

Letters to the editor

Correspondence regarding: The fluid facts of fraud

In my recent editorial¹ relating to the alleged research misconduct associated with Joachim Boldt I made the comment that 'there is no indication if it is all, a few or none of his articles that are genuinely suspect.' The message this was intended to convey was that the situation was evolving and there was a need to await developments that might clarify both the nature and the magnitude of allegations. It has been brought to my attention that it may have been misconstrued as implying a lack of substance in the reports at that time. In fact, there was information of which I was unaware even at the time the article was written, but was far more extensive by the time of publication.

I wish to draw attention to the Editors-in-Chief combined statement of March 12, 2011. (See web site) This lists '88 articles for which LÄK-RLP was unable to verify IRB approval.' (in effect ethics approval). These are being retracted.^{2,3} LÄK-RLP is the State Medical Association of Rheinland-Pfalz. There is also the issue of the performance of individual studies.⁴ Professor Shafer, in an editorial, clearly states that 'In other words, *the study is fabricated*.'⁵ There is ongoing investigation into other published studies.

Meanwhile, other editorials are following.^{6,7} It now appears clear that Dr Boldt has fallen into public disfavour within the anaesthesia and critical care community, and so my description of him as a 'respected member of the anaesthetic community' appears to have been inappropriate, even at that

time.

I commend to you the EIC joint statement on retraction of the 89 articles for which LÄK-RLP could not verify IRB approval² and the editorial by Steve Shafer as being enlightening as to the current position.⁵ Clearly, the investigation continues, and it is likely that the situation will clarify further, although that will take some time.

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Corneal perforation from facemask delivered oxygen - not just an intubation/sedation issue

Keywords: *corneal perforation; oxygen therapy; face mask; eye care*

It is widely accepted that intensive care unit (ICU) patients are at risk of exposure keratopathy and hence progression to infective keratitis and corneal perforation. The combination of sedation and paralytic agents reduce the blink response and result in poor eyelid closure. Diminished orbicularis muscle tone causes a relative lagophthalmus of the lower lid further exacerbating exposure. The ocular surface is usually protected by the natural barrier effect of the pre-corneal tear film. Tears act as both a mechanical and pharmacological defense. The mechanical action of blinking acts as a physical 'windscreen wiper' to sweep and wash away pathogens. The biochemical components of tears include enzymes, immunoglobulins and complement factors, which have an antimicrobial function. These mechanisms are reliant on a thin and frequently replenished tear film. Loss of the blink reflex removes this constant replenishment and even distribution, vital for function.

There is widespread awareness of the importance of exposure keratopathy by ICU staff.¹ Estimated rate of corneal involvement is between 42-56% of intubated patients and pathogens commonly found in ICU environments (eg *Pseudomonas aeruginosa*) can opportunistically infect these at-risk eyes.^{2,3} Regular screening of intensive care patients has been advocated for years.⁴ Evidence confirms that ICU staff are comparable to ophthalmologists in the surveillance of keratopathy⁵ and prophylactic measures are routinely prescribed. However, exposure keratopathy can occur without patient sedation.

We surveyed twenty ICU staff comprising nurses (4), specialty trainees (13) and consultants (3). All respondents were aware that sedated patients were at risk of exposure keratopathy, with 17/20 (85%) acknowledging that keratopathy carries a significant risk of corneal perforation. However, only 2/20 (10%) knew that patients requiring

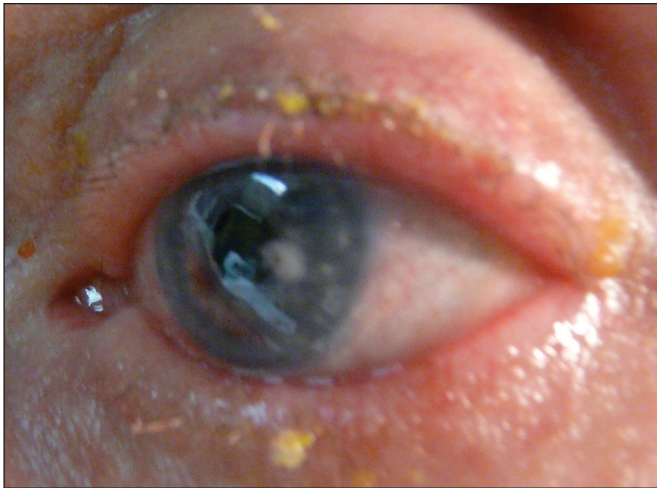


Figure 1

facemask oxygen were at risk. The following case illustrates that patients receiving oxygen therapy are at significant risk of exposure keratopathy. A 76-year-old man was admitted to a high dependency unit and required oxygen therapy via a facemask with intermittent non-invasive ventilation. He was never sedated or intubated. He was not routinely assessed for keratopathy as his risk was thought to be negligible and the eye was never painful, nor inflamed, but after six days he complained of poor vision. Ophthalmic examination revealed vision reduced to hand movements and a full thickness perforation with iris plugging (**Figure 1**). Subtle infiltrate surrounded the corneal perforation and corneal scraping confirmed the presence of *Pseudomonas* bacteria.

This case highlights the under-recognised risk of facemask oxygen. The mask was a poor fit thus directing high-flow non-humidified oxygen toward the eye (**Figure 2**). This had the mechanical action of opening the eye at night and preventing an adequate blink response during waking hours. The dry nature of the oxygen quickly evaporated the tear film and disrupted even distribution. The elements required for evaporation, according to the Penman Equation are temperature, wind speed and humidity. Therefore any patient admitted to a hospital (warm environment) and exposed to

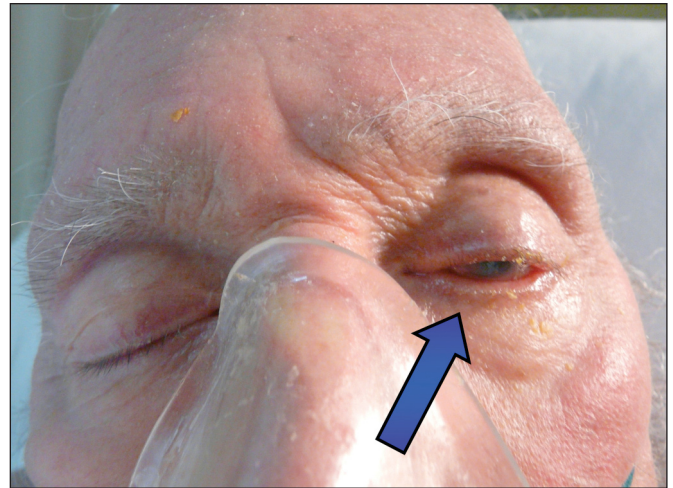


Figure 2

dry oxygen moving at velocity is at significant risk of exposure keratopathy regardless of whether they are sedated.

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Correspondence regarding: 'Airway management on the intensive care unit: is it time for our own training and guidelines'

Dr Walters describes a lack of airway management courses suitable for ICU doctors, particularly those from non-anaesthetic backgrounds.¹ He suggests that a simulation-based airway course designed to teach emergency airway management outside the operating theatre, including modified airway algorithms, to a wide range of junior doctors would be valuable. Fortunately, just such a course already exists.

The UK Training in Emergency Airway Management (TEAM) course was established five years ago to provide the foundations of the knowledge, skills and attitudes required to manage the airway safely in an emergency. It is designed for junior doctors who have completed the Acute Care Common

Stem (ACCS) training programme and who may be called upon to apply their developing airway skills to patients in emergencies outside the operating theatre.

The two-day UK TEAM course consists of an introductory lecture followed by small group tutorials, skill stations and multiple scenarios delivered using high-fidelity patient simulators. The course has been developed by a joint faculty of anaesthetists, intensivists and emergency physicians, and is endorsed by both the Royal College of Anaesthetists and College of Emergency Medicine. It is taught by a consultant-only faculty, with more than 20 courses run and 400 doctors trained to date. The course manual is also published as a

stand-alone text by Cambridge University Press.²

We believe that UK TEAM is precisely the course that Dr Walters is seeking. Further details can be found at: <http://www.rcoa.ac.uk/index.asp?PageID=40&MeetingID=491>

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