CORRESPONDENCE

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To enhance the timeliness of publication of Letters to the Editor, the Editorial Board approves the changes whereby prepublication proofs of Letters accepted for publication will no longer be available. Additional guidelines regarding Letters to the Editor can be found in the Guide for Authors.

Comparison of Lidocaine Hydrocarbonate and Lidocaine Hydrochloride for Epidural Blockade

To the Editor:—The article entitled "Epidural Blockade for Cesarean Section Comparing Lidocaine Hydrocarbonate and Lidocaine Hydrochloride" reports no significant difference in any of the criteria that were examined.[1] These findings are at variance with both earlier reported work and with current unpublished studies,[2,3,*] and the cause of the disagreement requires examination.

Consideration of the authors' protocol suggests that it was designed for the laudable priority of clinical safety but not for scientific accuracy, and the drugs were injected through an epidural catheter in increments of variable total dose in such a way as to defy statistical comparison of temporal events. Thus, zero time for comparative purposes was set at the moment of injection of a test dose of "blinded" local anesthetic. Thereafter, the remainder of the dose was given fractionally in increments of 6 ml, with pauses of 3 min between each injection. Total increments varied between 2 and 5 in number, and the total volume of local anesthetic varied between 14 and 30 ml. According to the protocol, the time required to complete these injections would have varied between 6 and 15 min. How could data for latency of spread have any meaning when set against this variable background of drug administration?

Furthermore, the question of anatomic variability through inaccurate catheter placement is raised by the need to inject total volumes of 30 ml in two patients from the hydrocarbonate group. It is most unusual to require such large volumes of the carbonated solutin in pregnant women at term unless the catheter has migrated to an intervertebral foramen and some of the solution is deposited outside the epidural space. In our comparative studies, injections were made in bolus fashion through the epidural needle in order to achieve both anatomic and temporal constancy.[2,3,*]

Hopefully, a report of negative findings with such a protocol and a series of only 10 cases in each group will not discourage others from investigating lidocaine hydrocarbonate under more tightly controlled experimental conditions.

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2. Bromage PR: Improved conduction blockade in surgery and obstetrics: Carbonated local anesthetics. Can Med Assoc J 97: 1377–1384, 1967
3. Cousins MJ, Bromage PR: A comparison of the hydrochloride and carbonated salts of lignocaine for caudal analgesia in outpatients. Br J Anaesth 43:1149–1155, 1971

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* Nickel PM, Bromage PR, Sherrill DL: Comparison of hydrochloride and carbonated salts of lidocaine for epidural analgesia. Regional Anesthesia (In Press)

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In reply:—We appreciate the opportunity of replying to the letter from Bromage and Nickel. Our study was designed to eliminate as many confounding variables as possible, including the addition of epinephrine to the local anaesthetic solution. The one variable we could not control was the total dose required by each individual patient.

In previous studies[1–4] comparing lidocaine hydrochloride with lidocaine hydrocarbonate, the drugs were injected into the epidural space in bolus fashion. We agree that our use of incremental doses may have affected our observations of latency of onset and spread. However, the bolus injection of large doses of local anaesthetic solution into the epidural space in term pregnant patients is not considered to be a safe and acceptable practice. In the context of current practice, we believe that our observations do, indeed, have scientific validity. The drugs were administered in identical manner in each of the two groups studied, and we suggest that any differences (or