One-Size Fits None: Correlation Between Oral Morphine Milligram Equivalent Requirements and Discharge Prescriptions Provided

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OBJECTIVES

Opioid overdose has surpassed motor vehicle accidents as the leading cause of injury-related deaths in the United States.[1]

In the postoperative setting, opioid-naïve patients are at increased risk for addiction, overdose, and diversion, particularly when provided with an excessive number of opioid medications.[2]

Patients undergoing low-risk procedures who were prescribed opioids were 44% more likely to become long-term users at 1-year postoperatively compared to those who were not given an opioid prescription.[3]

METHODS

DESIGN: A retrospective chart review performed at a high-volume, tertiary academic hospital. This study aimed to review prescription practices for laparotomy procedures and whether these exceeded the needs of the patients at the time of discharge

PARTICIPANTS, SETTING, METHODS: The study included adult women (≥18 years of age) that underwent incision to the abdomen (laparotomy) for any gynecologic indication with a minimum of 24-hour stay following surgery.

DATA

- ❖ Collected data included
  (1) patient demographic information including age, marital status, race, ethnicity, and insurance coverage
  (2) the amount of pain medication used in the 24 hours preceding hospital discharge
  (3) the amount of pain medication prescribed at the time of discharge
  (4) the last documented patient-reported pain level.

- ❖ Opioid medications dosed over the last 24 hours of hospitalization and prescriptions were summated and placed into an opioid conversion calculator.

- ❖ Transdermal and parenteral analgesics were also included in equivalent calculations.[4]

- ❖ The calculator intended to provide a daily oral morphine milligram equivalent (OME) to allow for the comparison of various opioid medications.[5]

RESULTS

- ❖ There were no significant differences in patient characteristics between the two prescription groups as seen in *Table 1*.

- ❖ 92% (n=212) of patients with a pain score equal to or less than five received a pain prescription at discharge

- ❖ 29.4% (n=68) of those having a final pain scale reported as zero.

- ❖ 49.8% (n=111) of patients with a pain score of zero or no opioid medications used within 24 hours of discharge received an opioid prescription

- ❖ The most common medication prescribed was oxycodone-acetaminophen (51.5%), followed by oxycodone (27.0%) as seen in *Table 2*.

- ❖ The proportion of patients who received opioid prescriptions at discharge remained high for all the years reviewed, regardless of pain status in the last 24 hours before discharge.

- ❖ *Figure 1* shows a trend of decreasing OME prescribed in the late years for patients who had pain meds in the 24 hours and had a pain scale >0


TABLE 1: Patient Characteristics by Pain Prescription at Discharge

	No Pain Rx at Discharge (N=15)	Received Pain Rx at Discharge (N=233)	Total (N=248)	P value
Age (years)				0.11
Median (Q1, Q3)	67 (55, 72)	59 (49, 69)	60 (50, 69)	
Range	34 – 88	18 – 86	18 – 88	
Race				0.50
White	13 (86.7%)	186 (79.8%)	199 (80.2%)	
Black	1 (6.7%)	32 (13.7%)	33 (13.3%)	
Asian	0 (0.0%)	10 (4.3%)	10 (4.0%)	
Not disclosed/Other	1 (6.7%)	5 (2.1%)	6 (2.4%)	
Ethnicity				0.18
Not Hispanic or Latino	13 (86.7%)	222 (95.3%)	235 (94.8%)	
Hispanic or Latino	2 (13.3%)	8 (3.4%)	10 (4.0%)	
Not disclosed	0 (0.0%)	3 (1.3%)	3 (1.2%)	
Marital status				0.92
Married	11 (73.3%)	150 (64.4%)	161 (64.9%)	
Single	1 (6.7%)	30 (12.9%)	31 (12.5%)	
Divorced/Separated	1 (6.7%)	25 (10.7%)	26 (10.5%)	
Widowed	2 (13.3%)	26 (11.2%)	28 (11.3%)	
Not disclosed/Other	0 (0.0%)	2 (0.9%)	2 (0.8%)	
Insurance				0.64
Medicare/Government	7 (46.7%)	84 (36.1%)	91 (36.7%)	
Commercial	3 (20.0%)	72 (30.9%)	75 (30.2%)	
Unknown	5 (33.3%)	77 (33.0%)	82 (33.1%)	
Chronic pain	2 (13.3%)	24 (10.3%)	26 (10.5%)	0.66
Case year				0.64
2015	2 (13.3%)	42 (18.0%)	44 (17.7%)	
2016	3 (20.0%)	40 (17.2%)	43 (17.3%)	
2017	6 (40.0%)	56 (24.0%)	62 (25.0%)	
2018	2 (13.3%)	44 (18.9%)	46 (18.5%)	
2019	1 (6.7%)	28 (12.0%)	29 (11.7%)	
2020	1 (6.7%)	23 (9.9%)	24 (9.7%)	
Procedures				
Exploratory laparotomy	15 (100.0%)	232 (99.6%)	247 (99.6%)	1.00
Tumor debulking	8 (53.3%)	69 (29.6%)	77 (31.0%)	0.081
Hysterectomy	5 (33.3%)	130 (55.8%)	135 (54.4%)	0.11
Bilateral salpingo-oophorectomy	7 (46.7%)	98 (42.1%)	105 (42.3%)	0.79
Bowel resection	5 (33.3%)	49 (21.0%)	54 (21.8%)	0.33

TABLE 2: Summary of Pain Prescriptions and OME Provided at Discharge

	Overall (N=233)
OME prescription at discharge	
Median (Q1, Q3)	30 (30, 45)
Range	10 – 630
Prescription at discharge	
Oxycodone acetaminophen	120 (51.5%)
Oxycodone	63 (27.0%)
Hydromorphone	39 (16.7%)
Other	11 (4.7%)
None	0 (0.0%)

FIGURE 1: Yearly Trend of OME Prescription at Discharge by Status
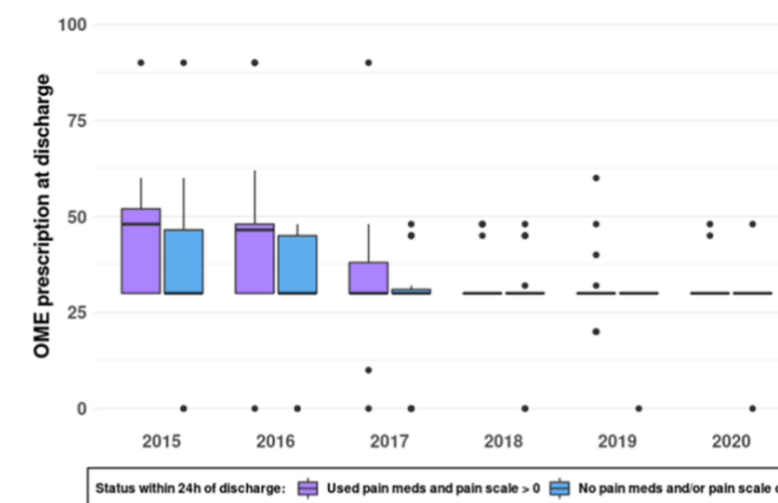
LIMITATIONS

- ❖ A single academic institution
- ❖ Inherent biases of retrospective analysis

CONCLUSIONS

- ❖ Standardized prescription practices may continue to exceed patient needs in the postoperative setting.

- ❖ Although enhanced recovery protocols and minimally invasive techniques correlate with a decreased length of stay, laparotomy patients continue to have higher postoperative pain needs and longer recovery times.

- ❖ The review of a patient's pain control requirements during hospitalization can offer insight to appropriate opioid prescriptions for discharge.

REFERENCES

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