Loperamide Will Stop You Up but It Can Also Bring You Down

Answers to the January 2017 Journal Club questions

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Editor's Note: *You are reading the 55th installment of* Annals of Emergency Medicine *Journal Club. The article questions were published in the January issue. Information about journal club can be found at http://www.annemergmed.com/ content/journalclub. Readers should recognize that these are suggested answers. We hope they are accurate; we know that they are not comprehensive. There are many other points that could be made about these questions or about the article in general. Questions are rated "novice" (NOV), "intermediate" (INT), and "advanced" (ADV) so that individuals planning a journal club can assign the right question to the right student. The "novice" rating does not imply that a novice should be able to spontaneously answer the question. "Novice" means we expect that someone with little background should be able to do a bit of reading, formulate an answer, and teach the material to others. Intermediate and advanced questions also will likely require some reading and research, and that reading will be sufficiently difficult that some background in clinical epidemiology will be helpful in understanding the reading and concepts. We are interested in receiving feedback about this feature. Please e-mail journalclub@acep.org with your comments.*

DISCUSSION POINTS

The Centers for Disease Control and Prevention has reported that drug overdose deaths in the United States reached record highs in 2014 and declared an opioid overdose epidemic.[1]

1. A. (NOV) Discuss the most commonly reported theories for the national opioid epidemic. Why are government and public agencies paying increased attention to this issue, given that prescription opioids and heroin have been abused for decades?

(INT) B. In 2001, The Joint Commission first established standards for pain assessment and management in response to a national concern for undertreatment of pain. Some facilities responded by requiring the patient's pain score to be documented as the fifth vital sign.[2] This was soon followed by a steady increase in the number of opioid pain prescriptions in the United States. What role has emergency medicine played in the opioid crisis? How might emergency clinicians tailor their practice to balance the appropriate treatment of acute painful conditions while not abetting narcotic diversion?

(INT) C. Emergency clinicians are treating more patients with acute symptoms of opiate withdrawal. Emergency department (ED) management is variable, with some hospitals discharging these patients directly from the ED with supportive treatments, whereas others may actively try to admit the patients into a drug rehabilitation program. Discuss the ethical challenges involved in managing patients with opiate withdrawal. Consider the current practices at your institution. Does your hospital or city have sufficient resources to manage these patients?

2. A. (NOV) Describe how the National Poison Data System (NPDS) acquires its data on national poisonings.

(INT) B. Consider your own experience with managing patients after a suspected and confirmed poisoning in the ED. How frequently do you report these patient encounters to your local poison control center? If you do not contact your local poison control center about all suspected poisonings, might there be selection bias in which cases you choose to report? Try making a simple mathematic calculation to explore selective reporting effect results. For example, consider whether physicians are 10 times more likely to report a moderately to severely ill patient than a mildly ill one. What effect would that have on the estimates reported?

(NOV) C. What role does the NPDS play in public health surveillance? Review some recent examples in which the NPDS identified poisonings from commercial products and new synthetic drugs.

(INT) D. Define surveillance bias. Consider how the increased public attention to loperamide abuse might affect the frequency of loperamide exposure reports to the NPDS in 2017.

3. A. Nearly half of the loperamide exposures were (NOV) polysubstance ingestions, and one third of such patients were admitted to a critical care unit. Discuss the most serious complications from acute loperamide poisoning. How might the most commonly reported coingestions in this study (ie, antidepressants, analgesics, and benzodiazepines) exacerbate loperamide poisoning? Review the management of a patient after an isolated loperamide exposure.

(NOV) B. Discuss the pharmacologic difference between loperamide and other μ-opioid receptor agonists. Why is loperamide available over the counter while opioids like oxycodone or morphine are Schedule II drugs that require a prescription?

(INT) C. The authors state that the yearly increase in the rate of reported loperamide exposures was driven largely by the increase in single-substance exposures. Given that the reason for exposure (misuse, abuse, and suicide) was distributed unevenly between the single and polysubstance exposures, what does this information imply about the behavioral driver of the increased rate?

ANSWER 1

Q1.a Discuss the most commonly reported theories for the national opioid epidemic. Why are government and public agencies paying increased attention to this issue, given that prescription opioids and heroin have been abused for decades?

Increases in the prescribing of opioid pain reliever medications have mirrored increases in the rates of opioid abuse, addiction, and overdose from both prescription and nonprescription opioids.[3] The relationship between increased prescribing and increased abuse of opioids is reinforced by the observations that the most often misused agents are prescribed, typically obtained from family members or friends, and that heroin use is often preceded by the use of prescription painkillers.[4]

Increases in opioid prescribing are often traced back to the 1990s, a decade that saw the release of OxyContin, initially thought to be less prone to addiction, given its controlled release. The 1990s was also the era when physician attention to pain management was emphasized both in reports touting the safety of opioid medications for the treatment for chronic noncancer pain[5] and in endeavors by various societies and pharmaceutical companies, most notably the American Pain Societies' "Pain is the Fifth Vital Sign" campaign.[6] Increasing focus on patient satisfaction reporting, including survey questions specific to pain management, may also have played a role in changing prescribing patterns.[7]

Although increased prescribing may account for increased opioid misuse during the past 3 decades, overdose fatalities continue to increase yearly despite a plateau in prescribing since 2012.[8] Paradoxically, reduced availability, and therefore increased costs, of prescription opioids may actually result in increases in overdose fatalities as users transition to heroin, a cheaper alternative, and as newer, potent synthetic agents, such as fentanyl, increase in popularity.[9]

Recent government attention to the so-called opioid crisis is likely multifactorial, owing largely to the situation's reaching a staggering threshold, with a record-breaking 52,505 US deaths resulting from drug overdose in 2015. The majority of overdose deaths involve an opioid, and overdose deaths have surpassed fatalities from motor vehicle crashes since 2008.[8,10] More cynical explanations for the government's heightened interest include opioid addiction's disproportionate prevalence among white Americans, as opposed to other drugs of abuse that disproportionately affect minorities and the recent overdose deaths of several high-profile celebrities (eg, Prince and Michael Jackson).[11] Whatever the reason, focus on this important issue has led to the widespread development of prescription drug monitoring programs, funding for research, interventions such as naloxone distribution, and a Drug Enforcement Administration mandate for decreased opioid manufacturing in the United States.

Q1.b In 2001, The Joint Commission first established standards for pain assessment and management in response to a national concern for undertreatment of pain. Some facilities responded by requiring the patient's pain score to be documented as the fifth vital sign. This was soon followed by a steady increase in the number of opioid pain prescriptions in the United States. What role has emergency medicine played in the opioid crisis? How might emergency clinicians tailor their practice to balance the appropriate treatment of acute painful conditions while not abetting narcotic diversion?

Emergency medicine opioid prescribing has increased during the past several decades, in keeping with the nationwide trend.[12,13] There is evidence to suggest that emergency medicine providers may have taken significant strides in combating this already, with emergency medicine opioid prescribing rates actually decreasing by almost 9% from 2007 to 2012, according to an audit of a pharmaceutical sales database.[14] This decrease, the most significant one noted of any of the studied specialties, occurred in a period of overall increased prescribing among physicians and preceded the publication in 2012 of ACEP's clinical policy about opioid prescribing.[15]

When emergency department (ED) patients with nonmedical opioid use were interviewed, 16.9% reported