Letters

Mivacurium: A replacement for succinylcholine?

To the Editor:

Mivacurium (Mivacron®), a new, short-acting, nondepolarizing neuromuscular blocking agent has been released this year to the anesthesia community. It has been marketed as a substitute/replacement for succinylcholine; however, there are subgroups within the general population in whom mivacurium administration should be avoided. These groups include patients with pseudocholinesterase deficiency (heterozygous and homozygous), those with disease processes, and/or those who are self-administering prescription medication which may alter normal pseudocholinesterase activity. Of additional concern is the unpredictable antagonism of mivacurium-induced neuromuscular blockade with anticholinesterase drugs.

I am personally aware of four cases where prolonged apnea occurred secondary to mivacurium administration. Two patients had pseudocholinesterase deficiency, another had a prolonged block of unknown etiology, and one received physostigmine.

First, in the cases of pseudocholinesterase deficiency, these providers bought into the idea of a "nondepolarizing, succinylcholine replacement" and forgot about the similar metabolism. (One provider was told by his sales representative that "mivacurium's metabolism is similar to atracurium's") Additionally, one of these patients, upon apparent recovery from mivacurium, had physostigmine administered to " expedite recovery" and became "weak again." Second, one patient experienced prolonged apnea, 60 minutes prior to spontaneous recovery, with no known etiology. Lastly, the patient with normal pseudocholinesterase activity was reversed after mivacurium "appeared to be wearing off" and experienced prolonged apnea. Fortunately, no personal injuries occurred with these incidents.

I believe this problem is also occurring in other parts of the country. Therefore, I would like to remind every provider to:

1. Thoroughly review the product literature.
3. Reconsider the disease processes and drugs which alter normal pseudocholinesterase activity.
4. Be judicious when administering anticholinesterases to reverse mivacurium's effect, if at all.

Truly, mivacurium is a "nondepolarizing" drug, very different from the other nondepolarizers and very similar to succinylcholine.

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