CONTINUOUS SPINAL ANESTHESIA FOR CESAREAN SECTION FOR A MORBIDLY OBESE PATIENT

To the Editor:

Regarding a June 2002 AANA Journal article titled “Continuous spinal anesthesia for cesarean section for a morbidly obese patient: A case report” (Coker LL. AANA J. 2002;70:189-192), I wonder if the author considered injecting a prophylactic epidural blood patch when he removed the spinal catheter.

The incidence of postdural puncture headache (PDPH) is as high as 33.1%, although, as the author noted, the incidence may be lower in obese patients. Injecting an epidural blood patch is an effective treatment for PDPH that could enhance the safety of the continuous spinal technique.

Would a prophylactic PDPH be justified?

REFERENCES


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Response:

The question posed as to whether or not to perform a prophylactic epidural blood patch (EBP), administered via the already-in-place catheter, was received with interest and consideration of its applicability given. After consideration, I feel that the confirmation of the catheter tip location is too difficult to determine and might subject the patient to additional risk.

Upon the withdrawal of the spinal catheter, how does one know when the catheter leaves the subarachnoid space and becomes an epidural catheter? Outside the ability to aspirate cerebral spinal fluid (CSF) from the catheter, which would positively indicate subarachnoid placement, I cannot be certain as to catheter placement. Even in the absence of CSF aspiration, I cannot entirely eliminate the possibility that the catheter remains in the subarachnoid space. Especially with an open-ended catheter, as was used in the presented case report, the lumen could become obstructed upon negative aspiration of the catheter by a dural wall flap that resulted from the dural rent created upon the entry of the 17-gauge epidural needle into the subarachnoid space. Because blood and its breakdown products within the subarachnoid space are an insult and irritant to the meninges, it would be undesirable to inject a 15- to 20-mL volume of blood at that location.

Even upon withdrawal of the catheter to a point that I am certain that I am no longer in the subarachnoid space, the question remains, “How do I know that I am in the epidural space?” Extreme resistance exists when pushing autologous blood through a 19-gauge catheter, and, therefore, catheter resistance may not be a reliable indicator of location. Because of body size in the morbidly obese, much more catheter length will be inserted whereby the graduated markings on the catheter may become concealed. Therefore, the graduated markings may not always be useful in determining catheter location. I know of no way, except by epidurography, to confirm epidural placement.

I think that a prophylactic EBP following a wet tap can be safely performed through a proven epidural catheter. The epidural catheter, which has provided effective epidural analgesia through the course of labor or for cesarean section, may confidently be used to administer an EBP. Otherwise, I do not feel confident in blindly injecting blood through a lumbar catheter.

Since the incidence of postdural puncture headache (PDPH) is much lower in the morbidly obese (6%-10% incident rate), I feel it to be more prudent to administer an EBP as indicated following a definitive diagnosis of PDPH. It is my opinion that the risk of performing a prophylactic EBP, through a catheter where tip location is at question, outweighs any potential benefit that might be gained.

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PREVENTION OF POSTOPERATIVE NAUSEA AND VOMITING

To the Editor:

In 2001, the US Food and Drug Administration warned that the highly effective antiemetic droperidol, commonly used in anesthesia, has been associated with fatal torsades de points (TdP) arrhythmias with use of standard doses. For prevention of postoperative nausea and vomiting, low dose droperidol, 0.625 mg, was found as effective as ondansetron, 4 mg, or promethazine, 12.5 mg, when given intravenously 30 minutes prior to emergence from general anesthesia, without significant differences in adverse events. Droperidol is a neuroleptic butyrophenone antiemetic with alpha-adrenergic antagonist activity that inhibits dopaminergic receptors in the chemoreceptor trigger zone. Butyrophenones may cause sudden death due to prolongation of the QT interval.

Several other antiemetic and anesthetic drugs also may prolong the QT interval and contribute to arrhythmias if combined with droperidol. Dolasetron alters “electrocardiographic parameters indicative of ventricular depolarization (QRS duration), whereas ondansetron
predominantly affected ventricular repolarization as measured by a prolongation of the JT interval.” First generation H1 antihistamines, such as diphenhydramine, also may cause prolongation of the QT interval, and in patients with hypokalemia, hypomagnesemia exacerbates tachycardia or arrhythmias. Additionally, sevoflurane may prolong the QT interval.

Some preoperative medicines may place surgical patients at risk for lethal TdP arrhythmias including antiarrhythmics, cancer treatments, antipsychotics, antibiotics, and antidepressant drugs. Antibiotic fluoroquinolones, such as levofloxacin, may prolong the QT interval and result in arrhythmias. Other drugs that may prolong the QT interval include class Ia antiarrhythmics, phenothiazines, tricyclic antidepressants, thiazide diuretics, or sotalol. Amiodarone also may prolong the QT interval and be associated with fatal TdP arrhythmias. Procainamide may increase PR and QT intervals, widen QRS, and may cause heart block or TdP.

Patients who may be at risk for development of a prolonged QT interval are those with hypokalemia and hypomagnesemia; congestive heart failure; bradycardia; cardiac hypertrophy; conduction disorders, such as arrhythmias or prolonged QT interval; a history of alcohol abuse; or impaired hepatic or renal function. In order to minimize the cardiovascular and patient safety risks associated with droperidol, this low-cost antiemetic should be cautiously administered concomitantly with other anesthetic drugs or conditions known to prolong the QT interval.

REFERENCES

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Author’s Clarification
Geraud Moyers, CRNA, MSN, coauthor of the article, “Use of the Cook airway exchange catheter in ‘bridging’ the potentially difficult extubation: A case report” (AANA Journal. 2002;70:275-278) wishes to clarify that the name of his coauthor, Lynne McDougle, CRNA, BS, was inadvertently omitted from the published article. McDougle was on the faculty and one of Moyers’ clinical instructors at the Medical College of Virginia/Virginia Commonwealth University when the paper was written. She was involved in developing the case report and providing safe care of the patient. McDougle is currently a nurse anesthetist at Commonwealth Anesthesia Associates, Richmond, Va.