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De-adoption of oral chlorhexidine for mechanically ventilated patients: get thee to a conclusion

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Letter to the Editor

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Dear Editor:

The chlorhexidine (CHX) utilization for oral care for the purpose of reduction of ventilator-associated pneumonia (VAP) has been dated for two decades with controversial recommendations. For example, one meta-analysis confirmed its effectiveness in reducing VAP [1], while another more recent one did not find benefit in term of VAP reduction but rather reported an increased mortality [2]. In a recent elegant, well-designed, and meticulously-executed randomized controlled trial, the CHORAL (effects of oral chlorhexidine de-adoption and implementation of an oral care bundle on mortality for mechanically ventilated patients) study by Dale et al. [3], in an attempt to draw a conclusion about the de-adoption of oral care using CHX among mechanically ventilated patients in the intensive care units (ICUs). The authors did not find superior benefits from de-adoption of CHX and providing a bundle of oral care in terms of ICU mortality, time to extubation from mechanical ventilation, infection-related ventilator-associated complication and oral procedural pain.

The mortality linked to CHX was explained by oral mucosal disruption and the subsequent systemic infection by multidrug-resistant bacteria [4]. Interestingly, a meta-analysis enrolling a group of cardiac surgery patients, found that CHX is effective when compared with placebo in reducing nosocomial infections and postoperative pneumonia (5.3% and 20.2% vs. 10.4% and 31.3%, respectively) [5]. It is worth noting that this group of patients are typically less sick than ordinary general ICU patients and hence may not be exposed to the overall risk like the rest of critically ill patients. In addition, patients post cardiac surgery are at lower risk of developing VAP due to a shorter duration of intubation, which is driven by the need to ventilate many patients for less than 24 hours [3,5]. It would be interesting to learn whether there are different results between the various ICU that participated in the CHORAL study.

The implementation of the oral care bundle may require a closer and longer contact between the health care providers and the patients which is of a potential concern after the changes dictated by the current pandemic. Furthermore, additional cost, resources, and nursing care will be needed. The lack of effect on mortality and oral mucosa in the CHORAL study was attributed to the use of a less concentrated CHX preparation, which may strengthen the claim that oral CHX use may be a direct cause of it. However, the possibility that this can be due to the critical illness itself is a valid possibility. This assumption should be proven in future trials that conduct a head-to-head comparison between CHX and another or a novel

oral antiseptic agent for example.

We think that in the absence of benefits or additional harm of de-adoption of oral CHX, and until availability of further evidence, it may be appropriate to continue using oral CHX, especially during the pandemic where there is global lack of financial and human resources.

CONFLICT OF INTEREST

The first author is the inventor of oral mucosal decontamination (US20190232006A1). On behalf of all authors, the corresponding author states that there is no other conflict of interest.

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