A CASE OF MISTAKEN BLEPHARITIS IDENTITY: STAPH OR DEMODEX ?

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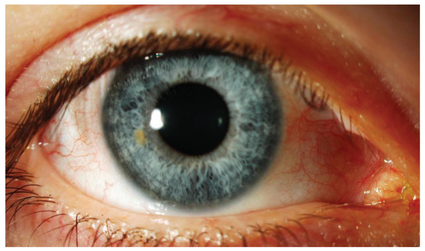
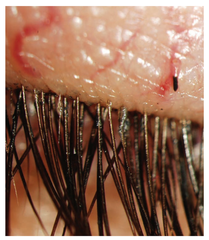
INTRODUCTION

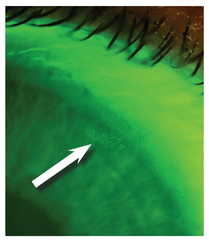
- Anterior blepharitis is a common cause of ocular discomfort caused by an infectious agent (bacteria, virus, parasite)
- The most common is staphylococcus aureus (SA) blepharitis observed as crusty collarettes along the lashes and typically resolved with lid scrubs and antibiotic therapy
- When patients are unresponsive to treatment, one must look for other potential causes and a clue may come from the type and location of the debris observed on the lashes
- This report describes 3 cases presenting with ocular discomfort and dry eye (DE) and signs of anterior blepharitis which were all secondary to Demodex infestation.
- The case provides an overview of the Demodex mite, its clinical presentation, examination technique and tea tree oil (TTO)-based treatment options.
- It has been reported that Demodex may be more common than we think and clinicians should consider it in their differential diagnosis of any ocular discomfort.

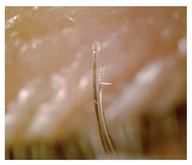
CASE 1

- A 23 yr old female presented with unilateral mild red eye and a history of recurrent blepharitis. Her symptoms included discomfort, dry eye and mild itching (worse during allergy season)
- No secretions, no photophobia, and no effect on vision were noted.
- TBUT was normal (9-10 sec) and a mild SPK (gr 1) was present adjacent to the upper lid margin
- Sectorial conj hyperemia was noted with a mild blepharitis. Higher magnification revealed CD-type debris at the base of the lashes.





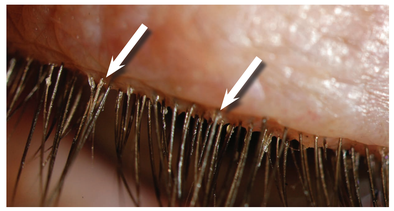




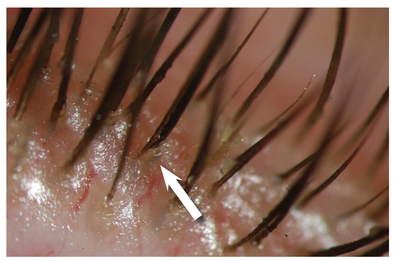
- Epilation and examination under the microscope confirmed the diagnosis of DEMODEX folliculorum
- Therapy for DEMODEX included TTO-based lid scrubs (TheraLID, Theratears) bid X 4-6 wks.
- Follow-up (F/U) visits revealed a drastic improvement in symptoms, especially itching along the lid margin
- Patient education concerning the parasite was given to enhance compliance with treatment

CASE 2

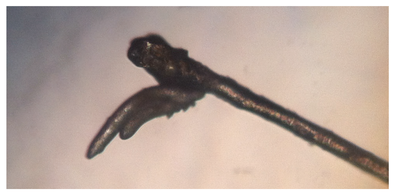
- A 75 yr old male presented with chronic DE with moderate symptoms (OSDI 18/100), fluctuating vision while reading and light sensitivity. Further questionning revealed mild itching along the lid margin.
- Tear lubricants (Genteal gel and Systane gel) provided palliative relief.
- A DE work-up revealed a normal osmolarity (OD 310, OS 299 mOsm/L), adequate tear volume, mild inf SPK gr 1, marked MGD (gr 4), TBUT 8-9 sec, and anterior blepharitis (gr 2).
- Therapy for the MGD included lipid-based lubricants (Systane BALANCE, ALCON and LIPOSIC ung, B+L), warm compresses and ocular massage.



CD at the base of lashes



DC around the base of the lash

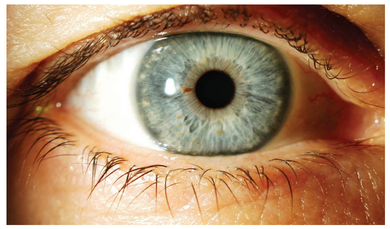


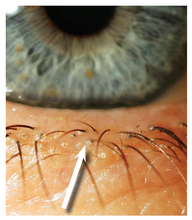
DC around the base of the lash

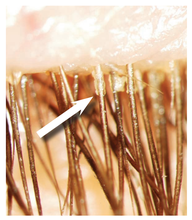
- Therapy included TTO-based lid scrubs (TheraLID, Theratears and CLIRADEX)
- F/U revealed an improvement in symptoms (OSDI 10/100) and MGD (gr 3).
- Patient education about blepharitis (ant vs post) was discussed with supplementation of Omega 3 for long term improvement of the MGD.

CASE 3

- A 30 yr old female with Lupus and acne rosacea consulted for chronic DE and severe ocular discomfort (OSDI 67.5/100) with fluctuating vision affecting TV viewing and reading.
- Unpreserved tear lubricants (BION TEARS, ALCON) provided palliative relief. Antibiotics and lid scrubs were ineffective at relieving her symptoms
- A DE work-up revealed a shortened TBUT (4-5 sec), a hyperosmolar tear film (OD 322, OS 320 mOsm/L), mild interpalpebral SPK gr 1, mild MGD (gr 1), ULMS (gr 3) and anterior blepharitis (gr 3).
- A closer look at the blepharitis revealed that the deposits surrounding the base of the lash were clear and gelatinous, similar to a CD.
- Further probing revealed mild itching along the lid margin, especially in the morning





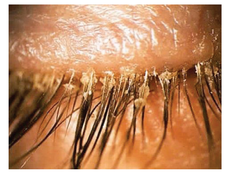


Mite on Lash

- Therapy included TTO-based lid scrubs (TheraLID, Theratears) with mild improvement (OSDI 65/100).
- F/U visits added lid scrubs with 4-terpinol (CLIRADEX, Bright Optical, bid X3 wks, qd X 3wks) which significantly improved her symptoms (55/100).
- The patient reports periods of remission and exasperation whereby she adjusts the CLIRADEX use
- Unpreserved artificial tears continue to provide additional relief for her DE.

DISCUSSION

BLEPHARITIS:	STAPHYLOCOCCAL	DEMODEX FOLLICULORUM
FROM THE GREEK WORD	*Staphyl*-grape and *Kokkos*-granule	*Demos*-fat and *Dex*-worm
Scientific Classification	Kingdom: Bacteria Phylum: Firmicutes Class: Bacillus Order: Bacillales Family: Staphylococcaceae Genus: Staphylococcus Species: S. aureus	Kingdom: Animalia Phylum: Arthropoda Class: Arachnida Order: Trombidiformes Family: Demodicidae Genus: Demodex Species: D.Folliculorum
Cause	Round ("cocci") Gram + bacteria forming grape-like clusters	0.3-0.4 mm parasite has a 3 wk life cycle
Debris	Dry collarettes found at the base of the lashes and progress along the lash with growth	Clear waxy sleeves surrounding the base of the lash (cylindrical dandruff-CD)
Lid margin changes; Tylosis, Erythema, Trichiasis, Madarosis	Yes	Yes
Associations	-	Acne rosacea, MGD
Treatment	Gram + antibacterial	Distilled TTO from the Australian native plant *Melaleuca alternifolia*, preferably with Terpinen-4-ol (or terpinol) (active ingredient against Demodex)



CONCLUSION

- Many clinicians equate anterior blepharitis with an over-population of staphylococcus and systematically recommend lid hygiene and topical antibiotics, which are ineffective with Demodex.
- Close attention to the type (collarettes vs DC) and location (base vs along the lash) of the debris, along with symptoms (itching along the lid margin vs yellow secretions) should assist the clinician into making a DDx of the cause of the anterior blepharitis (staph vs Demodex)
- Demodex is a comensal mite and has been reported to be in 100% of people >70 yrs old. It may be difficult to erradicate all mites (as each produces 12-15 eggs), however infestation may be limited with TTO-based treatments and improving overall ocular comfort.
- Whole TTO is quite irritating to the skin and eyes and needs to be diluted. The most active ingredient in TTO, against Demodex, is Terpinen-4-ol.
- Ocular discomfort is the leading cause of CL dropouts, so addressing it is primary in keeping patients comfortably in lens wear.

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