



James P McCulley

Eduardo C Alfonso

# Topical antibiotics should play only short-term role in chronic blepharitis

Devon Schuyler  
in Las Vegas

TOPICAL antibiotics play an important role in the treatment of both acute and chronic blepharitis, but should not be used for long-term management, according to James P McCulley MD, professor and chairman of the department of ophthalmology, University of Texas Southwestern Medical Center, Dallas, Texas.

“There's little controversy about using antibiotics in acute blepharitis, but their role in chronic blepharitis is not quite as straightforward,” said Dr McCulley, speaking at the annual AAO meeting. He advised ophthalmologists to use topical antibiotics as initial therapy in chronic blepharitis to bring the condition under control, but emphasised that long-term management should rely primarily on mechanical and hygienic measures.

There are five main classifications of chronic blepharitis: staphylococcal, seborrheic, primary meibomitis, meibomian gland dysfunction, and others – which include atopic, psoriatic, and fungal blepharitis. Dr McCulley said that it's extremely common to culture bacteria such as *Staphylococcus*, *Corynebacterium*, and *Propionibacterium acnes* from the lid and conjunctiva, even in people without blepharitis.

One problem with these bacteria is that they often produce free fatty acids such as cholesteryl esterase, fatty wax esterase, and triglyceride lipase. He said that his own laboratory studies have shown that *Staphylococcus aureus* appears to produce all three of these lipolytic exoenzymes, *P acnes* appears to frequently produce fatty wax esterase and triglyceride lipase, and coagulase-negative *Staphylococcus* appears to frequently produce fatty wax esterase and triglyceride lipase and sometimes produce cholesteryl esterase.

“The resultant breakdown fatty acids share a common function. They are detergents, and they can disrupt the lipid layers of the tear film and cell membranes,” Dr McCulley said.

He added that treatment of chronic blepharitis is directed at controlling the condition, not curing it. Initial therapy is needed to get the condition under control, and maintenance therapy is needed for long-term control.

Dr McCulley recommended that topical antibiotics be used as initial therapy in cases of staphylococcal blepharitis and mixed staphylococcal/seborrheic blepharitis. He also said that there may be value in administering topical antibiotics to all patients in the inflammatory phase of chronic blepharitis, because of the fact that the bacteria produce lipolytic enzymes that brake down the meibomian secretions producing the noxious free fatty acids.

Dr McCulley's topical antibiotic of choice is bacitracin, which has good sensitivity and produces little resistance because it is not being used systemically. His second choice is a fluoroquinolone such as ciprofloxacin (Cipro, Bayer), and his third choice is an aminoglycoside. Tetracyclines are another option. He recommended avoiding erythromycin, sulphonamides, trimethoprim, and chloramphenicol.

Patients with meibomian keratoconjunctivitis, severe secondary meibomitis, or severe staphylococcal disease will need an oral antibiotic. The first choice for adults is minocycline 100mg each day, administered for one to three months. He said that he preferred minocycline to tetracycline because dosing is twice a day instead of four times a day, it's better tolerated, it's better absorbed, it can be used in cases that are refractory to tetracycline, it has the highest potential for an effect, and it

produces less photosensitivity. The first choice for children under the age of 12 – whose teeth may be damaged by certain antibiotics – is erythromycin.

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“This will bring the patients under control very nicely, because there's an antimicrobial effect as well as inhibition of the enzymes.”

Dr McCulley said that some physicians like to use a lower dose of systemic antibiotics, even if it led to a longer course of treatment. He recommended using the full dose, however, pointing out that a study by Velicer and colleagues (*JAMA* 2004; 291:827-35) found a link between the total number of days on antibiotics and an increased risk of breast cancer.

“I'm afraid we might find something similar for prostate cancer in men,” he added.

Dr McCulley said that the mainstays of maintenance therapy are mechanical manoeuvres, such as applying warm compresses to the eye and massaging the eyelid, and hygienic ones, such as cleansing the eyelid with an antiseptic solution or baby shampoo.

He said that treating children could be challenging because they often have unhygienic habits such as picking their nose. On the other hand, children can be easier to

instruct than adults.

“In kids, it's easy to have a discussion and say, 'Don't pick your nose.' It's tougher in adults, but you need to do it,” he said to a laughing audience.

Eduardo C Alfonso MD, who chaired the session, told *EuroTimes* that there is a risk of overtreatment with chronic blepharitis that can lead to unnecessary ocular surface toxicity. He said that he agreed with Dr McCulley that “education of the patient about the symptoms and chronic nature of the disease is important”.

Dr Alfonso is the Edward WD Norton Professor of Ophthalmology at Bascom Palmer Eye Institute in Florida.

james.mcculley@utsouthwestern.edu  
ealfonso@med.miami.edu