Minimising contact lens adverse events

Bill Harvey reveals the answers to the exercise published on 05.04.13 and discusses the related interactivity exercise. Modules C32428 for dispensing opticians and C31465 for optometrists

1 Which of the following statements is not true?
A Denatured protein deposits are thought to be associated with contact lens papillary conjunctivitis
B The main protein in tears is lysozyme
C Lactoferrin coated contact lenses are antibacterial against strains of *Pseudomonas aeruginosa*
D Albumin is a lipid associated with lens deposition

The correct answer is D. As anyone familiar with trying to remove cooked egg white from a non-stick pan will know (the protein albumin derives its name from the Latin word albumen meaning egg white), albumin is a protein which, when denatured, may stick to a surface and allow longer-term contact which may trigger contact lens papillary conjunctivitis.

2 If a course of topical antibiotics fails to dampen a case of blepharitis, the most appropriate actions is:
A A course of hydrocortisone ointment
B A course of oral doxycycline
C Fortified gentamicin for two weeks
D Nothing else

The correct answer is B. Oral doxycycline is a tetracycline which is often very effective in the management of persistent blepharitis. The lid condition is sometimes associated with systemic problems, such as acne rosacea, which will continue if untreated and allow the blepharitis to resist the direct treatment. A course of oral tetracyclines may treat the underlying condition and have benefits for the lid. Recurrent chalazia similarly are sometimes related to systemic concerns also. Entry level practitioners might want to consider referral for oral antibiotics if the lid complaint is persistent and they are sure the patient has been compliant with advice.

3 Bacteria in biofilm found in contact lens cases:
A Can engulf *Acanthamoeba*
B Is mainly gram negative
C Are also known as planktonic bacteria
D Are more resistant to disinfectants than free living bacteria

The correct answer is D. The importance of lens case care cannot be under-estimated when dealing with patients using repeat use lenses. Patients must know that the case is a common source of infection. Compliance with instructions regarding lens case care is often poor, so the practitioner needs to be happy the patient understands how to clean the case and when to replace it. The practitioner should always ask to look at the case at an aftercare visit.

4 At high altitudes, higher transmissibility of contact lenses is more important than at sea level because:
A The lens dries out and ion permeability decreases
B The cornea requires more oxygen
C The colder temperature warps the lenses
D There is less atmospheric oxygen available

The correct answer is D. The higher the altitude, the lower the atmospheric pressure. As every altitude-trained athlete will know, this also means less oxygen. Training in such conditions stimulates red cell production, making for more efficient oxygen exchange at sea level. The lower oxygen levels mean less is available to the cornea, so any barrier to this provision, such as the lens, needs to be minimised. Hence the choice of a highly transmissible lens is important.

5 Why is cyclopentolate primarily prescribed for microbial keratitis:
A It increases the permeability of the eye to antibiotics
B It impedes blepharospasm and reduces pain
C Posterior synechiae are prevented
D The chance of secondary glaucoma is lowered

The correct answer is B. Cyclopentolate is an anti-muscarinic agent primarily used in optometry as a cycloplegic agent for paediatric examination. Microbial keratitis triggers anterior uveal inflammation and the resultant pain associated with the spasm of iris sphincter muscles and photophobia associated with cloudy cornea and anterior chamber results in severe discomfort and a reactive blepharospasm. The cyclopentolate acts to relax the parasympathetic stimulated muscles and thereby reduces the pain. ▶

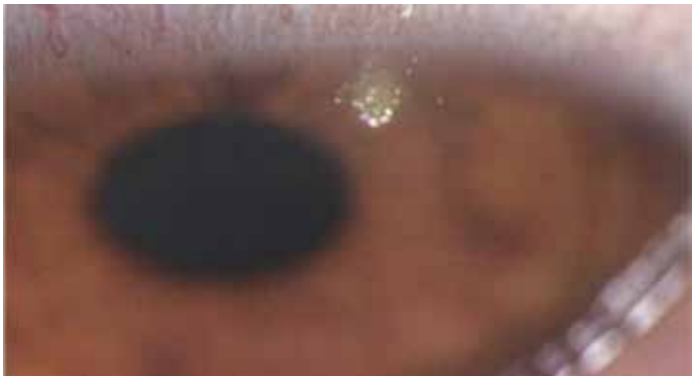

Figure 1 Sterile inflammation (CLPU)

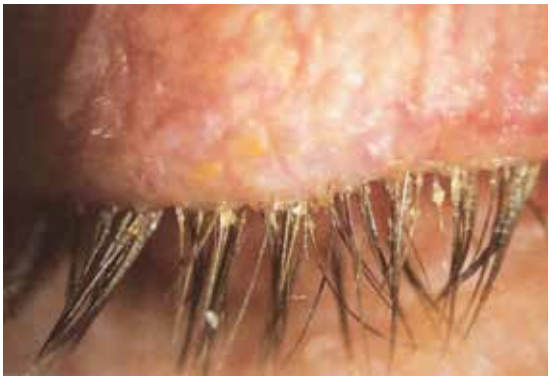

Figure 2 An example of blepharitis

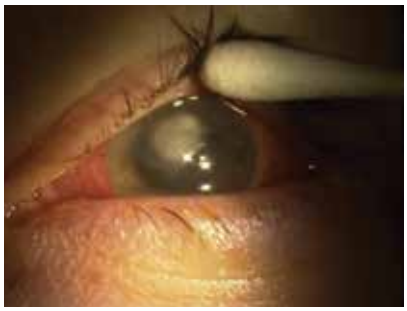

Figure 3 Microbial keratitis

6 Hypopyon is:
A Sometimes seen in CLPU (sterile keratitis)
B Collection of inflammatory cells in the anterior chamber
C Often seen in trauma
D Arcuate in shape

The correct answer is B. Hypopyon is a rapid build up of inflammatory cells in the lower sector of the anterior chamber. It represents a severe acute anterior uveitis and may result in a dramatic rise in intraocular pressure. Immediate treatment is essential. In the very few cases this might be seen in optometric practice, it is often associated with a severe microbial keratitis, often in a contact lens wearer.

Interactivity

The interactive exercise for this CET was aimed at encouraging a discussion around responsibility to recognise adverse responses as they present in practice. It is often the case that a patient with significant symptoms may present to a receptionist or clinical assistant. As they are not a GOC registered professional, they might make a decision or offer some advice for which the registered professional based at the practice is responsible. You were asked to discuss with colleagues the following point. How do the GOC registered staff in your place of work ensure that the non-registered staff know what symptoms might betray an underlying contact lens problem?

We had over 800 responses showing evidence of discussion. The vast majority have ensured that a degree of training is in place to ensure the ancillary staff are capable of spotting where further assessment is needed and know when to tell patients to take their lenses out and where to send them.

A typical response showing a good level of training was: 'Being the only optometrist at the small practice I work in, I have made sure that our two lay staff are aware of what to do if a patient walks in with a contact lens related problem should I be busy testing. This has been done by holding regular training meetings with them every 3-4 months, normally with me posing questions to them as by now they have become quite competent in handling CL related cases that come in. The question and answer sessions are backed up by me giving further information on grey areas and the summaries are typed up, printed off and placed in a "meetings folder" for future reference. With regards to patient symptoms I have trained my colleagues to question patients on:

- How the eyes *look*. Any redness?
- How the eyes *feel*. Any discomfort/pain?
- How the eyes *see*. Any vision loss?

Based on the patient's responses:
1 Ocular discomfort/redness which ceases on lens removal is either lens related or something which doesn't need immediate attention eg dryness. Action: book the patient in for an exam at the patient's earliest convenience.
2 Discomfort or redness that persists after taking lenses out requires a bit more urgency. Action: book the patient in as soon as possible.
3 If there is any eye pain or vision loss, the patient must be asked to wait for me to come out/be booked in the same day. If not possible (or if I'm off work) they should be advised to go to casualty, annotating the record.

The importance of questioning the patient, differentiating between discomfort and pain has been reiterated to my colleagues periodically as this will determine how quickly I'd need to see them. I've also stressed the importance of writing down everything on the patient's record, whether the matter is big or small.'

A few concerns came to light during the interactivity. Some of you felt that sometimes business concerns over-rode clinical priorities, for example in this statement 'There should be more time spent on training the staff but training sessions are sporadic and focus more on company targets than clinical issues.' Others, particularly those working in several practices, typically as a locum, admitted to not being aware of how non-professional staff coped with presenting symptoms: The subsequent discussion emphasised that the onus is on the professional to ensure that all staff in a practice they are working in need to have adequate understanding of what reported symptoms or signs need follow up and that the overall responsibility, and therefore where any blame might rest if a problem arose, is with the registered professional.

QUESTIONS FROM READERS

Q Could someone please quote me which paragraph of which law enacted by Parliament states that a dispensing optician has to complete CET to maintain registration?

A Bill Harvey replies: The answer to this can be found on the GOC website. On the home page, click on the 'about' tab, then the 'legislation' tab. There, it explains that 'We [the GOC] are the statutory regulator for the optical professions in the UK. Our powers were given to us by Parliament, under the Opticians Act 1958.' Full downloads of the Act plus regulatory instruments are available here.

This legislation was consolidated to form the 1989 Act which includes all subsequent amending legislation. In 2005, a number of changes were made to the legislation. These included the introduction of mandatory continuing education and training (CET) for full registrants, and the introduction of registration for student optometrists and dispensing opticians.

Q I am writing to enquire about the compulsory peer review event which GOC registered optometrists need to take within the three years starting from this year. As registrants practising in overseas countries such as here in Malaysia, we will have no chance to participate physically in such events in the UK.

A Bill Harvey replies: There is provision for anyone to set up a peer to peer event themselves. As long as the participants are GOC registered and those running it have the relevant experience, then there is no reason why this has to take place in the UK. Go into your myGOC area. Down the left hand side you will see options for registering an overseas CET event and also for setting up your own peer review group. Also, check out the CET directory as some providers offer online interactive events which allow access to overseas registrants.

Q I practice alone and have no one to interact with. What should I do?

A Bill Harvey replies: Working in isolation with little or no interaction is something the GOC has stated has driven the move to an enhanced CET system. It means those in your position either have to go along to events where interaction is possible or complete interactive distance learning exercises such as those in *Optician*. For the latter, if there really is no one with whom you can discuss matters, then as stated in the instruction email, you can send your thoughts to me to start the ball rolling.

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