patient satisfaction measured by the HCAHPS survey. METHODS/STUDY POPULATION: Methods/Study Population: We conducted a pooled cross-sectional study of adults (18 and older) with non-surgical hospitalizations within the 11-hospital healthcare system in a Midwestern state from 2011-2016. Data were extracted from electronic health records and linked to HCAHPS patient satisfaction surveys. We estimated the propensity score for receipt of any opioids during hospitalization and separately the receipt of high dose opioids (≥100 morphine milligram equivalent [MME]) based on patient, encounter, and facility characteristics for all hospitalizations with complete data. We used nearest neighbor matching to construct two matched samples to minimize selection bias and confounding by indication. We used a standardized difference threshold of < 0.1 as an indication of the balance between matched groups. Outcomes were compared with a test on the equality of proportions using large-sample statistics. All analysis was performed in STATA 14.0 analytical software. Main outcomes: We analyzed four dependent variables. Two pain-specific patient satisfaction variables were derived from the responses to the following survey questions: 1) "During this hospital stay, how often your pain was well controlled? (pain control)" and 2) "During this hospital stay, how often did the hospital staff do everything they could to help you with your pain? (pain help)", with 4-point Likert scale responses ranging from "Never" to "Always." We also used two global satisfaction measures derived from the responses to the following survey questions: 1) "Using any number from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible, what number would you use to rate this hospital during your stay (overall patient satisfaction)?" and 2) "Would you recommend this hospital to your friends and family (willingness to recommend a hospital)? (4-point scale of "Definitely Yes" to "Definitely No"). Because the responses are not normally distributed, and the response options are truncated, we dichotomized each of these questions following previously published approaches8 and CMS methodology3 (e.g. "always" vs. all other responses or "9 or 10 rating" vs. all others). RESULTS/ANTICIPATED RESULTS: Results: Among 17,691 patients who reported that they needed pain medications during hospitalization in their HCAHPS survey, 43.7% (n=7,735) received opioids. Among the matched sample (n=8,848), 55% were female, 90% were white, 9% were black, 74% were emergency admissions, 29% had a circulatory diagnosis, 92% were discharged home, and the average pain score ranged from 0.2 to 7.1 during the hospital stay. Compared to matched patients hospitalized but did not receiving opioids, those who received opioids did not significantly differ in their rating of pain help (75% of patients without opioids rated that they always received help for their pain versus 75% of patients with opioids; p=.78), pain control (55% of patients without opioids reported that their pain was well controlled versus 54% on opioids; p=.93), willingness to recommend the hospital (69% of patients without opioids reported that they would definitely recommend a hospital versus 71% with opioids; p=.16) and overall rating of their care (47% of patients without opioids rated their hospitalization as 10 versus 46% on opioids; p=.22). DISCUSSION/SIGNIFICANCE OF IMPACT: Discussion: We found no evidence that receipt of opioids is associated with patient satisfaction, including at doses. To our knowledge, this is the first study that used propensity score matching to examine the association between inpatient opioid prescribing practices and patient satisfaction. Furthermore, our sample is unique in the inclusion of patients hospitalized for non-surgical indicators over a five year period in the multi-hospital healthcare system in a Midwestern state. Our findings add to the existing literature which has shown contradictory associations between opioid prescribing and patient satisfaction.16-22 Specifically, few studies that looked at surgical inpatients showed a lack of association between patient satisfaction16,18 and opioid prescribing, whereas others showed that receipt of opioids was associated with lower patient satisfaction.17-20 Our findings may imply that satisfaction with pain care may be achieved without administering opioids to non-surgical inpatients. Alternatively, satisfaction with pain care may not be influenced by opioid prescribing for non-surgical inpatients. Future research should further examine the association between opioid prescribing and patient satisfaction among non-surgical inpatients on a national scale to get a better understanding of the relationship between certain pain care practices and patient satisfaction.

3014

Identification of a Cohort to Study Treatment Patterns in Elderly Patients with Incident Hodgkin Lymphoma (HL) using Surveillance, Epidemiology and End Results (SEER)-Medicare Data

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OBJECTIVES/SPECIFIC AIMS: (1) To define and describe a cohort of patients aged ≥65 years with incident HL from SEER-Medicare data. (2) To identify patient, disease, and system-level factors associated with initial treatment for HL. METHODS/STUDY POPULATION: This retrospective cohort study utilized SEER-Medicare data from 1999-2014. Patients with incident classical HL were identified using SEER registry histology groupings. The cohort was restricted to those with Medicare Part A and B fee-for-service for 3 months prior to and 1 year after diagnosis (or until date of death) in order to fully capture claims for outpatient chemotherapy. Patients were excluded for the following reasons: missing month of HL diagnosis; unknown diagnostic confirmation; reporting from autopsy or death certificate; or another cancer diagnosis +/− 2 years of the HL diagnosis. Demographic and disease characteristics were defined based on SEER registry data. Broad treatment categories were defined using SEER data, while detailed treatment categories will be defined based on Medicare claims. Length of follow-up was defined as the number of months until the earliest of the following: death; end of continuous Medicare Part A and B fee-for-service enrollment; or the end of the available data (12/31/2014). Demographic, disease, and preliminary treatment characteristics were described for the cohort. Future analyses will explore patient and disease factors, including comorbidities and an estimate of frailty, as well as system-level factors associated with initial treatment of HL. RESULTS/ANTICIPATED RESULTS: We identified 2909 patients meeting eligibility for the cohort. The median length of follow-up was 22 months (Q1=5, Q3=62). Median age was 75.9 years (Q1=70, Q3=81), 49.6% were female, and 82.6% were non-Hispanic/White. Only 11.5% of patients were in rural or non-urban areas. 13.8% of patients were dual eligible for both Medicare and Medicaid. Nodular sclerosis was the most common histology (35.2%), followed by mixed cellularity (21.1%); 36.5% had histology that was not otherwise specified. Patients were evenly distributed across Ann Arbor Stage (21.8% with I; 22.3% with II; 25.8% with III; 24.2% with IV; 6% unknown). B symptoms were present in 35.2% of patients, absent in 39.6%, and unknown in 25.2%. Neither tumor bulk nor international prognostic score were available via SEER registry data. According to SEER registry data, most patients received some treatment for their HL (81.9%) and 75% of those patients initiated treatment within one

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month of diagnosis. 72% of patients died with median time to death of 9 months (Q1=3, Q3=43). DISCUSSION/SIGNIFICANCE OF IMPACT: We successfully identified and described a cohort of 2909 older patients with incident HL from the SEER-Medicare data. This provides a unique opportunity to study this cohort in a large, representative dataset with nearly 15 years of follow up. Future analysis will help us to better understand treatment patterns of HL in older patients and factors associated with treatment. These results can then be used to help improve care decisions and clinical outcomes.

3417

Impact of Protein-Energy Malnutrition on Outcomes of Heart Failure Hospitalizations

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OBJECTIVES/SPECIFIC AIMS: Chronically elevated cytokines from un-abating low-grade inflammation in heart failure (HF) results in Protein-Energy Malnutrition (PEM). However, the impact of PEM on clinical outcomes of admissions for HF exacerbations has not been evaluated in a national data. METHODS/STUDY POPULATION: From the 2012-2014 Nationwide Inpatient Sample (NIS) patient's discharge records for primary HF admissions, we identified patients with concomitant PEM, and their demographic and comorbid factors. We propensity-matched PEM cohorts (32,771) to no-PEM controls (1:1) using a greedy algorithm-based methodology and estimated the effect of different clinical outcomes (SAS 9.4). RESULTS/ANTICIPATED RESULTS: There were 32,771 (~163,885) cases of PEM among the 541,679 (~2,708,395) primary admissions for HF between 2012 and 2014 in the US. PEM cases were older (PEM:76 vs. no-PEM:72 years), Whites (70.75% vs. 67.30%), and had higher comorbid burden, with Deyo-comorbidity index >3 (31.61% vs. 26.30%). However, PEM cases had lower rates of obesity, hyperlipidemia and diabetes. After propensity-matching, PEM was associated with higher mortality (AOR:2.48[2.31-2.66]), cardiogenic shock (3.11[2.79-3.46]), cardiac arrest (2.30[1.96-2.70]), acute kidney failure (1.49[1.44-1.54]), acute respiratory failure (1.57[1.51-1.64]), mechanical ventilation (2.72[2.50-2.97]). PEM also resulted in higher non-routine discharges (2.24[2.17-2.31]), hospital cost ($80,534[78,496-82,625] vs. $43,226[42,376-44,093]) and longer duration of admission (8.61[8.49-8.74] vs. 5.28[5.23-5.34] days). DISCUSSION/SIGNIFICANCE OF IMPACT: In the US, PEM is a common comorbidity among hospitalized HF subjects, and results in devastating health outcomes. Early identification and prevention of PEM in heart failure subjects during clinic visits and prompt treatment of PEM both in the clinic and during hospitalization are essential to decrease the excess burden of PEM.

3412

Informed Consent: Refining the Process

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OBJECTIVES/SPECIFIC AIMS: -This study aims to evaluate our retention rate into our prospective clinical trial. We will be comparing the rate of withdrawal both before and after our revamped informed consent process. -We aim to assess patient satisfaction with our study and u METHODS/STUDY POPULATION: -The informed consent process for an observational prospective study at our institution has been modified to lengthen the recruitment and consenting process. -In brief, the research protocol for this observational prospective aims to evaluate the role of steroids on ulcer healing in patients with ulcerative colitis. This study involves an initial standard of care colonoscopy with biopsies and photos. The areas biopsied are marked with a tattoo. The patients are started on steroids for management of their Ulcerative Colitis, and must return for two research colonoscopies at one week post- initial diagnostic visit, and at one month. Additional study biopsies are obtained at the one week visit and photo documentation is obtained. At the one month visit, only photos are obtained to document healing. -In addition to patients with active ulcerative colitis, this study recruits control groups of patients with UC in remission, as well as two groups of normal control patients (one group on steroids for non-IBD reasons, and one group not on steroids. -Prior to our informed consent intervention, patients were screened for eligibility on the day of their standard of care endoscopy. The study was explained to the patient prior to their endoscopy, often in the "pre-op" endoscopy suite. -Our intervention seeks to draw out the consent and recruitment process. All patients scheduled for upcoming endoscopies will be mailed a generic flyer announcing research studies occurring in the endoscopy suite. Patients will be prescreened at least a week prior to endoscopy with the aid of the endoscopy scheduler. Patients interested in hearing about research will be contacted via phone by study personnel, and a copy of the consent as well as a brief summary will be mailed to the patient. -Patients potentially interested in study participation will be asked to arrive 30 minutes earlier than they typically would for their procedure, and they will be consented in a quiet and private consultation room. They will be given ample time to ask clarifying questions regarding the study. -At the conclusion of their participation, patients will receive an anonymous post-participation survey that seeks to assess their feelings regarding the study and their understanding of the research process. RESULTS/ANTICIPATED RESULTS: DISCUSSION/SIGNIFICANCE OF IMPACT: This study adds to the ongoing body of evidence suggesting that the informed consent process is more than the three key elements initially described by the Belmont Report 40 years ago. Several factors can impact patient's willingness to participate in research, and the amount of time it takes for patients to achieve all three elements of consent can vary from person to person. The traditional method of consent just prior to study entrance is one that needs to be revisited, and we propose that prolonging the consenting process will positively impact not only patients, but also the overall research process by ensuring that those who decide to participate remain adherent to study protocols.

3228

POET: A perioperative educational tool as an adjunct to enhanced recovery after surgery in patients undergoing minimally invasive gynecologic oncology surgery

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OBJECTIVES/SPECIFIC AIMS: The goal of this study was to determine the impact of an RN-guided preoperative educational intervention in a minimally invasive gynecologic oncology surgery cohort. Our specific objectives include: 1. To assess the impact of preoperative education on quality outcomes such as length of stay and discharge by noon rates. 2. To characterize the differential burden of post-operative communications on nursing staff in patients who received education versus those who did not. METHODS/STUDY

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