



Letter to the Editor

The impact of a quality improvement program on perioperative dental injuries



Dear Editor:

We have read with great interest the article authored by Kuo et al.¹ describing the use of a quality improvement program (QIP) to reduce perioperative dental injuries (PDIs). This QIP involved the introduction of a standardized electronic dental chart, consultation with dentists or oromaxillofacial surgeons for dental treatment (extraction/fixation), and the prophylactic use of dental protection devices or advanced intubating devices in patients with poor dentition. Kuo et al. concluded that the incidence of PDIs significantly reduced following the implementation of the QIP (from 0.108% to 0.009%). Based on the reported data, this QIP worked well. However, we believe that several issues need to be clarified to promote the QIP proposed by Kuo et al.

Firstly, in a large retrospective analysis (n = 598,904 anesthetics), Warner et al. reported that tracheal intubation (odds ratio = 24) and pre-existing poor dentition (odds ratio = 50) significantly increased the risk of dental injury.² However, in the study by Kuo et al.,¹ a laryngeal mask airway (LMA) caused more dental injuries than tracheal intubation prior to the introduction of the QIP and predominantly accounted for the majority (66.7%) of PDI cases during the period in which the QIP was evaluated. We believe that the authors should clarify the reasons for these conflicting results. In addition, some strategies, which are known to reduce LMA-associated PDIs, should be included in the QIP proposed by Kuo et al. At our institute, an assistant commonly exercises a two-hand jaw thrust maneuver³ to open the patient's mouth in a wide manner, facilitating LMA insertion or removal. This maneuver could avoid non-essential contact between the patient's teeth and the LMA during airway manipulation and thus reduce the incidence of PDI. At the end of the surgery, the LMA should be removed while the patient remains at a deep anesthetic level, thus preventing patients from biting the LMA. In our experience, LMA-associated PDIs rarely occur.

Secondly, as shaky teeth may have been extracted pre-operatively in some patients, it remains unknown whether other strategies (e.g., the use of advanced intubating devices) are effective in reducing the incidence of PDIs. In addition, Kuo et al. reported that some dental injuries were discovered by the patients themselves in the post-anesthetic care unit, while some

were noticed after patients were transferred to ordinary wards.¹ Aspiration of a dislodged tooth into the trachea is dangerous in unconscious patients, leading to a strong likelihood of pulmonary complications. Although the fixation of shaky teeth with wires may be helpful, it is imperative that routine dental examinations should be performed following airway manipulation to identify any tooth dislodgement or dental aspiration.

Finally, in all patients with PDI (n = 38), dental mobility was noticed in only nine patients before anesthesia was induced. This finding suggests that most PDIs occurred in patients with normal dentition, implying that the benefit of the QIP developed by Kuo et al. is limited and requires further amendment.

Conflicts of interest

The authors declare that they have no conflicts of interest related to the subject matter or materials discussed in this article.

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10 May 2017