Predicting Low Opiate Pill Use After Robotic Surgery: Towards Targeted Prescribing

Introduction and Objective:

As overprescription of narcotics after surgery contributes significantly to the ongoing opioid crisis, interventions to minimize the quantity of pills prescribed postoperatively are timely and critical. We assessed perioperative and post-discharge narcotic utilization to identify factors associated with low or no home opiate use.

Methods:

We prospectively recorded home pain pill usage, including narcotics, acetaminophen, and ibuprofen, following robotic radical prostatectomy (RP) and robotic partial nephrectomy (PN) at two academic institutions. We extracted data on in-hospital pain medication use, pain score on POD1, and patient comorbidities from electronic medical records. All patients completed a pain pill log documenting the daily quantity of pills taken of each analgesic type. At the first post-op visit, clinic staff counted remaining narcotic pills to verify reported narcotic utilization. We applied multivariate logistic and linear regression to identify factors associated with no postoperative pill use and degree of pill use.

Results:

A total of 117 RP and 47 PN patients had complete data and were included in the study. Patients were prescribed 20-30 oxycodone pills at time of discharge. For RP patients, 52% of patients took 0 pills after discharge, and 91% took 10 or fewer pills. If 5 pills were prescribed, 82% of patients would not require a narcotic refill post-operatively. Patients using fewer narcotics and with lower pain scores perioperatively used fewer pills after discharge. More perioperative narcotic use and higher pain score on POD1 was associated with lower odds of remaining narcotic-free post-discharge. On multivariate analysis controlling for age, chronic pain, and baseline alcohol and drug use, each additional perioperative morphine equivalent use was associated with an OR of 0.94 [95% CI 0.89-0.98, p = 0.004], and each additional point on postop pain scale had an OR of 0.73 [95% CI 0.54-0.95, p = 0.026] for requiring no narcotics post-discharge.

For PN patients, 43% of patients took 0 pills after discharge, and 77% took 10 or fewer pills. If 10 pills were prescribed, 76% of patients would not require a narcotic refill post-operatively. Similar to RP, on multivariate analysis PN patients with higher postop pain score (OR 0.52 [95% CI 0.26-0.89], p = 0.036) and greater periop pain requirements (OR 0.95 [95% CI 0.90-0.99], p = 0.053) had lower odds of remaining narcotic free post-discharge.

Conclusions:

Most patients take few, or zero, prescribed narcotics after robotic urologic surgery. Patients with low postop pain scores, and who take few narcotics while in-hospital, may not need narcotic prescriptions for discharge. Clinicians should utilize these parameters to aid in limiting numbers of prescribed but unused pills.