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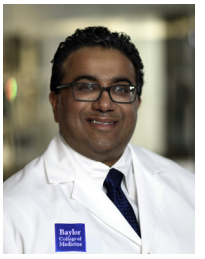
Key Words: opiod dependence, coronary artery bypass

Discussion



Dr Subhasis Chatterjee *(Houston, Tex)*. Dr Clement and colleagues from Johns Hopkins should be congratulated on a meaningful analysis on the prevalence of opioid dependence after CABG. Typically, we have focused on opioid use as a risk factor in our infective endocarditis surgical population, but this is a thoughtful investigation into our responsibility in exacerbating this problem. Dr Clement and colleagues' central finding was in an opioid-naive group of patients who underwent CABG, and 8% of patients developed persistent opioid use defined as still using opioids 3 to 6 months after surgery. I have 3 questions for you.

The first is regarding prevention. There are 2 potential opportunities and strategies to limit opioid use in patients undergoing surgery. One is to identify preoperatively patients at higher risk of developing prolonged opioid use. Are there strategies such as counseling that could offer help to reduce this? And another might be at the 30- or 90-day mark when people have already had their surgery and appear to be using more opioids than expected. Are there strategies that could limit the use or risk of developing opioid dependence in this group of patients?

Dr Kathleen C. Clement *(Baltimore, Md)*. The big thing is patient education. With a lot of these enhanced recovery after cardiac surgery protocols, the reason why they are successful is you tell your patients ahead of time, you are going to experience pain and this is what we are going to expect. So I think we should educate patients in the preoperative phase that, hey, there is a risk to getting addicted to opioids after surgery and let people know about that. I think that's incredibly important.

Also, as people have alluded to, postoperatively the enhanced recovery after cardiac surgery protocols are incredibly helpful in using multimodal pain therapy such as acetaminophen and gabapentin, and there are a lot of intraoperative interventions that our team at Johns Hopkins is using to try to minimize opioid use postoperatively.

Dr Chatterjee. Second is physician or surgeon responsibility. There is a concept known as high-risk prescribing. For providers who are prescribing higher dosages or longer durations, does this analysis allow you to track specific physicians who are writing the prescriptions? Is there an opportunity to identify physicians by prescribing patterns and intervene?

Dr Clement. Unfortunately in this database, no, because it is not provider linked. However, at Johns Hopkins we have an opioid dashboard that was developed that identified the opioid prescribing patterns per surgeon and per

physician provider, which is helpful. The other thing, too, is the Kaiser Family Foundation publishes the amount of opioid prescriptions per 100 US residents per state, and you can actually see statewide variations in opioid prescriptions. It turns out it's also highest in the South, too.

Dr Chatterjee. Third, there is a recent study from Dartmouth on approximately 20,000 patients that showed approximately 13% of patients were opioid users, and they were also 30% more likely to provide positive patient satisfaction scores. In our healthcare system, much of our financial incentives and bonuses are structured around patient satisfaction scores. How do we address the fact that our patients love us more when we are more generous with opioid prescribing?

Dr Clement. That's a big challenge, because right now we are all talking about it; we need to design ways to prescribe less opioids. I think the big albatross in the room is, first, we are worried about getting called. We get called about a lot of things postoperatively. The last thing we want to be called about is a patient who needs pain medication 1 or 2 weeks out of surgery because they didn't get enough pain medication. So I think that's why we also prescribe in excess, because it prevent calls.

The second thing is patient satisfaction. We are not only monitored by the Society of Thoracic Surgeons database in terms of outcomes but also by patient-reported outcomes. The risk is, if we are going to implement these protocols, we also need to get buy-in from the patients so they are aware when they are doing these Press Ganey scores and things that they a part of the process and not negatively affect these protocols that we are implementing.

Dr Judson B. Williams *(Raleigh, NC).* This was a fantastic presentation, and congratulations to the Johns Hopkins group for this important work. Raleigh, North Carolina, is on I95, halfway between Miami and New York, and our region is a hotbed for trafficking of narcotics along that corridor. When we have addressed this issue locally, community advocates, orthopedic surgeons, and others have asked, well, if you are not prescribing these in a controlled way and owning it as the surgeons and the clinicians, well, the patients are just going to buy it somewhere else. What do you think about that?

Dr Clement. Unfortunately, that is a challenge we cannot completely control, but that's true. For a majority of patients, hopefully they are not getting drugs off the street to fulfill prescriptions. But in other locations such as Johns Hopkins and other areas with good patient education and good pain control with perioperative and multimodal pain therapy, hopefully we can avoid patients needing to seek pain medications outside of the traditional prescription realms.

The challenge with all these databases I used has been reported. You can't account for the patients who are taking opioids from their grandma or parents who have had prescriptions from their last surgery, and that's a huge amount, and the problem is we can't account for those in these studies.

Dr Michael C. Grant *(Baltimore, Md).* With respect to the concept of patient satisfaction scores, the anesthesia literature has done a nice job of articulating the link between patient satisfaction and pain management. It is adequate pain management that leads to the highest satisfaction rather than the implication that it has to be opioid based. So although that study you referred to is an important one, and it tells us a lot about how we currently manage pain, what we now know is Press Ganey scores, as you mentioned, are a bit more closely linked to whether or not people have been adequately assessed for pain and whether or not it has been addressed in a formal fashion rather than whether opioids in particular were provided.

Dr Daniel T. Engelman *(Springfield, Mass).* Have you looked at all at disposal of opioids, that maybe at the first postoperative visit we should have our patients bring in their unused opioids and count them, use that to tailor our prescription habits, and then dispose of them to keep family members and others from accessing them?

Dr Clement. We have not specifically looked at that, but at Johns Hopkins, well, I can mention this now. We are institutional review board approved for a prospective opioid study to implement an opioid-prescribing protocol for patients undergoing cardiac surgery. We are going to call patients 1 week and 2 weeks postoperatively and do a pill count to compare how many pills they are actually taking, what are their side effects, do they need more medication, so we can get a better grasp of how many pills patients actually need when they go home.

Dr Engelman. It would be nice to dispose of them, also, because a big problem is that family members are accessing them. There are some real cheap opioid-disposable ways of doing that now in the office.

Unidentified Speaker. I was just wondering for opioids prescribed in the perioperative period, it makes total sense to model it as a continuous variable. Did you happen to look at that relationship and how linear it was, whether in percentiles or quartiles, or at what point did the rate of new persistent use really jump up by prescription size, if that's available?

Dr Clement. That's a great idea, but we did not basically look at the analysis based on quartiles or 10% and such. We just looked at it as a continuous variable. And the reason why is the opioid prescribing was so different based on region and it was so non-normally distributed, that's why we decided to leave it as it was.