Bupivacaine Toxicity and Bier Block: The Drug, the Technique, or the Anesthetist

To the Editor:—Heath's letter states "... seven patients have died in the United Kingdom as a result of Bier blocks in which bupivacaine was used ..." and "... it appears that the recommended drug dosage (1.5 ml/kg as a 0.2% solution) was used ..." This together with the implication that 0.5% prilocaine is safer leaves the impression that bupivacaine was responsible.

Heath knows that bupivacaine was not the sole etiology of the deaths, but do those reading her letter? She previously reported five of those seven deaths, stating: "Three elements merit discussion: the equipment, the drugs, and the people who used them." Furthermore, a report from the United Kingdom indicated that "junior hospital doctors" (registrars in anesthesia) routinely were using questionable doses of lidocaine for regional anesthesia under less than ideal circumstances. This also was the situation with the previous five deaths where "... the doctor setting up the block was a senior house officer in accident and emergency and was due to perform the operation without help from another doctor." In 1965, abandoning the technique of intravenous regional block in the United Kingdom was suggested because with lidocaine "seven patients were found to have arrhythmia or other changes in the ECG and one patient developed cardiac arrest in asystole that was treated successfully with external massage." This recommendation was supported in the United States. Certainly abandoning the technique of intravenous regional anesthesia solves the problems. But is it the right solution with a valuable technique when neither the technique nor the drug alone is at fault? Interestingly, lidocaine is the only local anesthetic drug indicated and approved for intravenous regional block by the FDA. Therefore, Heath's letter¹ seeking advice from this country regarding the use of prilocaine may never be answered conclusively.

To conclude, Heath already has made the critical point, namely, the most important requirement for avoiding untoward sequelae with any regional block is not the technique or the drug but by whom and under what circumstances they were used.²

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Carbon Dioxide Detection to Verify Intratraheal Placement of a Breathing Tube

To the Editor:—In a recent letter, Berman and co-workers¹ reported on a device to aid in detecting esophageal intubation by bubbling expired gas through an indicator solution in a De Lee trap to confirm the presence (or absence) of carbon dioxide. We share the authors' concern about esophageal intubation, but we found their technique to be awkward, messy, and dependent on prior preparation. We much prefer the inexpensive, electronic carbon dioxide detector advertised in the very same issue of the journal. The instrument (Tri Med® model 510, $1,575) is small, lightweight, and can be powered by its own battery or alternating current. It aspirates gas through a fine plastic capillary that can be attached, in advance, to the elbow connector of the anesthesia breathing circuit, allowing it to sense carbon dioxide in the first exhalation after intubation without requiring further maneuvers by the operator. The cost of the disposable capillary tube ($2.05) is comparable to the cost of a disposable De Lee mucus trap ($1.03) plus the necessary reagents, and the elec-