Opioid exposure in hospitalized patients with inflammatory bowel disease in the Community Hospital Setting

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Introduction

Patients with inflammatory bowel disease (Crohn's Disease and Ulcerative Colitis) commonly present to the hospital with disease flares, characterized by changes in stool habits with abdominal, pelvic, and extra-intestinal pain. It is well established that opioid use in inflammatory bowel disease patients is associated with increased rates of infections and increased mortality. Despite this, patients with IBD typically receive opiate therapy in increasing quantities during hospitalizations to treat their pain.

Our aim was to evaluate the degree of inpatient opiate use in IBD patients admitted in a community hospital setting to establish the degree of opportunity for quality improvement.

Methods

One hundred and twenty-five patient charts for individuals aged 18 or older admitted to Lankenau Medical Center from 10/1/2020–3/31/21 carrying a prior diagnosis of IBD on their problem list (ICD K50x and K51x) were retrospectively reviewed. The charts were analyzed for baseline demographic data and for opiate and non-opioid analgesics received throughout the admission. Opioid exposures were measured as proportions of intravenous morphine milligram equivalents (MME) per patient day. Hospital length of stay (LOS) was also assessed. Differences in baseline demographics and non-opioid analgesic use were analyzed between the groups of patients who received opiates and those who did not.

Figure 1: *Profile and Analysis of Inpatient Opioid Use in IBD Patients*

	IP Opiod Status		
	No	Yes	
	N=35	N=90	P-Value
Age (mean/SD)	55.9 (19.2)	53.9 (17.8)	0.574
BMI (mean/SD)	30.0 (9.3)	27.2 (6.9)	0.0661
LOS (Days/Median)	3.4 (2.1-4.7)	4.2 (2.4-7.2)	0.146
Sex n(%)			0.324
Male	17 (32.7%)	35 (67.3%)	
Female	18 (24.7%)	55 (75.3%)	
Race n(%)			0.561
White	21 (26.3%)	59 (73.7%)	
African American	14 (31.1%)	31 (68.9%)	
Payor n(%)			0.717
Private	19 (24.7%)	58 (75.3%)	
Medicare	10 (35.7%)	18 (64.3%)	
Managed Care	5 (31.3%)	11 (68.7%)	
Other	1 (25%)	3 (75%)	
Smoking Status			0.361
Current	4 (33.3%)	8 (66.7%)	
Former	13 (35.1%)	24 (64.9%)	
Never	17 (23.0%)	57 (77.0%)	
Comorbidities n(%)			
Heart	20 (46.5%)	23 (53.7%)	0.005
Vascular	3 (30%)	7 (70%)	0.944
Kidney	9 (45%)	11 (55%)	0.135
Musculoskeletal	3 (33.3%)	6 (66.7%)	0.873
Respiratory	7 (33.3%)	14 (66.7%)	0.795
Mental Disorder	12 (44.4%)	15 (55.6%)	0.083
Diabetes	9 (56.3%)	7 (43.7%)	0.018
Cancer	3 (37.5%)	5 (62.5%)	0.679
Other Gastro	8 (19.1%)	34 (80.9%)	0.035
IBD Type n(%)			0.544
Crohn's	15 (25.4%)	44 (74.6%)	
Ulcerative	20 (30.3%)	46 (69.7%)	
Prior Opiod n(%)			0.474
Yes	23 (26.1%)	65 (73.9%)	
No	12 (32.4%)	25 (67.6%)	
Non-Opioid Pain Medicine Use			
Celecoxib	1 (2.8%)	21 (23.3%)	0.005
Gabapentin/Pregabalin	7 (20%)	36 (40%)	0.146
Ketorolac	1 (2.8%)	50 (55.5%)	<0.001
IV MME/admission (Mean/SD)	48.79 (12.35)		
IV MME/day (Mean/SD)	14.74 (5.78)		

Results

Of the 125 patient charts reviewed, 90 patients (72%) received opioid analgesics during their hospitalization. The average length of stay for the opioid group was 4.2 days compared to 3.4 days in the non-opioid group (p = 0.146). The mean IV morphine equivalents per day for those who received opioids was 14.74 (SD 5.78). Celecoxib (23.3% vs 2.8%, p 0.005), gabapentin/pregabalin (40% vs. 20%, p 0.018) and ketorolac (55.5% vs. 2.8%, p < 0.001) use was significantly higher in the opioid cohort.

Discussion

Patients with a prior diagnosis of inflammatory bowel disease who were hospitalized at our hospital in a community setting were associated with a high rate of opioid use. Those who received opioids while hospitalized were more likely to receive other non-opioid analgesics. Consequently, there is ample opportunity to limit opioid use and improve overall outcomes at our institution. Future directions include implementation of an EHR pop up window suggesting non-opioid alternatives when attempting to order an opioid pain medication.

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