Pediatric Anesthesia

CORRESPONDENCE

Caudal clonidine and apnea risk

Sir—I read with interest the challenging editorial by Dr. Lönnqvist on the use of adjuncts with regional anesthesia (1). As with his previous work on the subject, I commend his forward thinking and crisp review, although I disagree with one specific recommendation. In Table 1, he recommends the use of clonidine as an adjunct to local anesthesia in a caudal epidural block in ex-premature babies, neonates, and infants, and cites five articles to support this practice. 'Only one relevant case report exists linking the use of adjunct clonidine to postoperative apnea following awake caudal blockade in an ex-premature baby', he wrote (1).

For ex-premature infants and neonates, perioperative respiratory events including apnea present the greatest perioperative risk. Of the five citations listed to support clonidine use in this population, four did not concern the use of clonidine in humans. The fifth, a meta-analysis by Engelman, includes no patients under age 6 months; and many of the studies with infants under 1 year failed to capture perioperative respiratory events (2).

The case report he notes may be the only case he finds relevant; however, it is common practice to use caudal analgesia in conjunction with general anesthesia. A decade ago, Dr. Hansen found three cases concerning for caudal clonidine-induced apnea (3). The case noted by Dr. Lönnqvist detailed the use of two procedures, both using caudal blocks, in the same patient; one contained clonidine and one did not. This patient developed multiple apneas following caudal clonidine, causing a prolonged hospital stay, and had no apneas with the clonidine-free caudal block.

Caudal clonidine is increasingly being viewed as safe for outpatient use for older children (4). A casual reader may choose to give caudal clonidine to a patient at high risk for apnea based on a cursory reading of Dr. Lönnqvist's editorial. In view of the cases noted by Dr. Hansen, the safety profile for patients at high risk of apnea, such as ex-premature babies and neonates, should be demonstrated before it is routinely recommended.

In fact, Dr. Lönnqvist has previously supported this general view. In an editorial he authored in 2005, he admonished readers not to use untested drugs in children's neuraxial space (5). While there are multiple studies on the use of intrathecal clonidine in this population, I submit that his recommendation of the use of caudal clonidine in neonates and ex-premature infants is premature and should be withdrawn. My concern also stems from personal experience, as I attended a bradycardic cardiac arrest in an ex-premature infant on the inpatient ward. This arrest was caused by and preceded by numerous apneas. This patient had received 1 $\mu g \cdot kg^{-1}$ caudal clonidine and general anesthesia hours earlier, and no other causal factor could readily be found.

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Conflict of interest

No conflicts of interest declared.

Ethics

No approval is necessary.

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