Comparing the steam engine with a horse-drawn carriage? [Letter]

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Angaben zur Veröffentlichung / Publication details:

Heller, Axel R., Michael Patrick Müller, and R. J. Litz. 2007. "Comparing the steam engine with a horse-drawn carriage? [Letter]." *Anesthesia and Analgesia* 104 (4): 994–95. https://doi.org/10.1213/01.ane.0000256081.65451.2c.

Comparing the Steam Engine With a Horse-Drawn Carriage?

To the Editor:

For several reasons, we take issue with the study of Liguori et al. (1) who described postoperative neurological symptoms (PONS) in patients receiving interscalene brachial plexus blockade using either mechanical paresthesia or electrical nerve stimulation for nerve localization.

First, a nonsignificant difference between groups in a comparative study may not necessarily mean that two procedures are equal. Absence of evidence is not evidence of absence. A type II error may be present especially when a power analysis is performed using two prior studies with different methodology from different groups, with a time delay of 7 yr, and when each one influenced the case load calculation for one of the two groups of the present trial. One further cause

for a missed difference, theoretically, may be found in an inability to differ between electrically or mechanically induced paresthesia produced by electric stimulation cannula.

Second, the percentage of patients with PONS in this study is strikingly high when compared with a recent study of 256 prospective patients receiving interscalene brachial plexus blockade guided by electric stimulation (2). No patient had PONS as opposed to 3% in patients in whom paresthesias had been elicited (3). Among European opinion leaders in regional anesthesia, electric nerve stimulation enjoys broad acceptance regarding its safety in comparison with the mechanical paresthesia technique (4). "When performing nerve blocks paresthesia . . . should be avoided in order to reduce nerve lesions" (5).

Third, in the light of most recent publications, high resolution and real-time ultrasound-guided regional anesthesia allows clear visualization of the target as well as adjacent structures and, thus, safe positioning of the needle, as well as observation of local anesthetic spread (6). Since even with neurostimulation peripheral nerve injury may occur, the clear depiction of the nerve and the maintenance of a distance between needle and nerve should reduce the incidence of regional anesthesia-related PONS (7). Furthermore, because observation of local anesthetic spread and, therefore, dosing on demand is now possible, administration of 50–60 mL of local anesthetic, as done in the present study, seems largely outdated and potentially toxic.

In summary, given the acceptance of high resolution ultrasound it must be questioned whether such studies comparing these two techniques (1) are justified especially in light of published closed claim analysis concerning regional anesthesia-related nerve injury (8).

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DOI: 10.1213/01.ane.0000256081.65451.2c