Pain and Ethics of Pain Control in Acute Trauma Patients

Errington Thompson, MD  
Trauma Surgeon, Director of Trauma Services  
Joan C. Edwards School of Medicine, Marshall University

Corresponding Author: Errington Thompson, MD, 1600 Medical Center Dr, Suite 2500, Huntington, WV 25705. Email: errington@erringtonthompson.com.

Introduction

Physicians are being blamed for the narcotic crisis that is gripping our nation. The number of narcotic prescriptions written by physicians has exploded since the year 2000. Due to a variety of forces, including physician narcotic prescriptions, my small town of Huntington, West Virginia sits at the epicenter of the prescription drug epidemic. Just a few months ago, the mayor of Huntington was on National Public Radio discussing prescription drug abuse and underemployment. On August 15, 2016, Huntington had 26 overdoses in 4 hours, crippling our Emergency Medical System. EMS was completely tied up with overdoses during that four-hour window, other medical emergencies could not be attended to—a dire circumstance to say the least. The purpose of this article is to discuss the safe and appropriate use of pain medications including narcotics in trauma patients.

How did we get here?

Doctors in the 60s and 70s almost never prescribed narcotics. Major operations would necessitate intramuscular Demerol every 4 hours as needed. Morphine was reserved for only the most severe pain. But in the late 80s, physicians’ attitudes changed. The rationale for intramuscular narcotics was questioned. Patient-controlled anesthesia was developed around this time; the idea being that the patient could give himself/herself narcotics at a dose prescribed by a physician at regular intervals. A computer within the patient-controlled device had the ability to refuse a patient’s request for pain medication until the prescribed time interval was reached. This was inarguably a leap forward, as nurses no longer had to run back and forth simply administering pain medication. But the fact that the patient had to be constantly connected to an IV was a problem and an inconvenience.

Over the last 20 years, distribution of synthetic narcotics has been widespread, especially that of Fentanyl. For the most part, these narcotics (opiates are derived from opium and opioids have opiate-like properties but are not created from opium) are significantly more powerful (effective at relieving pain) than morphine. Oxycodone is a semisynthetic narcotic manufactured from thebaine, which can be taken orally. It was developed in 1917. Purdue Pharma started distributing the drug in the US in 1996. Oxycodone is excellent at relieving pain and may cause less nausea and vomiting than other narcotics. Oddly, oxycodone was meant to be a less addictive narcotic than other narcotics, including heroin.

In 2000, an interesting article on pain management was published in the Journal of the American Medical Association (JAMA). This article was written by the Joint Commission Accreditation, Health Care, Certification committee (JCAHO). Pain management was about to shift, and JCAHO was slated to lead the way. JCAHO was making pain a patient’s rights issue, seeking to emphasize “the quantitative aspects of pain,” encouraging systematic assessment, and emphasizing safe management.” The manuscript goes on to emphasize that patients have the right to appropriate assessment and management of their pain. This JAMA article is a broad indictment of the medical community, starting with medical schools and residency programs—which barely addressed pain control—and ending with the medical research community, which has shown little interest in comprehensive pain control research.

Whether or not JCAHO’s push for better pain control in patients caused what happened next is unclear. What is clear is that prescriptions for opioids almost quadrupled from 1999 to 2014. There were over 207 million opioid prescriptions written in the United States in 2013.

The Problem

A 28-year-old gentleman called the trauma clinic recently. The patient was complaining of pain. He stated that he was in a motor vehicle crash just a few days ago and was recently discharged from the hospital. He was sent home on hydrocodone but he had run out of tablets and was requesting a refill. The patient’s chart verified the patient’s story. He was indeed in the hospital after a motor vehicle crash. The patient was found to have multiple rib fractures and a cervical spine fracture, which is being treated with a cervical collar. The patient’s injury occurred 10 days ago. What is the appropriate therapy for this patient?

Treatment Options

Acetaminophen is a good pain reliever that works very well in some patients with certain types of pain. While high doses of acetaminophen can cause liver damage, the drug is well tolerated in the majority of
patients. Acetaminophen seems to work poorly on bone pain (fractures) but maybe effective in post-operative pain. Nonsteroidal anti-inflammatory drugs (NSAIDs) are excellent at relieving pain. They are very good at controlling some bone pain. Their downside includes side effects like gastric ulceration. A report revealed that some NSAIDs (cyclooxygenase-2 [COX-2] inhibitors) could cause coronary artery thrombosis in the elderly. Finally, nonsteroidal anti-inflammatory drugs are associated with decreased bone healing and may lead to more non-unions. These adverse side effects make giving NSAIDs for intra-hospital pain control tricky—especially in trauma patients. Benzodiazepines have no pain-relieving properties when they are given by themselves. They seem to work well in combination with narcotics to increase analgesia. Oversedation and hypotension can be seen with these drugs. These are the same side effects that can be seen with narcotics. Therefore, the physician must use the utmost caution when giving a patient both a narcotic and a benzodiazepine. Patients who are on benzodiazepines and narcotics should be monitored very closely, such as in an intensive care unit or stepdown unit with continuous nurse monitoring. Please note that the combination of narcotics and benzodiazepines can be lethal.

The physicians should remember the Centers for Disease Control have published guidelines for the treatment of chronic pain but not acute pain. The West Virginia Expert Pain Management group has published guidelines for safe and effective management of pain. Unfortunately, this also almost exclusively deals with chronic pain.

In the acute trauma patient, there are many issues which may need to be quickly addressed. Life-saving interventions must be undertaken first. Does the patient need an airway? Is the patient actively bleeding? Once these issues are addressed, then, as part of the secondary assessment of the patient, while looking for other injuries, one should begin to address pain control. Morphine or Fentanyl is usually used.

After the injuries are delineated and addressed, the patient should begin to recover. Pain is part of the recovery process. It is our moral obligation, as physicians, to manage our patient’s pain. Our goal should be to improve our patient’s comfort and function. It is not to remove all pain. We know that uncontrolled pain can set up a feedback loop which can lead to chronic pain. We must do everything that we can do to prevent patients from developing devastating chronic pain. The exact circumstances that lead to chronic pain syndrome are unknown. We do know that peripheral pain fibers that fire continuously stimulate the spinal cord to send pain signals to the brain. This gives the patient the sensation of pain. We also know that sometimes if these pathways are overstimulated they begin to fire without input from the periphery. This is chronic pain.

Most patients will have a good deal of pain for the first several days after injury. After two weeks, if there are no complications or further surgery, the pain will begin to subside. Around this time, many patients begin to work with physical therapy and occupational therapy in earnest. These patients may require a temporary increase in their pain medication in order to tolerate their increased physical activity. By six weeks, most patients should be able to tolerate more activity with less medication. By eight weeks, patients should not require significant pain medication and should be off all narcotics. The exception to this rule would be patients with wound infections, complex pelvic fractures, and complex extremity fractures; these patients will require more attentive assessment with regards to how they are healing and how long pain medication should be continued. The vast majority of trauma patients need pain medication for a week or so. Physicians should begin to taper therapy as soon as possible. Continuing therapy one day longer than necessary is unwise. Assess your patient continually.

**Reality**

It would be nice if the world were black and white, if patients either had pain or they did not. Unfortunately, in the world of pain control, very little is black and white. There are so many compelling factors, which can and should influence a physician’s decision on whether to continue, decrease, or increase narcotics in the outpatient setting. How long has it been since the patient’s original trauma? How long has it been since the patient’s last surgery? What is the patient’s state of mind? Is the patient looking forward to getting back to work? Is the patient depressed? Is the patient experiencing some form of post-traumatic stress disorder where the patient is reliving the traumatic event every time they close their eyes? How active is the patient? Has the patient begun to work with physical therapy or is the patient sitting at home in a rocking chair 24 hours a day? Does the patient have a good support system at home? Or is the patient dealing with this traumatic event by his/herself? What other medications is the patient taking? Does your patient have a previous problem with alcohol or drugs? Is the patient on chronic mind-altering medications—antidepressants, antipsychotics, benzodiazepines, and/or chronic narcotics? The answer to these questions will change a physician’s perception of how much pain the patient is in. It will also change the patient’s perception of their own pain.
My patient

I gave my patient with the cervical fracture and multiple rib fractures a prescription for Norco (hydrocodone/acetaminophen). A few hours later, the pharmacy called. They were wondering if we knew that the patient had just had a prescription for Tylenol #3 (codeine/acetaminophen) filled three days earlier. Further investigation revealed the patient to be on multiple antidepressants which makes this patient a greater risk to abuse narcotics. I asked the pharmacist to tear up my prescription.

Because I believe that I have a moral obligation to this patient, I have offered the patient a follow-up appointment in my clinic. During this appointment, if the patient wants me to treat his pain which may require me to prescribe narcotics, he will have to sign an agreement, stating that he will only get narcotics from me while I’m treating him. This pain agreement is critical. Without an agreement, I really do not feel that further treatment of this patient is appropriate. Of course, he can see other physicians; but if he gets a narcotic prescription without notifying my office, this contract is voided. Every time this patient visits my office, I will check the Controlled Substance Automated Prescription website (see below for more information) to see if the patient has gotten any narcotic prescriptions filled besides mine. Because this patient is at high risk, I will see this patient every week or two for about two months. I believe this fulfills my moral obligation to the patient and also to society at large.

The state of West Virginia has a Controlled Substance Monitoring Program. As part of this program, there is the Controlled Substance Automated Prescription Program (prescription data track). This is a website in which physicians, pharmacists, dentists, physician assistants and advanced practice nurses can access specific patient information. Once access to the site is obtained, the physician can find where and when the patient has been getting his narcotics filled. This is extremely helpful but limited. Physicians are not always standing in their office by a computer when patients call asking for medications. This database can be difficult to access from inside some hospitals. Nurses cannot access the database if they are not a designee of the physician. It can take five or ten minutes to get the information that you need. This can be a problem if you must access the database three or four times during a busy clinic. Finally, the information in the database cannot be easily transferred into an electronic medical record.

In the United States, we have a prescription problem. We have an addiction problem. Physicians must stand up and face this problem head on. There has been some progress. Physicians have written significantly fewer prescriptions in West Virginia for oxycodone and hydrocodone over the last 3 – 4 years. So, we are making progress. Combating this problem, we, as physicians, are going to have to spend more time with our patients. We are also going to have to see our patients more often. Yet, in spite of an increased effort on our part, we need better information. We need more research into prescription drug abuse. Who is at risk? How do we, as bedside clinicians, effectively intervene in order to prevent the patient from abusing prescription drugs? How can we tell if the patient is transitioning from acute pain to chronic pain? We also need research into whether improved database systems—in which pharmacies communicate with prescribing physicians and emergency rooms—can really decrease incidents of abuse. These database systems must be integrated with the electronic medical records that we already use. Only with improved information and research can we began to tackle this narcotic prescription epidemic.

References