

## LETTER

## Re: Cluster of chalazia in nurses using eye protection while caring for critically ill patients with COVID-19 in intensive care

Dear Sir

We read with interest the letter by Mégarbane and Tadayoni.<sup>1</sup>

Following reports of increasing eyelid cysts occurring in our local intensive care departments, we conducted a survey of clinical staff there. We aimed to establish the frequency and nature of eyelid cysts reported and to investigate possible associations.

An online survey comprising 10 questions was distributed to all clinical staff working in intensive care. The respondents were asked if they had experienced any new eyelid cysts since the outbreak of COVID-19 and the necessity to regularly wear personal protective equipment (PPE). Pictures of different types of eyelid cysts including hordeola, chalazia, cysts of moll and cysts of zeis were provided and the respondents were asked to identify which type they had experienced. Further questions examined previous history of eyelid cysts, the type and duration of PPE worn by respondents. The survey also asked about eye protection and whether this was disposable or sterilised and re-used.

In total, there were 31 responses to the survey, comprising 49% of the medical staff in intensive care. Five respondents reported an eyelid cyst in the period since the outbreak of COVID-19. Four respondents described external hordeola and one described a mixture of internal and external hordeola. None of the respondents had tested positive for COVID-19 at any point. Four out of five had never experienced an eyelid cyst before and the fifth respondent described having had eyelid cysts only once or twice. Of the negative responses, 4 out of 26 declared a previous history of eyelid cysts. Only one of the five respondents with cysts wore contact lenses on a regular basis. No other history of ocular conditions was reported. In terms of PPE wear, three respondents were required to wear 'heavy PPE' (including FFP3 mask, eye protection and protective gown) for more than 6 hours per day, and the other two wore heavy PPE for 1–3 hours per day and 1 hour per day, respectively. All five respondents used

disposable face shields for eye protection. One respondent also wore disposable goggles occasionally. Interestingly, three negative respondents had used helmets and visors, which were sterilised with sodium dichloroisocyanurate and reused. None of the other PPE was sterilised and reused. All five respondents wore either the 3M Aura 9332+ or Alpha Solway 3030v FFP3 masks, which were also used by the negative respondents.

In contrast to the cases reported by Mégarbane and Tadayoni, our respondents reported hordeola rather than chalazia. Hordeola are an infection of either the lash follicle (external hordeolum) or meibomian gland (internal hordeolum) resulting in a painful, erythematous swelling. Chalazia are typically painless, chronic, sterile cysts of the meibomian gland.<sup>2</sup> However, it should be noted that these are self-diagnoses, made by the respondents on the bases of images and descriptions provided in the survey. Subsequently, there is limited certainty regarding the exact type of cysts experienced. The cysts reported did not require referral to ophthalmology and settled with simple measures such as hot compress and lid massage.

None of the positive respondents wore eye protection that was subject to re-sterilisation, which was deemed the likely cause of the cluster described by Mégarbane and Tadayoni.

The most common element among reported cases is the daily requirement to wear heavy PPE including FFP3 masks. However, it is unclear how this may directly cause eyelid cysts. It may be that increased perspiration while in PPE could lead to an escalation of bacterial proliferation around the eyelids, which in turn would increase the risk of hordeola. Avoidance of touching or wiping the face while at work may also exacerbate this.

Medical staff also reported that longer shifts were implemented during the working day to allow greater numbers of medical staff on the floor. This in turn may have impacted on time for personal care.

Another commonly proposed cause of hordeola is stress. This theory is controversial and aside from some theoretical and anecdotal reports, there is no significant clinical evidence to prove a direct link between stress and the development of lid cysts.<sup>3 4</sup>

Daily lid hygiene (cleaning the lid margins with sterile water) may reduce the risk of developing hordeola or chalazia in staff in similar environments. A break

every 2 hours and change of mask may also prevent the development of hordeola. There is little evidence base for the management of acute hordeola.<sup>5</sup> However, in our experience, timely self-management with hot compress and daily lid massage leads to resolution in most cases without the need for medical or surgical treatment.

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