Postsurgical Inflammatory Neuropathy Should Be Considered in the Differential Diagnosis of Diaphragm Paralysis after Surgery

To the Editor:

We read with interest the article by Kaufman et al. on the development of phrenic neuropathies after intraoperative scalene block. Although these cases are well described and instructive in the role of adhesions contributing to phrenic neuropathy, this is but one potential mechanism by which inflammation may contribute to the development of perioperative neuropathies. Local or generalized inflammation of the microvessels in nerve and subsequent ischemic injury are observed in a variety of neuropathic conditions, including diabetic and nondiabetic asymmetrical neuropathies and idiopathic and hereditary brachial plexus neuropathy, the latter of which is also reported to have a predilection for nerve, and a block had been performed. My statement in reply with my comment regarding the Kaufman data that “Few conclusions can be made from a case series with certainty, but their observations support several preliminary hypotheses.” Because I offered only hypotheses on this matter, I suspect that it is actually with these hypotheses that Bellew et al. take issue with my statement that the patients reported by Kaufman et al. developed “chronic diaphragmatic paralysis that was clearly due to phrenic nerve damage after ISB [interscalene blockade].” However, there was obvious phrenic nerve damage sufficient to cause diaphragmatic paralysis, which usually recovered with treatment of that nerve, and a block had been performed. My statement is a correct summary of the report boiled down to its scientific bare bones. This statement was immediately followed by my comment regarding the Kaufman data that “Few conclusions can be made from a case series with certainty, but their observations support several preliminary hypotheses.” Because I offered only hypotheses on this matter, I suspect that it is actually with these hypotheses that Bellew et al. are uncomfortable. Yet it is established that local anesthetic reaches the phrenic nerve and anterior scalene muscle, that local anesthetic damages nerves and especially muscle, and that muscle damage leads to scaring. Given what is known, it would be surprising if phrenic nerves were not damaged by interscalene local anesthetic injection.