

Authors' Response

Sir,

We read the letter to the editor by Dr. David M. Benjamin to our case report "Fatality Involving Complications of Bupivacaine Toxicity and Hypersensitivity Reaction." Dr. Benjamin states that we attributed the death to an allergic reaction to bupivacaine. We disagree with his conclusion of our paper. In fact, we clearly state in our conclusion that the cause of the death was determined to be complications of the local anesthetic, bupivacaine, for local nerve block for shoulder surgery and that mechanism of death was cardiopulmonary arrest. As discussed in the case report, the findings in this case of seizure activity, bradycardia, and cardiac arrest are those of bupivacaine toxicity. Furthermore, we discussed that autopsy revealed several abnormalities of the heart including cardiomegaly, myocardial bridging, and lipomatous hypertrophy of the intraatrial septum that may have contributed to bradycardia and arrhythmia. We further stated that the moderately elevated cardiac tryptase concentration raises the possibility of anaphylaxis that may have contributed to the cause of death.

Dr. Benjamin states that allergic reactions to the amide class of local anesthetics are rare in comparison with the esters. Although his statement is true, there are many published reports that conclude that bupivacaine can cause allergic reactions (1–6). He further suggested that the patient did not have an allergic reaction to bupivacaine, but to one of the preservatives in the formulation. We are not sure what this suggestion is based on given documented cases of hypersensitivity to bupivacaine, and availability of preservative-free bupivacaine formulation. The review of the marcaine (bupivacaine) formulations showed that it is available as preservative free or with preservatives methylparaben and sodium metabisulfite. As we do not have the original vial, it is difficult to say with certainty which formulation was given to the decedent. Also, as stated in the case report, bupivacaine-specific IgE assay is not available.

Therefore, hypersensitivity reaction to bupivacaine is presumptive based on an elevated tryptase concentration.

In conclusion, we clearly attributed the death to the complications of bupivacaine toxicity with the possibility of anaphylaxis to bupivacaine as a contributory factor.

References

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