Discussion

Presenter: Dr Dao M. Nguyen

Dr Gail E. Darling *(Toronto, Ontario, Canada)*. Very nicely presented, Dao. Thank you.

Dr Dao M. Nguyen *(Miami, Fla)*. Thank you, Gail, for your comment. I appreciate it.

Dr Darling. You've really addressed an important topic, which has been highlighted at a number of presentations at this meeting, which is the opioid crisis and where those drugs come from. And of course, we know that a lot of those drugs come from us. So this is a very important measure to actually save lives in this country by reducing the amount of narcotics that we're prescribing to our patients whether they take them or whether their kids take them or somebody picks them out of the garbage. Enhanced Recovery After Surgery (ERAS) also includes preoperative education, and we heard from a previous presentation that preoperative phase is maybe the most important part of ERAS, or Enhanced Recovery After Thoracic Surgery (ERATS). So, my first question is what do you do in terms of your preoperative teaching with regard to a patient's expectations for their pain management or for pain scores, for example?

Dr Nguyen. That's a very good question. I appreciate your bringing it up, Gail. Preoperative preparation as well as setting a realistic expectation of the postoperative course is an essential component of ERAS. We prepared printed booklets that contain pertinent, easy-to-understand information about the preoperative, intraoperative and postoperative cares. We provided these booklets to patients with simple instructions at the time of the preoperative clinic visits. Our preoperative clinic personnel, mainly advanced registered nurse practitioner, also go over the preoperative and perioperative cares with then patients at preanesthesia clinic visits. For instance, we inform our patients that our average postoperative length of stay after a robotic thoracoscopic lobectomy is 3 days, we do our best to achieve that goal. For people who are frail or live alone, we institute postoperative discharge planning on the morning of postoperative day 1.

Dr Darling. Do you do anything specific with regard to pain scores? So for example, what used to happen in our institution, the recovery room nurse would ask the somnolent patient to rate their pain on a scale of zero to 10, 10 being the worst pain, and this patient who is barely rousable would say their pain's at 9, and now we tell them, we expect your pain to be controlled, but it's not going to be necessarily absent. So, if your pain score is 4 or 5, that's okay.

Dr Nguyen. I am glad you brought this issue up for discussion, Gail. The nursing staff use the visual analog pain scale to assess pain levels before the formal institution of our ERATS protocol. They are required to document the level of pain by analog scores in their notes. The pain scores we showed here are means of many recorded pain scores for that particular day.

Dr Darling. I was quite intrigued, because your pain scores postimplementation are lower at the beginning. So that's why I was wondering if they had had some instruction or guidance?

Dr Nguyen. We did not use the pain score recorded in the post-anesthesia care unit (PACU). The scores were those recorded when the patient reached the thoracic surgery unit, usually a few hours after completion of the procedures and the intercostal nerve block by liposomal bupivacaine probably started having good analgesia effect. I skimmed through the slide where I showed the profile of analgesic used. We actually noted that many of our patients, both pre-ERATS and ERATS, were giving intravenous fentanyl or hydromorphone in the PACU, indicative that they all expressed pain when emerging from general anesthesia. Our next quality improvement project is to achieve optimization of pain control immediately after general anesthesia and minimize the need for potent opioids in the PACU.

Dr Darling. So, with regard to that your comment about the cost of the EXPAREL—do you have to use liposomal bupivacaine? Do you have any experience with using nonliposomal bupivacaine?

Dr Nguyen. Yes, EXPAREL is the tradename of liposomal bupivacaine. Interesting you ask about nonliposomal bupivacaine. We realize that the greater pharmacy cost for postoperative analgesics is totally attributable to the cost of liposomal. The hospital administration knows that. They have allowed us to use liposomal bupivacaine as a quality-improvement measure as part of ERATS, but I don't think they would let us do this for so long. We wonder if, within the context of ERATS, replacing the long-acting liposomal bupivacaine with the intermediate-acting preparation Marcaine (0.5%) with epinephrine (1:200,000) would achieve similar pain control effect. So now it is another area of cost-containment project for us to explore.

Dr Darling. We of course are not able to use such expensive things here in Canada, you know, being a third-world country, so we've just been using regular bupivacaine for intercostal blocks and I think that works well.

Dr Nguyen. I agree.

Dr Darling. It gets them over that initial hump. Speaking of tablets, I was interested in your choice of oxycodone as

the discharge narcotic. Do you have any reasons for choosing oxycodone versus hydromorphone?

Dr Nguyen. No, it's just a matter of …

Dr Darling. You still believe the Purdue thing that it's less addictive or …

Dr Nguyen. I don't think so. Just a matter of our own habit of prescribing oxycodone with Tylenol (for example: Percocet).

Dr Darling. One other question I had was do you have any institutional policy or departmental divisional policy about how many tablets are prescribed for a given procedure?

Dr Nguyen. No, there was no restriction until recently—the State of Florida has a policy of restricting the duration of potent opioids to patients. Physicians are obliged by law to check the history of opioid use of patients before prescribing opioid analgesics by accessing the state's Web site Electronic-Florida Online Reporting of Controlled Substance Evaluation Program, and we have to justify the amount and duration of opioid prescribed. There is a nice coincidence of this state requirement and the implementation of our ERATS, as our patients need only a limited amount of opioid after discharge, and this website allows us to track opioid refilled by other physicians not associated with our institution.

Dr Darling. We just implemented a best practice process at the University of Toronto in the department of surgery, and each division developed a guideline with what they felt were appropriate numbers of tablets to be prescribed, for example, VATS versus thoracotomy. And so our patients after VATS are sent home with 15 tablets of hydromorphone 2 mg, and that's it. No refills. So we'll see how that works.

Dr Nguyen. Once our ERATS practice is mature with good in-hospital pain control, our patients are frequently discharged with either 12 5-mg tablets of oxycodone (90 morphine milligram equivalents [MMEs]) or with 12 50-mg tablets of tramadol (60 MMEs) and sometimes both (total MME of 150). We don't use hydromorphone because it is quite powerful.

Dr Darling. I don't know why we chose hydromorphone, but that's what our best practice committee said to use. Thank you very much.

Dr Nguyen. You are welcome. Thank you.

Dr Darling. Thank you very much.