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LETTER TO THE EDITOR

Can 8% lidocaine spray 10 min prior to endotracheal intubation reduce the incidence of postoperative sore throat?

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To the Editor:

The recent article of Honma et al. [1] on the effects of lidocaine spray administered 10 min prior to intubation on postoperative sore throat (POST) was of great interest to our group. Based on the results of their randomized clinical study, the authors reported that 8% lidocaine spray was able to significantly reduce the incidence of POST when sprayed on laryngopharyngeal structures 10 min prior to endotracheal intubation. They attributed the beneficial effect of lidocaine pretreatment on POST to be primarily due to its anti-inflammatory effects. However, we feel that there are several aspects of the methods and results of this study that need to be clarified.

First, regarding the methods, the authors do not clearly describe the criteria of inclusion and exclusion of patients. We noted that most of the study subjects were elderly patients—based on the reported mean age of >60 years for all patients in the different groups. It has been demonstrated that patients' ages are related to the occurrence of POST and that the incidence of POST increases in younger patients between the ages of 30 and 39 years [2]. In addition to the patient characteristics listed in Table 1 of their article, the authors should also explain whether the different treatment groups were comparable with respect to the other well-known risk factors of POST, such as surgical site, use of the stylet and cricoid pressure during intubation, use of nitrous oxide during anesthesia, control of intracuff pressure during surgery, among others [3]. Although the actual causes of POST are not yet clear, a number of factors, including those mentioned above, have been implicated. Thus, we suggest that a comparison of these factors among the different treatment groups would facilitate an objective interpretation of the results of this study.

Secondly, the authors do not clearly explain how they ensure that the 8% lidocaine spray is targeted exactly on the laryngopharyngeal structures 10 min prior to endotracheal intubation. Was the lidocaine sprayed under direct laryngoscopy? Furthermore, they should provide the ingredients of the 8% lidocaine and 2% lidocaine gel used in this study. The high-concentration lidocaine solution used for metered-dose pump spray often contains ethanol, polyethylene glycol 400, menthol, saccharin, and macrogolum as additives in the solvent. Also, methylparaben is commonly used as an ingredient in lidocaine gel. In fact, it is these chemical additives in the lidocaine preparations—not lidocaine itself—that can irritate airway mucosa, potentially causing airway mucosa damage, thus leading to increased incidence and severity of POST [4, 5].

Third, in this study, the POST was only evaluated at one time point, i.e., 24 h following extubation. Also, it is not clear whether POST is evaluated by an investigator who is blinded to the patient's group allocation. The incidence and severity of POST are known to be variable at different observed points after extubation, with the highest incidence of POST reported to occur 6 h post-extubation [5]. Thus, we believe that the use of a single time point to evaluate POST may have missed the effects of different treatments on the highest incidence of POST. It would have been perhaps more informative to provide data comparing the incidence of POST at more time points among the different groups.

An answer to this letter to the editor is available at doi:10.1007/s00540-011-1156-x.

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Fourth, when POST among the different treatment groups is compared, standardization of postoperative analgesia should be a crucial component of study design [5]. The type and dose of analgesia and the timing of its administration in relation to the assessment of sore throat should have been described in the methods. In the absence of this comparison of the postoperative analgesic protocol, the secondary outcome findings and their subsequent conclusions should be interpreted with caution, as they may have been determined using incomplete methodology.

Conflict of interest All authors have no financial support and potential conflicts of interest regarding this work.

References

1. Honma K, Kamachi M, Akamatsu Y, Yoshioka M, Yamashita N. Lidocaine spray 10 min prior to intubation: effects on postoperative sore throat. J Anesth. 2010;24:962–5.
2. Chen KT, Tzeng JI, Lu CL, Liu KS, Chen YW, Hsu CS, Wang JJ. Risk factors associated with postoperative sore throat after tracheal intubation: an evaluation in the postanesthetic recovery room. Acta Anaesthesiol Taiwan. 2004;42:3–8.
3. McHardy FE, Chung F. Postoperative sore throat: cause, prevention and treatment. Anaesthesia. 1999;54:444–53.
4. Hara K, Maruyama K. Effect of additives in lidocaine spray on postoperative sore throat, hoarseness and dysphagia after total intravenous anaesthesia. Acta Anaesthesiol Scand. 2005;49:463–7.
5. Hung NK, Wu CT, Chan SM, Lu CH, Huang YS, Yeh CC, Lee MS, Cherng CH. Effect on postoperative sore throat of spraying the endotracheal tube cuff with benzydamine hydrochloride, 10% lidocaine, and 2% lidocaine. Anesth Analg. 2010;111:882–6.