

flow than is mean arterial pressure. As a result, the myocardial blood flows were compared at the same CPP over different levels as regulated by inhaled anesthetics. Adenosine served as the positive control in our model. We did not control heart rate in this study by pacing, because we set out to define myocardial blood flow under the clinical concentration of isoflurane and halothane at different CPP. We intended to study blood flows with the inhaled anesthetics as closely as possible to the clinical conditions. If it is an intrinsic property of the agent to vary heart rate with regulated CPP, the resulting myocardial blood flow will have more clinical significance in our clinical practice than if heart rate was artificially changed.

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#### Lingual Nerve Injury

*To the Editor:*—The case reported by Silva and colleagues<sup>1</sup> poses many unanswered questions concerning lingual nerve injuries associated with airway manipulation. Although the authors astutely recommend that pharyngoscopy be performed to determine the presence or absence of gross pathology as a cause of the injury, we should not be surprised to observe either an absence of pathology or findings that may confuse the diagnostic picture altogether.

For instance, I recently worked with a patient who was found to have hypesthesia of the left side of the tongue approximately 12 h after a 4-h anesthetic for elective abdominal surgery including tracheal intubation. Ventilation *via* mask was performed uneventfully, and oral laryngoscopy and tracheal intubation were accomplished atraumatically and without difficulty and without cricoid pressure. Of interest, the patient's endotracheal tube was consistently kept on the *right* side of the lips, oral cavity, and pharynx, with postextubation pharyngoscopy revealing an edematous and erythematous area on the *right* side of the base of the tongue immediately adjacent to the tonsillar pillar. Nerve

conduction studies performed on the tongue (facilitated by the hypesthesia) were consistent with a left lingual nerve ischemic lesion proximal to the tongue itself. The patient discussed by Silva *et al.* apparently demonstrated swelling of the left posterior aspect of the tongue only, despite having a bilateral deficit. As in that case, our patient eventually progressed to complete recovery as well.

It seems probable that, as in the case of our incomplete knowledge associated with ulnar nerve injuries,<sup>2</sup> the etiology of lingual nerve injuries is truly multifactorial, as suggested by Silva and colleagues, and goes beyond simple compression, impingement, or stretching. However, also similar to ulnar nerve injuries, it is imperative that we continue to avoid (and document) those factors—or, more likely, combination of factors—that we know may predispose to nerve injury, such as improper positioning, prolonged compression, low arterial inflow, and poor venous outflow.

Finally, because lingual nerve injuries are so rarely reported, prospective study investigating predisposing factors should involve more

subtle indicators of neuropraxia such as those found with nerve conduction studies and/or evoked potentials.

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### Perioperative Corneal Abrasions

*To the Editor:*—Corneal abrasion following general anesthesia is usually due to a preventable incident, *e.g.*, an item of apparel (wristwatch strap or hospital identification card) coming into contact with the patient's eye during laryngoscopy.<sup>1,2</sup>

We now suggest another cause of corneal abrasion that we believe has been responsible for three cases in the last 3 yr. All three patients were right-handed and had a disposable pulse oximeter probe affixed to their right index finger, and shortly after emerging from anesthesia all were seen to rub their right eye with their right hand. Within a few hours, all three patients complained of severe pain in the right eye. Corneal abrasion was suspected and an ophthalmology consult was sought in every case. The diagnosis was confirmed by fluorescein staining, and treatment consisted of eye ointment and taping the eye closed until resolution of the injury. All three patients made an unremarkable recovery.

Pulse oximetry has been established as a vital monitoring tool. Based on these three cases, however, we believe that the ring finger may be

a more appropriate site for the pulse oximeter so as to avoid this complication.

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