS uveitis
PHYSICAL EXAMINATION

- Ht ~ 6’4”, BP 116/62, wt not given, body type: Ectomorph
- ROM
  - Flesche test: BL; positive pain, 0 cm gap with effort
    - AKA Occiput to Wall Distance measurement
  - Shoulder abduction restriction, <30 degrees
  - Faber/Hip rotation & Spinal flexion: limited & could not touch toes
  - Schober/Lateral Spinal Flexion Test: Positive restriction
- Laboratory & X-ray previous year per Pt report
  - + HLA-B27: pt reports positive
  - ESR & CRP rate: pt reports elevated
  - Others negative
  - Spinal X-Ray negative
Diagnosis and Treatment

- **Dx:** recurrent AS anterior uveitis
- **ICD-10:** H20.041 (of OD)

- **TX:**
  - Atropine 1% 1 gtt OD every 3 days
  - Pred Forte (PF) 1 gtt q2h during waking hours,
    - In addition Ung hs recommended (pt declined)
  - Continue Celebrex 200mg PO qd

- **RTC:** 3 days
Clinical Work-Up and Treatment Pearls

- **SLEx**
  - Dark room! & Dark adapt! Be patient...
  - If the AC positive for cells ...Check for movement

- Detailed history and ROMs before ordering X-rays
  - If ROM full, X-rays will be negative

- Labs: If you have positive Hx and physical findings you will NEED labs
  - ESR, CRP & HLA-B27 (if not previously done)

- Treat aggressively
  - Atropine 1% & Pred Forte
    - Do not pull back due to patient pleading
  - Systemic NSAID Tx needed
    - Indomethacin SR 75 mg qd or 25 mg tid or Celebrex 200mg qHS
  - Expect 1-2 months course.....*Do not taper* until chamber clears!
Ankylosing Spondylitis (AS) Uveitis:

- Resolving plasmoid aqueous
Physical Assessment ROM Examination

What is a Flesche Test?

AKA: Occiput to Wall Distance

Measure of cervical flexion deformity

- Patient stands with heels and buttocks to wall
- Instruct pt to touch back of head to the wall
- Any gap is a positive test
Ankylosing Spondylitis

Neck deformity
Physical Assessment ROM Examination

Lateral Spinal Flexion Test

AKA Schober Test

- Measure of Lumbar flexion
- Patient stands with heels and buttocks to wall
- Instruct pt: “Slide your hand down your leg as you tip to your side”
- Hand should be >10 cm lower with full extent/tip
Ankylosing Spondylitis

Positive X-ray findings in AS

- Erosion of SI joints early in disease, fusing later
  
  - early
  - later
Ankylosing Spondylitis

Positive X-ray findings in AS

- Cervical spine and later chest wall

Heilman, Jm 2016

Weber et al 2006
Case Disposition Summery

- Week 1 to week 2 increase in AC rxn findings, Sx better
  - Reenforced Pt Ed!
- Week 2 to week 5: vision and Sx improved, AC findings steady, Atropine DC
- Week 6 to week 8: AC clears and started taper of PF over 2.5 weeks...

- 2.5 months later...11/02/2017
- Week 1 to week 2 OS: CC OS pain, redness, photophobia, “vision blurred” with moderate AC rxn
- Week 3 to week 6 OS: CC OS less pain, redness, photophobia, “slight blur ?” AC rxn steady
  - Week 3 Rheumatology starts pt on Humira once weekly subQ
- Week 7 to week 10 OS: CC no pain, no redness, no photophobia, “slight blur” AC clears
  - Started taper x3 weeks ....DC drops week 10
- 1/6/2018 All clear OU ... continued on Humira no further ocular episodes x10 mos
AS Prognosis

Morbidity/mortality: 60% increased risk of CV death

- Risk is related to disease severity and gender
  - Male gender increased risk
  - Plus 3 of the following occurring in the 1st two years of disease:
    - ESR>30 mm/h
    - Unresponsive to NSAIDs
    - Limited lumbar spine ROM
    - Distal joint involvement: Sausage fingers or toes
    - Oligoarthgritis (2-4joints)
    - Onset <16 yo
AS Prognosis

Sausage finger
Take away: management of AS uveitis

- Recognize the physical links early
- Treat aggressively
- Monitor weekly
  - Expect a 1 - 2 month course
  - Watch for dis-compliance/Emphasize patient education
- Co-Manage with Rheumatology
  - Recurrent & Recalcitrant cases (>2mos) will consider: Systemic TNF-α blocker such as Humira®
REFERENCES

- Foster, S & Vitale, *Diagnosis and Treatment of Uveitis*, Saunders, 2002
Ocular Rosacea ...

Hidden in Plain Sight

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Case Report

- 24 yo male
- Cc: unable to wear contacts
  - Red, watering eyes
  - Lid swollen and irritated
  - Foreign body sensation
- Third Office visited
  - Previously tx with different contacts, solutions, tears, topical antibiotics - No contacts in last month
Case Report

- SLE
  - MGD and inspissations
  - 2+ vessels along the thickened lid margin
  - Conjunctival injection and hyperemia
  - No GPC
  - Trace SPK along the inferior cornea of both eyes
Rosacea

- Chronic skin condition
  - Affects blood vessels and sebaceous glands
  - Recurrent erythema, telangiectasia, papules and pustules
- Estimated as over 16 million Americans
- Peaks from 30 to 50 years of age but seen in children
- Thought of more in European descent but...
- Facial findings 2 to 3 times more likely in women
Rosacea - Subtypes

Erythematotelangiectatic Rosacea
- Flushing
- Facial Redness
- Visible Vessels
- Facial discomfort

Papulopustular Rosacea
- Persistent Redness
- Acne-like bumps

Phymatous Rosacea
- Skin Thickening
- Enlargement of nose

Ocular Rosacea
- Eye Symptoms
- Lid Problems
- Dry Eye

National Rosacea Society
Ocular Rosacea

- Chronic inflammatory disorder with ocular manifestations
- Found in over 60% of patients with Rosacea
- Non-specific presentation but with lid and conjunctival signs
- Often underappreciated and missed
- Incurable but manageable
Pathophysiology - Not clearly defined

- Vascular dilation or incompetence of blood vessels
- Neurovascular component - exaggerated skin sensitivity
- Demodex infestation triggering immune mechanisms
- Genetic predisposition
- Environmental and lifestyle components
Ocular Rosacea: Pathophysiology

- Vascular Permeability
- Skin Inflammation
- Meibomian Impaction
- Irritation
- Tear Instability
- Decrease Tear Lipids
Ocular Rosacea - Clinical Presentation

- Usually bilateral
- Non-specific
- Cutaneous and ocular findings not correlated
- Recurrent and often chronic
Ocular Rosacea - Symptoms

- Burning
- Dryness
- Tired eyes
- Tearing
- Foreign body sensation / discomfort
- Photophobia
Findings - Eyelid

- Telangiectasia over lid margins
- Blepharitis
- Meibomian gland dysfunction
- Thickened inspissation and plugged glands
Findings - Conjunctiva / Cornea

- Chronic diffuse injection/hyperemia
- Corneal neovascularization
- Superficial punctate keratitis - usually inferior
- Thickened inspissation and plugged glands
- Rarely, corneal thinning or opacification
Complications of Ocular Rosacea

- Chronic dry eye
- Corneal vascularization
- Secondary infections
- Potential thinning / perforation
Ocular Rosacea - Making the Diagnosis

Highly suspicious with recurrent lid/cornea disease

- National Rosacea Society Guidelines:
  - Two of the following
    - Facial rosacea (20% Ocular Rosacea first sign)
    - Lid and conjunctival disease
    - Posterior blepharitis with chronic conjunctival hyperemia
    - Mixed papillary and follicular conjunctivitis
    - Corneal disease
    - Marginal ulceration with thinning
    - Pseudopterygium or corneal neovascularization
    - Coarse punctate infiltrates and scars
Treatment Options

- **Lid Hygiene**
  - Warm compresses
  - Lid scrubs - surfactants, hypochlorous acid, tea tree oil

- **Artificial tears / lubricating gels**

- **Topical antibiotic ointments or gels**
  - Erythromycin ointment
  - Topical antibiotic/steroid ointments
  - Topical azithromycin gel

- **Restasis**
Treatment Options

- Tetracycline Derivatives
  - Anti-inflammatory and antiangiogenic properties
  - Continued treatment for 3+ months with taper

- Doxycycline is the mainstay
  - 100mg once or twice a day (off label) followed by taper
  - Dose dependent on severity
  - Can be associated with GI problems and photo sensitivity

- Lipiflow or other treatments for MGD
Preventing Exacerbations

- Avoiding triggers that cause flare ups
  - Sun exposure
  - Extreme weather
  - Stress situations
  - Spicy foods
  - Hot beverages
- Recurrent inflammation causes increasing damage
Case Report

- Treated MGD and Lid disease
  - Warm compresses and lid hygiene with Bruder Mask and surfactant
  - Topical ophthalmic antibiotic/steroid ointment bid for 2 weeks
  - Preservative free artificial tears
  - Oral doxycycline 100 mg po daily for 1 month followed by 50 mg daily for 3 months
- Follow up at 1 month showed remarkable clearing
- Resumed daily wear contacts at 3 months without recurrence in last year
Clinical Pearls

- Pay attention to the signs
  - Lid margin telangiectasia, MGD and Chronic Blepharitis
- Thoroughly exam face, lid and ocular surface
- Chronic, recurring problems raise a flag
- Mild disease effectively managed with topicals
- Moderate and chronic disease managed with orals
- Continue treatment longer
- Manage recurrences quickly
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