

Learning From Others: A Case Report from the Anesthesia Incident Reporting System

CASE 2020-12: No harm, no foul? Full disclosure in a culture of litigation

A healthy 8-year-old child was having a lower extremity procedure. The anesthesiologist planned to do a femoral nerve block. The site was visibly marked. A time out was performed prior to the block. Cefazolin and ropivacaine were ordered from the pharmacy and delivered in the same paper bag, both in syringes. The block was performed under ultrasound guidance. Once the block was completed, the anesthesiologist discovered the cefazolin was injected instead of the local anesthetic. There was no harm to the patient.

The AIRS database contains numerous incident reports of medication errors, and we could review this medication error in detail, even if only to express frustration that these events occur again and again, despite many publications on how to prevent medication errors, including wrong route errors (*BMJ* 2011;343:d5543; *Can J Anaesth* 2004;51:756-60; *Br J Anaesth* 2017;118:32-43). We could discuss how, despite the availability of bar code systems such as SaferSleep (*BMJ* 2011;343:d5543) and the Codonics system (*Anesth Analg* 2015;121:410-21), few institutions have invested in them. We could discuss the seeming refusal of so many of us to “read the label carefully” and explore how our System I thinking (fast, automatic, subconscious) naturally leads us to misperceive labels even when we do read them (seeing what we expected to see, rather than what is there).

Our discussion about how this error occurred could also include a discussion of “affordances,” whereby well-designed things seem to indicate their logical use (*Things That Make Us Smart: Defending Human Attributes in the Age of the Machine*. Perseus; 1993). For example, a door knob asks to be turned, and a door plate to be pushed. The reporter indicates both were delivered in syringes – in common adult practice, one would have expected the antibiotic to be delivered in a minibag, with the ropivacaine in a syringe. In that instance, the mini-bag lends itself to a slow drip into an



IV, whereas a syringe more readily seems to indicate injection into a tissue space. In pediatric practice, however, antibiotics are commonly delivered in syringes to accommodate both small weight-based doses and to limit infused volumes. Because both medications were delivered in syringes in the same delivery bag, confusion was made more likely, as the affordance of both were the same. It was equally likely that the ropivacaine could have been injected into the IV, which could have resulted in more significant harm (local anesthesia toxicity). This case resulted in no evident harm, but the literature is rife with cases of devastating outcomes due to such confusion, none more so than that of vincristine and methotrexate, both chemotherapeutic agents used in treatment of CNS cancer, with vincristine infused intravenously and methotrexate injected into the CNS. There are at least 170 cases in which both agents were delivered in syringes, and vincristine injected into the CNS, resulting in a rapidly progressing neuropathy and an ascending encephalopathy that inevitably and painfully progresses to paralysis, coma, and then death (*Qual Saf Health Care* 2010;19:323-6). Although the

safer method of delivering vincristine in a mini bag (indicating infusion into an IV) and methotrexate in a syringe was proposed in 1980, this method only became an ISMP national safety goal in 2019. It would make sense that when antibiotics are supplied in syringes, especially in mixed adult and pediatric facilities, they should be visibly and conspicuously segregated from other drugs that must be delivered by different routes, or conversely that local anesthetics (or any other drug that must never be delivered intravenously) be clearly demarcated from other drugs. The new ISO standard 80369-6 (“NRFit”) designates new connector dimensions for syringes containing local anesthetics that prevent them from being fitted to IV Luer connectors and is a systems approach to preventing these errors (www.asra.com/news/143/what-is-iso-80369-6-2016).

Finally, we could discuss the use of color coding, which is common if not ubiquitous in anesthetizing locations, at least in high-income countries. However, many pharmacists believe that color coding should not be used and that using a white label for every medication would force a more focused reading of the label (*P T* 2012;37:199-201). There is no evidence to our knowledge to support this view. There is evidence that color-coded labels can reduce interclass errors (i.e., between opioids and muscle relaxants), although perhaps not intraclass ones (morphine instead of fentanyl) (*Can J Anaesth* 2000;47:1060-7). Further, we know from many anecdotes that our brain often perceives the drug name on a label to be what we expected, rather than what is there. In this instance, the syringe of ropivacaine

could also have been sent with a yellow label to indicate a neuraxial or regional nerve route of injection.

All of these topics would be worthy of a discussion. This case, however, raises a key and interesting ethical question of whether or not full disclosure should occur here, and the parents be told of the error. Not that long ago, when many of us trained, no one would have thought of disclosing this erroneous injection to the patient and family, and we would have found some plausible excuse for why the block wasn’t effective. No harm occurred, after all, and to disclose might decrease the parents’ confidence in the anesthesia team and the hospital as well. For many years, medical errors were disclosed only behind the closed doors of a morbidity and mortality conference, where the error would have been ascribed to the poor judgment or carelessness of an individual. The concept of system vulnerabilities was unheard of, and individuals involved in medical errors were chastised and then exhorted to try harder. The prevailing tort system only contributed to secrecy, for fear that disclosure would lead to a malpractice suit. This practice, however, left many injured patients without an explanation, any compensation, or even compassion for their injured state, and those who committed the errors were left with shame, guilt, and continual anxiety about the next potential error.

In 1984, Dr. Hilfiger, a family practice physician in rural Minnesota, wrote a moving essay in the *New England Journal of Medicine* about making medical errors and the emotional impact for him even when the errors were disclosed and forgiven by the patients and families. He wrote “The medical profession simply seems to have no place for its mistakes. There is no permission given to talk about errors, no way of venting emotional responses. Indeed, one would almost think that mistakes are in the same category as sins: it is permissible to talk about them only when they happen to other people” (*N Engl J Med* 1984;310:118-22).

Fortunately, since that essay 30 years ago, there has been an increasing awareness both of the inevitability of human error and of the need to disclose these errors to those injured by them. Disclosure certainly preserves the patient’s autonomy, i.e., the right to know what transpired and to have that information in order to make subsequent informed choices about further care. Although the medical error itself may not constitute a violation of good practice, failure to disclose may (*Arch Intern Med*.

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Review of unusual patient care experiences is a cornerstone of medical education. Each month, the AQI-AIRS Steering Committee abstracts a patient history submitted to the Anesthesia Incident Reporting System (AIRS) and authors a discussion of the safety and human factors challenges involved. Real-life case histories often include multiple clinical decisions, only some of which can be discussed in the space available. Absence of commentary should not be construed as agreement with the clinical decisions described. Feedback regarding this article can be sent by email to airs@asahq.org. Report incidents or download the AIRS mobile app at www.aqiairs.org.

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2000;160:2089-92). Paradoxically, disclosure actually preserves trust between patients and physicians, particularly when a patient or family may already suspect an error has occurred (promised analgesia not present). There is also the possibility that other staff, having witnessed the event, may inform the patient – it is far better for this information to come from the physician involved. Despite widespread agreement among physicians that disclosure should occur, and that they themselves would want to be told, only 50% of physicians say that they have provided disclosure after making an error (*BMC Health Serv Res* 2015;15:130).

How to provide disclosure is not a lecture typically given in medical school (possibly with the exception of New Zealand), so most of us feel at a loss of how to do so. Fortunately, many hospital risk management teams now provide support and guidance on how to disclose. Disclosure needs to happen as soon after the event as possible, yet with some planning and consideration of approach. Typically, the error itself is known immediately (medication error whereby the antibiotic was injected as a nerve block) even though the causes may not be clear. Thus, it is fine to tell patients and families, “We don’t understand yet how this error came about, but we are going to do a thorough investigation and keep you informed of

ASA is interested in collecting vaping-specific data to formulate recommendations for anesthesiologists taking care of these types of patients. The AIRS database is now capable of receiving data for this purpose. Please enter any available information at www.aqjairs.org.

what we learn.” (One must then, of course, keep them informed.) Full disclosure should begin with the truth as it is known at that time – that an error has occurred and what harm might be expected, and this disclosure should include an apology for this having happened. Patients appreciate a discussion of what actions will be taken to understand the error and what will be done to prevent it from happening to another patient. It is typically best if the primary physician, typically a surgeon, can be present as well; but if an anesthesiologist makes an error, he or she should be the one to speak to the patient and not leave this to the surgeon or a committee. It is clear from patient surveys that patients want full disclosure: they also want empathy and to be heard. They want an opportunity to tell the team how this error has affected them, often at length. Too often our impulse is to quickly stammer out the disclosure and then abruptly depart, leaving patients alone to process the many questions and emotions they will have. Understandably, listening at length to a patient or family can be difficult, even as the physician responsible is struggling with the natural shame and guilt that can accompany an error.

Most physicians now agree that full disclosure certainly applies when a patient

has suffered harm, but what about this case, when there was no evident harm per the report? Certainly, the argument to disclose only when harm is present has some support around the world, particularly in the United Kingdom, where physicians have a “duty of candor” albeit only when at least moderate harm has occurred. This boundary seems difficult, as who determines what constitutes “moderate harm?” The patient’s view of whether harm occurred certainly may differ from the physician’s view and may include emotional responses, not just physiological ones. The legal concept of “material harm” is relevant here, with the definition of “material” being an event or fact that is sufficient to influence a decision or course of action. Whether a specific error constitutes material harm to a given patient will vary considerably, and, because the clinicians cannot ascertain *a priori* knowledge of the error will affect the patient’s subsequent decision-making, this standard suggests that *every* error should be disclosed.

In addition, let us question the “no harm to patient” statement in this report – the patient was intended to have a block, and now is denied efficacious analgesia. Omission of best practice can constitute

harm in and of itself. Whether or not the antibiotic achieves appropriate prophylactic systemic levels is another potential harm. We also have little experience with injection of antibiotics in or near a nerve: might a neuropathy develop at a later date? It seems to us that any medical error that reaches the patient should be disclosed, as is the situation in New Zealand, where the Code of Patient Rights includes “the right to receive the information that a reasonable consumer in a given situation would expect to receive.”

Medical error clearly is part and parcel of being a physician. Even as we strive every day to provide faultless care, the same cognitive processes that allow us to react instantaneously to a ruptured aorta or an unanticipated difficult airway also open the door to errors. As we become more cognizant of the fact that we will make errors, we must also become comfortable with openly discussing them with patients when they occur. We certainly must always strive to understand why an error occurred and mitigate the vulnerabilities that allowed the error to reach the patient, but that is not enough. We need to face openly and frankly the fact that an error has occurred and to honor the patient and families involved by giving them all of the information we have as well as our full empathy and compassion. Our first pledge is to “do no harm,” but when we fail in that pledge, we have clear and no less important duties to disclose and support. ■

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2021 ASA Excellence in Research Award: Call for Nominations

The annual ASA Award for Excellence in Research recognizes an individual for outstanding achievement in research that has or is likely to have an important impact on the practice of anesthesiology.

The individual’s work must represent a body of original, mature, and sustained contribution to the advancement of the science of anesthesiology. The nominee need not be a physician, an anesthesiologist, or a member of the ASA, but must be presently engaged in research related to anesthesiology, academically accomplished with peer-reviewed publications and funded research, and nominated in

response to a call for nominations. The completed application must include the nominee’s current curriculum vitae, a letter of nomination, and a seconding letter from two individuals with an understanding of the research contributions of the individual.

The deadline for nominations for the 2021 ASA Excellence in Research Award is March 31, 2021. Please submit nominations or any questions regarding this award to Ryan Walther, Managing Editor, *Anesthesiology*; e-mail: managing-editor@anesthesiology.org. Visit asahq.org to discover details about previous award winners!

2021 James E. Cottrell, MD, Presidential Scholar Award: Call for Nominations

The James E. Cottrell, MD, Presidential Scholar Award recognizes colleagues who dedicate their formative careers to research. Anesthesiologists who are within 10 years of their first appointment to a department of anesthesiology, who are Board-certified in their country of practice, who are ASA members, and who are clinically active in anesthesia, intensive care, or pain medicine are eligible for the award. Nominees must be academically accomplished with peer-reviewed publications and funded research. Candidates should be nominated by their department chair or by the Committee

on Research. The nominee’s department chair should submit a letter of support and the nominee’s current curriculum vitae as well as one seconding letter from a senior faculty member. Only one nominee per department will be accepted.

The deadline for nominations for the 2021 James E. Cottrell, M.D., Presidential Scholar Award is March 31, 2021. Please submit nominations or any questions regarding this award to Ryan Walther, Managing Editor, *Anesthesiology*; e-mail: managing-editor@anesthesiology.org. Visit asahq.org to discover details about previous award winners! ■