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OPIOID PAIN MEDICATION USE IN NEW UROGYNECOLOGY PATIENTS

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Abstract

Objectives: To determine the prevalence of opioid pain medication use among patients presenting for a new visit to the Urogynecology clinic compared to those presenting to general Gynecology.

Methods: We identified all patients who presented for new patient visits to the Urogynecology and Gynecology clinics between January 1, 2016 and December 31, 2016. Any previous or current opioid use was extracted from the electronic medical record medication list. Statistical analysis was performed using chi square and Fisher's exact tests for comparisons of categorical variables. Modified Poisson regression models were used to estimate prevalence proportion ratios (PPR).

Results: There were 1835 (955 Gynecology, 880 Urogynecology) patients included. Median age was 47 (interquartile range (IQR) 29) years, and median body mass index (BMI) was 28.15 (IQR 9.96) kg/m². Prevalence of opioid use was lowest among women who identified as Asian or other race, and highest among Black and Native American women; however, when compared by ethnicity, use was lowest among Hispanic women ($p = 0.01$). Among new urogynecology patients, 14% had self-reported opioid pain medication usage. Opioid use was almost twice as likely in the Urogynecology group (PPR 1.86; 95% CI 1.41–2.44). When adjusted for confounders, the Urogynecology group was 1.3 times as likely to report opioid use (PPR 1.29; 95% CI 0.95 – 1.75) with this result approaching statistical significance.

Conclusions: Opioid use is greater in patients presenting to the Urogynecology clinic compared to general Gynecology. Urogynecologists need to know this information for planning and optimizing pain management in this population.

Keywords

Opioid pain medication; new patient; Urogynecology clinic

Introduction

In recent years, both the Centers for Disease Control (CDC) and the Food and Drug Administration (FDA) have expressed concern for the increase in opioid pain medication use in the United States.^{1,2} Between 2007 and 2012, opioid prescriptions per capita increased by 7.3%.³ Opioid pain medications have been associated with increased abuse potential, and as a result, medical providers are expected to be more attentive to patients who require these medications for pain control.^{4,5} In 2016, the U.S. Surgeon General requested that medical providers pledge to help combat the epidemic of opioid abuse.² One clear recommendation made through this communication was to better screen patients for potential opioid dependence.⁶ This poses a dilemma for providers throughout the country as opioid pain medications are commonly prescribed for pain control.

A concerted effort to help curb the dependency of prescription opioid pain medications is important in urogynecology. Urogynecologists treat women daily with both acute and chronic pelvic pain. Many of these patients may have seen a previous provider and may be on a pain management plan prior to presentation.

In 2016, the CDC published guidelines aimed at improving physician-patient communications about the risks of opioid medication to treat chronic pain.¹ One study by Zywiell et al. published in an orthopedic journal found that patients who chronically use opioid prescription medications were more at risk for complications and prolonged pain during recovery from surgery.⁷ This is an important finding, as many providers and surgeons tend to routinely prescribe opioids post-operatively. Another study by Dunn et al. found that patients previously prescribed opioid pain medications were at increased risk for overdose with increased doses of prescribed opioids.⁸

Our objective was to determine the prevalence of opioid pain medication use among patients presenting for a new visit to the Urogynecology clinic compared to those presenting to general Gynecology. Our secondary aim was to compare demographic and medical characteristics among opioid users and non-opioid users. We hypothesized that new patients to Urogynecology were more likely to be using, or have been previously prescribed, opioid pain medications compared to new patients to Gynecology.

Materials and Methods

This was a retrospective chart review of new patients presenting to the Urogynecology and Gynecology clinics at a single institution. The University of Oklahoma Health Sciences Center Institutional Review Board approved the protocol. Patients were identified by searching the electronic medical record (EMR). All patients seen from January 1, 2016 through December 31, 2016 were included in the analysis. Each patient chart was reviewed to include only those seen for a new patient encounter. A new patient was defined as a patient presenting to the clinic for the first time or whose previous visit was more than three years prior. Patients were excluded if they were younger than 18 years old or pregnant. If a patient was seen for a new patient encounter for both Urogynecology and Gynecology clinics, the earlier clinic visit was included in the analysis.

Patient demographic information and medical history were abstracted from the EMR. Baseline characteristics included age, race, ethnicity, parity, body mass index (BMI), and history of a previous pain diagnosis, depression, alcohol abuse, and cigarette smoking status. A previous pain diagnosis was identified from the past medical history. Terms such as low back pain, pelvic pain, and migraine headaches are examples of previous pain diagnoses. Within the new patient encounter, information abstracted included relevant clinic (gynecology or urogynecology), and reported opioid use. To determine any previous or current opioid use in this patient population, we reviewed the EMR patient medication list. The physician, advanced practice provider, or nursing staff, enters up to date medication into the EMR directly or after reviewing questionnaires.

The distributions of opioid use and patient characteristics were compared by clinic using chi-square tests and Fisher's exact tests. Modified Poisson regression models were used to estimate prevalence proportion ratios (PPR) and 95% confidence intervals for the comparison of opioid use by clinic adjusting for patient characteristics. A p value < 0.05 was considered statistically significant. Analyses were conducted using SAS® v9.4 (Cary, NC, USA).

Results

During the one-year study period, 2,790 new patient encounters were identified from the Gynecology and Urogynecology clinics. A total of 1,905 patients presented to establish care with a gynecologist while 885 presented to establish care with an urogynecologist. Of this total, 1835 (955 Gynecology, 880 Urogynecology) patients met inclusion criteria.

Urogynecology patients were almost twice as likely to be using an opioid pain medication compared to Gynecology patients (14.2% vs. 7.6%) ($p<0.0001$). When comparing the characteristics of urogynecology and gynecology patients, over 48% of urogynecology patients were age 60 and greater while gynecology patients were predominantly under the age of 40 (58%) ($p<0.0001$). 41.2% of urogynecology patients had a parity of 3 while the majority of gynecology patients had a parity of 0 (42.9 %) ($p<0.0001$). A larger proportion of urogynecology patients were overweight or obese (75.8 %) compared to gynecology patients (66.6%) ($p<0.0001$). Urogynecology patients also had a greater history of alcohol abuse, depression, and a previous pain diagnosis compared to gynecology patients (Table 1).

Overall, the majority of patients presenting to both clinics identified as white race (78.6%) and non-Hispanic ethnicity (95.3%). Approximately half (47.5%) of all patients reported a previous pain diagnosis and 10.8% reported previous or current opioid use (Table 2). Median age was 47 years (IQR 29 years). Median parity was 2 (IQR 3). Median body mass index (BMI) was 28.2 kg/m² (IQR 10.0 kg/m²). Within the included study cohort, 27% had a history of depression, 0.5% reported a history of PTSD, 0.7% had a history of alcohol dependence, and 7.7% were current cigarette smokers (Table 2).

When considering both Urogynecology and Gynecology patients, prevalence of opioid use was lowest among women who identified as Asian (4.4%) or other race (2.3%), and highest among African American (13.1%) and Native American women (13.0 %) ($p=0.03$).

Hispanics made up a lower proportion of opioid users (1.0%) than non-user (5.1%, $p=0.01$). The proportion of nulliparous (parity=0) women was greater among those without a history of opioid use when compared to opioid users ($p<0.0001$). Opioid users were more likely to be obese than non-users ($p=0.009$). History of alcohol abuse was not associated with opioid use in new patients presenting to gynecology and urogynecology clinics. However, opioid use was more common in patients who smoked cigarettes ($p<0.0001$) and patients with a history of previous pain diagnosis ($p<0.0001$).

Urogynecology patients were 1.9 times as likely to have a history of previous or current opioid use when compared to gynecology patients (95% CI 1.4–2.4). When adjusted for patient characteristics of age, race, Hispanic ethnicity, parity, BMI, alcohol use, cigarette smoking, depression, and previous pain diagnosis, Urogynecology patients were 1.3 times as likely to have a history of opioid use (95% CI 1.0–1.8) (Table 3).

Discussion

Patients presenting to the Urogynecology clinic were 30% more likely than gynecology patients to be using an opioid pain medication based on self-reporting. These women tended to be older, have a higher parity, be current smokers, and have a history of a previous chronic pain diagnosis. Interestingly, history of alcohol abuse (reported as either past medical or social history) was not associated with increased likelihood of opioid pain medications in the study population. Black and Native American women were more likely to be using an opioid pain medication in both groups of patients.

Early identification of patients who use opioids is relevant to practice today. Patients are at higher risk for an adverse event such as opioid dependence, diversion, abuse, and opioid overdose if they are receiving higher dosages of opioids.^{8,9} Even at lower opioid doses, patients are at still at risk of overdose.⁸

While the expectation is that patients are honest with physicians regarding their use of opioid medications, dependence on self-reporting has its downside as it may introduce a response bias. A better option would be for physicians to incorporate state-based prescription-drug monitoring programs (PDMPs) to review opioid pain medication use at the time of a new patient visit.¹⁰ Benefits of using the PDMP include a more accurate and objective assessment of drug, dosage, and most recent opioid prescription filled which can help to elucidate frequency of use. Although this cannot account for any opioid medication obtained illicitly or provide information on whether filled prescriptions were ingested as prescribed, linkage to prescription monitoring databases could provide a good baseline upon which to compare patients. These data, however, were not available for this study due to state restrictions prohibiting the use of PDMP data for clinical research.

Strengths of this study include the size of the study population and standardized approach to recording patient medication use in the EMR. Limitations include its retrospective design, use of self-reported opioid pain medication, inability to confirm medication reconciliation for each chart reviewed, and restriction of patients to a single institution.

While our data was not statistically significant, we believe that this data is clinically significant. The 14% prevalence rate indicates a need for Urogynecologists to include a review of opioid pain medication and the potential need for co-management with pain medicine specialists on all new patients who present to their clinics and seek surgical care. Identifying these patients should prompt an open discussion on the risks of chronic opioid use and possible multimodal pain management strategies where appropriate. Additionally, physicians should consider incorporating a review of PDMPs for all new patients for an objective assessment of opioid pain medication use.

Urogynecologists may be more likely to encounter patients with a history of previous or current opioid use in their practice compared to general gynecologists. Presence of a prior opioid prescription can influence the amount of opioid pain medication required peri-operatively or affect how chronic pelvic pain patients are medically managed.^{7,11,12} As a result, we need to be aware of strategies for providing adequate postsurgical pain control and need to have effective communication with primary care providers and pain management services alike to avoid propagating opioid overuse in those with chronic pain.

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Table 1.

Summary of characteristics of patients by clinic.

Patient Characteristics	Gynecology (N=955)		Urogynecology (N=880)		P-value ^a
	Count	%	Count	%	
Age (years)					<0.0001
Less than 30	299	31.3	38	4.3	
30–39	259	27.1	105	11.9	
40–49	165	17.3	130	14.8	
50–59	129	13.5	181	20.6	
60 and greater	103	10.8	426	48.4	
Race					<0.0001
White	673	70.5	770	87.5	
Black	140	14.7	43	4.8	
Asian or Pacific Islander	49	5.1	19	2.2	
Native American	24	2.5	30	3.4	
Not specified or Other	68	7.2	18	2.1	
Ethnicity					0.0008
Non-Hispanic	895	93.7	854	97.0	
Hispanic	60	6.3	26	3.0	
Parity					<0.0001
0	408	42.9	79	9.0	
1	145	15.2	119	13.6	
2	217	22.8	318	36.2	
3	182	19.1	362	41.2	
BMI Category					<0.0001
Underweight	17	1.8	14	1.6	
Normal Weight	300	31.6	199	22.6	
Overweight	234	24.7	291	33.1	
Obese	397	41.9	375	42.7	
Depression					0.04
No	717	75.1	623	70.8	
Yes	238	24.9	257	29.2	
Alcohol Dependence					0.008^b
No	953	99.8	869	98.8	
Yes	2	0.2	11	1.2	
Tobacco Use					0.04
No	870	91.1	824	93.6	
Yes	85	8.9	56	6.4	
Pain diagnosis					<0.0001
No	557	58.3	407	46.3	
Yes	398	41.7	473	53.7	

Patient Characteristics	Gynecology (N=955)		Urogynecology (N=880)		P-value ^a
	Count	%	Count	%	
Opioid Use					<0.0001
No	882	92.4	755	85.8	
Yes	73	7.6	125	14.2	

^aP-value for comparing characteristics of gynecology and urogynecology patients using chi-square tests, unless otherwise noted

^bFisher's exact test

Table 2.

Summary of characteristics of patients by opioid use as reported by patient.

Patient Characteristics	No Opioid Use (N=1637)		Opioid Use (N=198)		Total (N=1835)		P-value
	Count	%	Count	%	Count	%	
Age (years)							<0.0001
Less than 30	327	20.0	10	5.0	337	18.4	
30–39	333	20.3	31	15.7	364	19.8	
40–49	260	15.9	35	17.7	295	16.1	
50–59	261	15.9	49	24.7	310	16.9	
60 and greater	456	27.9	73	36.9	529	28.8	
Race							0.03
White	1281	78.2	162	81.8	1443	78.7	
Black	159	9.7	24	12.1	183	10.0	
Asian or Pacific Islander	65	4.0	3	1.5	68	3.7	
Native American	47	2.9	7	3.5	54	2.9	
Not specified or Other	85	5.2	2	1.0	87	4.7	
Ethnicity							0.01
Non-Hispanic	1553	94.9	196	99.0	1749	95.3	
Hispanic	84	5.1	2	1.0	86	4.7	
Parity (N=1830)							0.02
0	453	27.7	34	17.4	487	26.6	
1	236	14.4	28	14.4	264	14.4	
2	471	28.8	64	32.8	535	29.2	
3	475	29.1	69	35.4	544	29.8	
Depression							<0.0001
No	1232	75.3	108	54.5	1340	73.0	
Yes	405	24.7	90	45.5	495	27.0	
Alcohol Dependence							0.6[€]
No	1626	99.3	196	99.0	1822	99.3	
Yes	11	0.7	2	1.0	13	0.7	
Tobacco Use							<0.0001
No	1525	93.2	169	85.4	1694	92.3	
Yes	112	7.8	29	14.6	141	7.7	
Pain diagnosis							<0.0001
No	912	55.7	52	26.3	964	52.5	
Yes	725	44.3	146	73.7	871	47.5	
BMI Category (N=1827)							0.009
Underweight	27	1.7	4	2.0	31	1.7	
Normal Weight	456	28.0	43	21.8	499	27.3	
Overweight	480	29.4	45	22.8	525	28.7	
Obese	667	40.9	105	53.3	772	42.3	

^a p-value for comparing characteristics of patients with and without opioid is calculated using chi-square tests, unless otherwise noted

[€] Fisher's Exact Test p-value

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Table 3.

Prevalence Proportion Ratios and 95% Confidence Intervals for Opioid Use among New Patients in the Urogynecology Clinic Compared to the General Gynecology Clinic, January – December 2016

	Self-Reported Opioid Use	
	Unadjusted PPR ^a (95% CI)	Adjusted PPR ^{b,c} (95% CI)
Urogynecology Clinic ^d	1.86 (1.41–2.44)	1.29 (0.95–1.75)

^a Unadjusted model based on 1835 patients

^b Modified Poisson Regression model adjusted for age, race, Hispanic ethnicity, parity, body mass index, alcohol, tobacco, depression, pain diagnosis

^c Adjusted model based on 1822 patients due to missing data for body mass index and parity

^d Compared to reference group – Gynecology patients