Commentary: Opioid dependence in the lobectomy patient: A hard pill to swallow

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The opioid epidemic in the United States continues to be a major public health problem and a focus of health policy legislation and media coverage. In this issue of the *Journal*, Nelson and colleagues¹ explore the implications of chronic opioid use on outcomes following pulmonary lobectomy. Their analysis sheds further light on the costly toll that this crisis has taken on our country and our patients in particular. According to their study, chronic opioid users had 30- and 90-day rates of mortality that were 2-fold greater than those of a matched cohort of nonusers. They were also at greater risk for a range of morbidities, including infectious, renal, and pulmonary complications.

Perhaps one of the most shocking aspects of the study is the proportion of opioid users in the pulmonary lobectomy population. The authors defined chronic users as those who filled at least 120 days of supply in the year before surgery. Similarly, intermittent users were those who filled <120 days of medication. To avoid including patients who had their postoperative medications filled in advance, prescriptions filled within 30 days of surgery were excluded. Using these definitions, 15% of patients undergoing lobectomy were chronic users, and another 29% were intermittent users—thus, nearly one half of patients in this cohort used opioids in the year before their lobectomy. Equally striking is the fact that, whereas the opioid epidemic is primarily seen as a problem of young and middle-aged Americans, this high incidence was noted in the Medicare population, virtually all of whom are older than the age of 65 years.²

Although the association with postoperative outcomes is clear from the authors' analysis, the causal factors behind the increased morbidity and mortality remain more obscure. The authors provide several examples by which the pharmacologic effects of opioids can impair wound healing, immune reactivity, and cardiovascular function. However, socioeconomic challenges, comorbid conditions such as psychiatric illness and polysubstance abuse, and poor compliance with health maintenance recommendations almost certainly contribute to poor outcomes in this

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Central Message

Nearly one half of patients undergoing pulmonary lobectomy have used opioids in the year before surgery, and these patients have substantially greater postoperative morbidity and mortality.

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population. The unmatched characteristics of the study's opioid-naïve and opioid-use cohorts clearly illustrate these differences. Chronic opioid use was independently associated with more comorbid conditions, lower socioeconomic status (by zip code), and race/ethnicity. Although propensity matching is helpful to minimize the impact of these variables on the analysis, the authors point out that there are several potentially unmeasured variables, such as preoperative functional status, psychiatric illness, and compliance with pre- and postoperative care pathways, that might play a role.

Regardless, the data presented here are further evidence that additional strategies to combat this epidemic are urgently needed. Although enhanced recovery pathways (eg, Enhanced Recovery after Surgery) that limit postoperative narcotic medication are certainly a step in the right direction, these protocols do not address the preoperative fitness of patients who are already addicted or dependent, nor do they mitigate potential issues with patient compliance in postoperative care measures or other socioeconomic challenges in the postoperative period. Perhaps additional efforts to identify these patients in the preoperative setting and provide them with resources for "prehabilitation" before surgery would offer additional benefit. However, further efforts to understand and address factors that contribute to opioid abuse and addiction on a national scale may be most valuable.

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