



Postoperative opioid consumption and prescription in major abdominal surgery

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To the Editor,

Opioids are important in perioperative pain management.¹ Nevertheless, between 5% and 30% of opioid-naïve patients show persistent use in the year following surgery.^{2,3} A poor correlation between in-hospital opioid consumption and discharge prescription has been observed.⁴ Only 30% to 50% of discharge prescribed tablets are actually taken with excess tablets

often not handled appropriately.⁵ We aimed to describe the consumption of opioids after major abdominal surgery, a poorly represented population in this literature, and the association between opioids consumed in the 24-hr period preceding discharge and discharge prescription.

We included consecutive adult patients undergoing major abdominal surgery (laparotomy or mini laparotomy) who were discharged from the Centre hospitalier de l'Université de Montréal between 1 May 2021 and 26 June 2021. Our research ethics board approved this retrospective study and waived individual consent requirement. We collected data on patient's characteristics, type of surgery, anesthesia and analgesia, daily opioid consumption for each postoperative day (POD) and the 24-hr period preceding discharge, and discharge prescription. We summed the total quantity of each opioid after converting the values to oral morphine equivalents (OME) for each time point.

We included 300 patients, of whom 158 (53%) were women. The median [interquartile range (IQR)] age was 64 [52–60] yr. Twenty-two (7%) patients had chronic pain preoperatively, and 25 (8%) consumed opioids preoperatively. In the postoperative period, 208 patients (69%) received epidural analgesia, 56 (19%) patient-controlled analgesia (PCA), and 36 (12%) standard (enteral or subcutaneous) analgesia. The median [IQR] daily opioid consumption at POD 1, 2, and 3 were, respectively, 0 [0–0], 10 [0–30], and 20 [0–45] mg for patients with epidural analgesia; 20 [10–39], 15 [5–37], and 15 [0–47] mg for patients with PCA; and 30 [10–48], 20 [10–30], and 12 [10–28] mg for patients with standard analgesia. The median [IQR] consumption in the 24-hr period preceding discharge was 10 [0–30] mg, with 106 (36%) patients not consuming any. No patient had an

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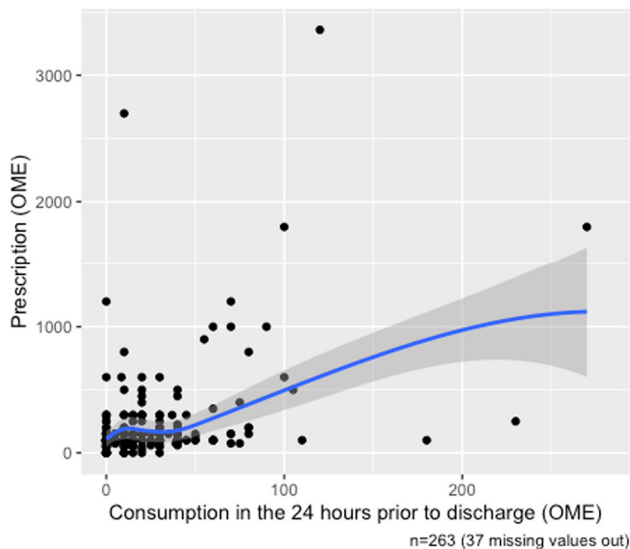


Figure Association between total oral morphine equivalents prescribed and consumption in the 24-hr period prior to discharge. The curve was fitted using a locally estimated scatterplot smoothing (LOESS) with 95% confidence intervals. On visual inspection of the curve, no clear relation seems to exist between opioid consumption in the 24-hr period preceding discharge and prescribed opioid dose in patients consuming less than 50 mg OME; above this threshold, a linear relationship appears to exist. OME = oral morphine equivalents

epidural running during that period. We did not find a discharge prescription for 35 patients (12%). Among those with data, 27 (10%) patients did not receive an opioid prescription and 238 (90%) received one. The median [IQR] OME prescribed was 100 [75–150] mg; the median was the same notwithstanding the analgesic modality.

We explored the relation between the amount of opioid consumed in the 24-hr period preceding discharge and discharge prescription (Figure). Among the 174 and 89 patients who did and did not consume any opioid in the 24-hr period prior to discharge, 167 (96%) and 70 (79%) received an opioid prescription, respectively. After adjusting for age and sex, each 10 mg of OME consumed in the 24-hr period preceding discharge more than doubled the odds of receiving a prescription (odds ratio, 2.31; 95% confidence interval [CI], 1.46 to 4.30). If all patients with missing data on discharge prescription did not receive an opioid prescription, 167 (87%) of those who consumed opioids and 70 (66%) of those who did not consume any opioid received an opioid prescription; no association was

then observed between consumption and prescription (odds ratio, 1.05; 95% CI, 0.96 to 1.18). Among the 237 patients who received an opioid prescription, each 10 mg of consumed OME in the 24-hr period preceding discharge increased by 10% the amount prescribed (multiplicative factor, 1.10; 95% CI, 1.07 to 1.13) but only explained, along age and sex, 19% of the variability in prescribed OME ($R^2 = 19\%$; 95% CI, 10% to 28%).

Our findings indicate that patients undergoing major abdominal surgery are exposed to a significant amount of opioids. Consumed opioids prior to discharge were weakly associated with the prescribed dosage and poorly explained its variability. Prescriptions should be better aligned with patients' needs.

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