LETTERS

Another Case of Knotting of an Epidural Catheter

To the Editor: We are reporting a case of a knotted epidural catheter during catheter placement. A 39-year-old primigravida patient was admitted in early labor at 37 weeks' gestation. She had a history of chronic hypertension and diabetes. Her platelet count was within normal limits. When she was at 4 cm cervical dilatation, she requested epidural analgesia.

The epidural space was identified on the first attempt at the L3-4 intervertebral space with the patient placed in a sitting position and using a midline approach with loss of resistance to saline. The epidural space was at a depth of 5 cm. A 20-gauge catheter (B. Braun Medical Inc, Bethlehem, Pennsylvania) was threaded 8 cm beyond the needle tip. While the Tuohy needle was being removed, the catheter was continuously threaded at the same time. Then the catheter was attempted to be withdrawn in order to leave 5 cm in the epidural space. However, significant resistance was encountered during the withdrawing of the catheter despite steady and persistent traction. After detailed explanation to the patient and her partner, the anesthesiologist applied firm and steady traction on the catheter with the patient placed in the same position as during the catheter insertion. After steady and gentle traction, the entrapped catheter was removed. A loop with knot was revealed 7.5 cm away from the catheter tip (Figure 1 and Figure 2). Using a new epidural tray (B. Braun Medical Inc, Bethlehem, Pennsylvania), the epidural catheter was placed at the L2-3 intervertebral space without difficulty. The epidural analgesia resulted in effective labor pain relief. The infant was delivered uneventfully and afterward the epidural catheter was removed without any difficulty. The patient had no neurological sequel.

Knotting of the catheter is very rare complication of epidural analgesia with an estimated incidence of 0.0015%.[1] Knotting of the catheter has been reported in the lumbar, caudal, and thoracic regions. Most of the cases (88%) involved obstetric patients.[2] In most cases, knotting of the catheter was discovered when the catheter was about to be removed. In our case, the knotting was identified while the catheter was being placed.

Leaving too much catheter in the epidural space may relate to knotting, malposition, and displacement.[2,3] Many anesthesia providers thread the epidural catheter more than 7 cm into the epidural space and subsequently withdraw the catheter to leave the desired length within the epidural space.[2] Initial insertion of excessive amounts of catheter may lead to deviations in direction, coiling, curling, kinking, or doubling back.[2] That was what happened in our case; 8 cm of the catheter was inserted before the Tuohy needle was removed. As the Tuohy needle was being withdrawn, the catheter was continuously threaded and the speed of catheter insertion was faster than the speed of the Tuohy needle removal. Therefore, the actual length of the catheter in the epidural space might have been even longer before pulling back.

To facilitate catheter removal and

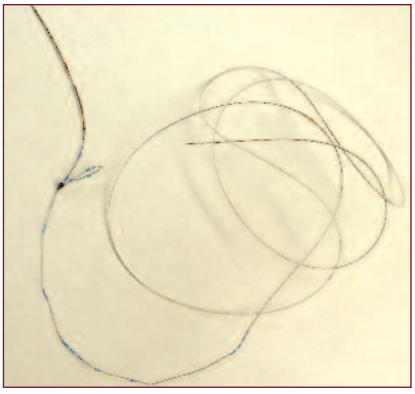

Figure 1. Knotted Epidural Catheter

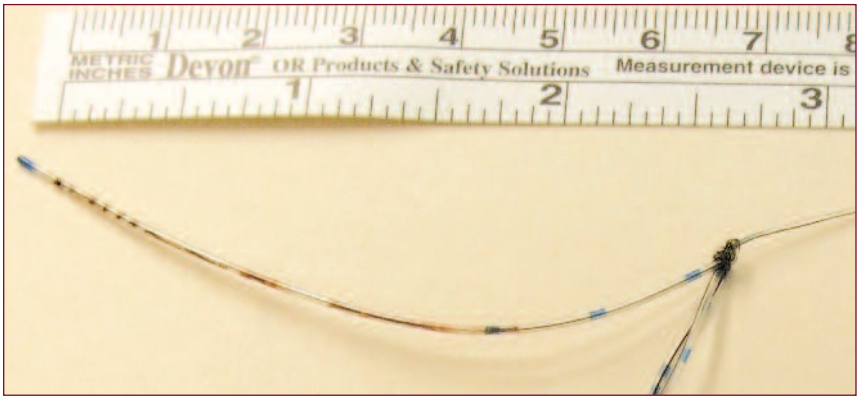

Figure 2. Magnified Picture of the Knotted Epidural Catheter

minimize the risk of breakage, gentle and steady traction should be applied on the catheter at the skin with the patient in the same position as during catheter insertion.[2,3] Some epidural catheters can be stretched by more than 300% of their original length without breaking.[4] Surgical removal is necessary when the patient is symptomatic during attempts to remove the catheter and, if during traction, a piece of the catheter breaks and remains entrapped and the patient demonstrates neurological signs.[5]

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Health Insurance in the United States

To the Editor: It has been widely reported that the number of uninsured Americans is a major sociopolitical issue that merits our concern and policymaking efforts. However, after reading, "Health Insurance in the United States," by Lisa M. Riedel, CRNA, DNP,[1] this article appears to be a de facto endorsement of the controversial Obama Administration's universal healthcare insurance proposal. Moreover, I believe that there are many confusing and misleading statements in the article.

For example, the cited statements: "The uninsured and underinsured simply cannot get the care they require."[2] and "We are the only developed nation on Earth that does not guarantee healthcare to its people."[3] are misleading. Despite the fact that not all citizens are covered by health insurance, all US hospitals are required by the Emergency Medical Treatment and Active Labor Act of 1986 (42 U.S.C. § 1395 dd, EMTALA) to take patients who have no insurance and no ability to pay. The definition of emergency is flexible and vague enough to include almost any condition. Furthermore, many patients can very often obtain health services from providers who treat patients regardless of their ability to pay.[4]

In addition to including distracting and confounding information on health executive compensation in her article, the author would also apparently have us believe the astounding claim that not having health insurance is a major cause of morbidity and mortality.[2] In reality, it appears that there are many complex factors including age, gender, geographic location, social stratification, educational level, employment status, and socioeconomic disadvantage that are more closely linked to poor health. And, on closer analysis, it also appears that the care one receives is actually not affected by whether one is insured or by the type of insurance one has.[5-11]

The statement that the World Health Organization (WHO) ranked the US healthcare system 37th in the world[12] makes it appear that US healthcare is substandard. This is very misleading, and the WHO statistical ranking demands clarification. The WHO acknowledges that much of its data is incomplete because of inconsistent reporting and variable ways to collect and interpret data, ie, the main problems with these indicators relate to accuracy and international comparability. In fact, the WHO actually stopped doing the ranking in 2000 because of the difficulty of compiling data.[13,14] Although US healthcare can be expensive without insurance, healthcare in the United States is second to none. To state otherwise should be considered a grievous insult to all healthcare providers and healthcare institutions in the United States. Furthermore, in many countries, the promise of universal coverage leads to rationing of care, budget deficits, tax increases, benefit reductions, and long waiting lists for treatment.[15]

In my opinion, the article is basically a biased literature review authored by a person with a personal agenda rather than an article that complies with the stated purpose of the *AANA Journal*. The only reference to anesthesia in the article was what many would consider to be a racially insensitive and stereotyped example of an American family of Nordic descent whose head of household just happened to be a CRNA involved in a tragic accident. Perhaps the author should have included specific insurance related information to all CRNAs on how to avoid a loss of insurance coverage after a tragic accident rather than lamenting that the widow should be able to "grieve her loss" without having to worry about insurance issues after the fact. It appears that by publishing this article the *Journal* has simply offered a platform for moral proselytizing on a very contentious sociopolitical issue.

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Response: I thank Joseph J. Kraska, CRNA, PhD, MSNA, for taking the time to thoughtfully respond to my article on health insurance. The article was not an endorsement of current government reform efforts but an explanation of the process of health insurance reform in the US Senate and House of Representatives.

You are correct in that emergency services are provided to everyone. These services are not free. They are billed to patients. Hospitals spend considerable time and energy trying to recoup costs as people go into massive debt trying to pay their healthcare expenses. And yes, there are multiple factors that increase morbidity and mortality. Socioeconomic status, educational level, and employment status are closely tied with the ability to obtain health insurance. Those without health insurance (as well as other factors) suffer worse health outcomes.

I would be careful when citing research studies. The Heartland Institute and Cato Institute are privately funded organizations with a very narrow agenda. Their research is biased to the point they want to prove.

My article was meant to spark interest and discussion among CRNAs about health insurance. Health insurance affects our profession, our patients, and our families. I am glad it caught your attention. We will probably never agree, but I am proud to live in a country where we can both be heard. And I am proud to belong to a national professional organization that will let all of its diverse members be heard.

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Author's Correction

Dino F. Kattato, CRNA, MS, makes 2 corrections to his February 2010 article titled "A Modified Approach to Intubation and Single-Lung Ventilation for Lobectomy in a 2-Year-Old Child: A Case Report" (*AANA J.* 2010;78(1):24-27).

1. On page 25, right column, first sentence of the first full paragraph, the word "upper" should be changed to "lower" so the sentence reads: "As planned, a right **lower** and partial middle lobectomy occurred without complications."
2. On page 26, left column, first sentence, "the right lower lobe" should be "the right [lung]" so the sentence reads: The postoperative day 0 check that night revealed that the left lung was clear, **the right [lung]** was still expanded, and oxygen saturation values remained 97% to 99% on room air.