Poster Tour Guide Packet

ISPOR 2022

Poster Session:	**In-Person and Virtual Poster Session 1**
Tour Name:	**RWE**
Tour Time:	Monday, May 16, 2022, 12:15 - 1:15 PM
Tour Area:	Area B, Prince George Exhibit Hall

Acceptance Code:	CO21
Abstract Title:	Patient Demographics, Clinical Characteristics, Treatment Patterns, and Survival Outcomes Associated with First-Line Treated Un-Resectable Advanced, Metastatic and Recurrent Esophageal Squamous Cell Carcinoma in the U.S.
Presenting Author:	Prakash Navaratnam

Abstract Body:

OBJECTIVES: Treatment patterns and survival outcomes among real-world first-line (1L) treated un-resectable advanced recurrent or metastatic esophageal squamous cell carcinoma (ESCC) patients in the U.S. were evaluated.

METHODS: Patients diagnosed with esophageal cancer between 1/1/2012, and 12/31/2020, were identified in the Flatiron database, a US EMR database representing 265 oncology clinics. Both recurrent (i.e., post-resective surgery stage 1-3 with recurrent disease) and un-resectable denovo patients (i.e., metastatic stage 4) were identified. Descriptive statistics of patient demographics, clinical characteristics, and treatment patterns over the index and post-index periods were generated. Kaplan-Meier survival curves were used to estimate median overall survival (mOS) for both 1L treated and best supportive care (BSC) patients.

RESULTS: A total of 356 ESCC patients (58 recurrent, 298 denovo patients) were identified. 73% (n=259) received 1L chemotherapy, and 97 were untreated BSC. The treated ESCC patients' mean age was 66.3 ± 9.2 years and were mostly male (69.5%) and white (56%). The most common 1st line regimen was carboplatin + paclitaxel (38%), followed by FOLFOX (24%). 32.4% of these 1L patients went on to second-line, and of these, 32.1% went on to third-line. Females were more likely than males to be on 1L carboplatin+paclitaxel (46% vs 34%) and more likely to move on to 2L (39% vs 29%). More recent index years (>2017) saw a shift toward fluoropyrimidine + platinum 1L use over taxane+ platinum (38% vs 22%). First-line ESCC patients had a mOS of 8.5 (7.6 - 10.1) months, whereas BSC patients had a mOS of 4.1 (3.0 - 5.2) months.

CONCLUSIONS: In this 1L ESCC patient population, mOS was 8.5 months, which was more than double the mOS of the untreated BSC patients of 4.1 months. Deploying more effective treatments in the 1L setting may extend mOS among treatment-eligible patients.

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Acceptance Code:	EPH2
Abstract Title:	Adverse Outcomes Associated with Concurrent Gabapentin, Opioid, and Benzodiazepine Utilization: A Nested Case-Control Study
Presenting Author:	Abisola Olopoenia

Abstract Body:

OBJECTIVES: Little is known about co-utilization of gabapentin (GABA), opioids (OP), and benzodiazepines (BZD) and associated public health outcomes. Given this, our goal was to examine the association between concurrent utilization of gabapentin (GABA), opioids (OP), and benzodiazepines (BZD) and respiratory depression, opioid and substance-related overdose.

METHODS: Using Medicare CCW Data, 2013-2016, we conducted a nested case control study to examine adverse consequences associated with concurrent GABA, OP, and BZD utilization in a disabled Medicare population. Cases and controls were Fee-for-service disabled beneficiaries who had a diagnosis of acute pain (AP), chronic pain (CP) or mental health conditions (MH) and received GABA, OP or BZD. Cases with respiratory depression, opioid or substance-related overdose were matched with up to 4 controls on socio-demographics, year of cohort entry and disease risk score. Primary exposure was concurrent medication utilization defined as an overlap of at least one day in prescriptions for GABA, OP and BZD.

RESULTS: Across all cohorts, majority of cases and controls were under 65, female, dually eligible and had prior histories of pain and mental health conditions. GABA+OP+BZD use was associated with increased odds of respiratory depression [AOR(95%CI)—AP: 1.35 (1.19-1.52), CP:1.24 (1.11-1.38) and MH: 1.16 (1.02-1.32)], opioid related overdose [AP: 1.43 (1.04-1.98), CP: 1.47 (1.07-2.00) and MH: 1.44 (1.04-2.00)], and substance related overdose[AP: 1.77 (1.26-2.50), CP: 1.70 (1.24-2.34) and MH: 1.92 (1.31-2.82)].While there were cohort differences in the association between GABA+OP and both respiratory depression and opioid-related overdose, GABA+OP and GABA+BZD use were associated with significantly higher odds of substance-related overdose across all clinical cohorts.

CONCLUSIONS: Among Medicare disabled beneficiaries, concurrent utilization of gabapentin, opioids, and benzodiazepines is associated with multiple adverse outcomes. Given this, it is imperative that the benefits and risks of co-prescribing these medications be comprehensively examined.

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Acceptance Code:	HSD3
Abstract Title:	Choosing Wisely? Use of Intensity Modulated Radiation Therapy Following Lumpectomy in Early-Stage Breast Cancer: A Seer-Medicare Analysis
Presenting Author:	Ami Vyas

Abstract Body:

Background: The American Society for Radiation Oncology's (ASTRO) Choosing Wisely (CW) initiative recommends against the routine use of intensity-modulated radiotherapy (IMRT) for whole breast radiotherapy in patients with breast cancer (BC). The impact of CW on use of IMRT in older patients with BC following breast-conserving surgery was evaluated. Also, factors that may predict IMRT use were assessed.

Methods: A retrospective observational cohort study using the Surveillance, Epidemiology, End Results-Medicare database was conducted with women age >66 years diagnosed with stage I-II incident BC during 2007-2015 who underwent lumpectomy and radiation therapy (N=34,507). The proportion of patients with receipt of an IMRT within six months following lumpectomy were identified for pre- and post-CW periods. An interrupted time-series (ITS) analysis and segmented regression were performed to examine if CW reduced the use of IMRT and to estimate the magnitude of change. A multivariable logistic regression was conducted for the post-CW group to identify significant predictors of IMRT use.

Results: During 2007-2015, 18.1% women received IMRT prior to the launch of CW in September 2013 compared to 11.0% post-CW. ITS analysis revealed that there was a significant 0.01 per quarter increase in the IMRT use per 100 patients pre-CW ($p<0.0001$). However, there was a 3.83 per 100 patients per quarter decline immediately following the implementation of CW. This trend continued and there was a significant 0.59 per 100 patients per quarter decrease in the use of IMRT resulting from CW ($p<0.0001$). During the post-CW timeframe, being Black, residence in South or North Central US, presence of comorbidities, left tumor laterality, and the receipt of radiotherapy in the free-standing facility were significant predictors of IMRT use.

Conclusion: Value-based care in patients with BC improved following the ASTRO's CW initiative. Our findings also highlight opportunities to reduce unnecessary IMRT use in BC care.

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Acceptance Code:	HSD41
Abstract Title:	2015 American Thyroid Association Guidelines and Outcomes for Patients with Thyroid Cancer
Presenting Author:	Qiang Hao

Abstract Body:

OBJECTIVES: In January 2016, the American Thyroid Association guidelines recommended hemithyroidectomy as initial treatment for smaller (1-4cm) primary thyroid carcinomas, particularly for papillary (PTC) and follicular thyroid cancer (FTC). This study evaluated the association between the guideline release and initial surgical procedures for patients with PTC/FTC tumors.

METHODS: Patients with PTC/FTC tumors 1-4cm who underwent hemithyroidectomy or total-thyroidectomy were identified from the 2009-2018 National Cancer Database. To avoid the bias from the evidence regarding hemithyroidectomy benefits before the guideline release, we used 2009-2011 as baseline and estimated hemithyroidectomy utilization in the following years, 2016-2018 were considered as post-guideline. A linear probability model was used to assess trends in hemithyroidectomy over time, adjusting for patient, disease, and hospital characteristics. We further conducted a stratified analysis by adding the interaction between year and hospital type, which included community cancer programs (CCP), comprehensive community cancer programs (CCCP), academic/research programs (ARP), and integrated network cancer programs (INCP).

RESULTS: The final study cohort included 69,455 patients, of whom 11.34% received hemithyroidectomy and 88.66% received total thyroidectomy. Hemithyroidectomy utilization did not change significantly from 2012-2015 relative to the 2009-2011 baseline. Following the guideline release, however, Hemithyroidectomy utilization increased significantly in 2016 (1.2%, $p=0.004$), 2017 (3.5%, $p<0.0001$), and 2018 (7.2%, $p<0.0001$). The stratified analysis showed significant differences in timing of the shift to hemithyroidectomy by hospital type. Hemithyroidectomy utilization significantly increased beginning in 2014 for ARP ($p<0.0001$) and INCP ($p<0.0001$), in 2015 for CCCP ($p<0.0001$), and in 2016 for CCP ($p<0.0001$).

CONCLUSIONS: Although hemithyroidectomy utilization among patients with PTC and FTC tumors 1-4cm significantly increased following the 2015 ATA guideline, the guideline does not appear to be the catalyst for most hospitals. Research focused cancer centers began increasing hemithyroidectomy two years before the guidelines were released, and only CCP hospitals began to increase hemithyroidectomy utilization following the guideline release.

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Acceptance Code:	CO94
Abstract Title:	Changes in Demographic and Clinical Characteristics of Patients with Type 2 Diabetes (T2DM) Initiating Subcutaneous Semaglutide
Presenting Author:	Tyler James Dunn

Abstract Body:

OBJECTIVES: Characteristics of patients prescribed new medications often evolve over time after market launch. To explore this, our analysis described baseline demographic and clinical characteristics as well as antidiabetic medication use in T2DM patients initiating subcutaneous semaglutide over time from its introduction in the US in a commercially-insured/Medicare Advantage population.

METHODS: T2DM patients initiating subcutaneous semaglutide between 2/1/2017-3/31/2020 were identified using HealthCore Integrated Research Database in quarterly segments (index as first claim). Patients were included with ≥1 year of pre-index enrollment and ≥1 T2DM claim. Patients were stratified based on prior glucagon-like peptide 1 receptor agonist (GLP-1) use (experienced/naïve). Baseline demographic, clinical and antidiabetic medication use characteristics were descriptively reported.

RESULTS: Eight quarterly refreshes were included, totaling 31,031 T2DM patients (20,272 GLP-1 naïve, 10,759 GLP-experienced). Most patients in both groups were prescribed semaglutide by endocrinologists at baseline, with this trend slowly decreasing over time and PCPs becoming the primary prescribers during later quarters. The most common anti-diabetic medications in both groups, prior to subcutaneous semaglutide initiation, were metformin (77.6% at baseline) and sodium-glucose cotransporter-2 (SGLT2) inhibitors (41.3%), with SGLT2 inhibitor rates slowly decreasing. Most patients had HbA1c levels above 7% in both groups (66.2-74.0% GLP-1 experienced patients, 73.7-83.5% GLP-1 naïve), with no significant trends. Non-anti-diabetic medications prescribing rates were high in both groups, including antihypertensives (79.9-81.7%) and lipid lowering therapy (71.9-73.7%). Roughly 34% of patients were prescribed antidepressants (35.5% among GLP-1 experienced, 32.9% GLP-1 naïve). The most common comorbidities included hypertension, dyslipidemia, hyperglycemia, obesity, and sleep apnea, with trends also staying stable.

CONCLUSION: After launch, the T2D population initiating subcutaneous semaglutide experienced changes in baseline demographics, clinical characteristics, and antidiabetic treatment use. Continuous monitoring of these trends ensures that, as these provider types and patient subgroups evolve, prescribing healthcare practitioners have the most up-to-date and relevant information to managing T2DM.

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Acceptance Code:	EE203
Abstract Title:	Clinical and Economic Outcomes of Patients with Multiple Rib Fractures Treated Operatively Vs. Non–Operatively — a US Hospital Database Analysis
Presenting Author:	Mollie Vanderkarr

Abstract Body:

OBJECTIVES: Treatment for multiple rib fractures (MRF) may include surgical rib fixation (SRF) or non-operative care. Recent meta-analyses have demonstrated that SRF results in faster recovery and lower long-term complication rates. Our study evaluated characteristics, treatments and immediate post-operative outcomes of MRF patients with and without SRF.

METHODS: All patients with inpatient hospitalization with a diagnosis of MRF in the PREMIER hospital database from 10/1/2015 to 09/01/2020 were identified. Demographics, comorbidities (as per Elixhauser comorbidity index (ECI), injuries at index (categorized by first 2 digit of ICD-10 diagnostic code), abbreviated injury scale (AIS) and injury severity scores (ISS), and provider characteristics (hospitals size, urban vs. rural, teaching status) were determined for all patients. Patients were excluded from the cohort if they had a thorax AIS < 2 (low severity patient) or a Glasgow coma score < 8 (extreme high severity patient). Two cohorts were created based on presence of SRF at index. Patients were matched using direct matching on AIS thorax and thorax injuries, and propensity score matching (PSM, method: nearest neighbor, caliper = 0.2) on other demographic, comorbid and injury diagnoses.

RESULTS: After matching, 2,340 patients were analyzed, 1,170 with and without SRF (average age: 61.6 (standard deviation (SD): 16.0); Elixhauser: 2.6 (SD: 2.1); ISS: 8.74 (SD: 3.9). Major thorax and lung injuries included pneumothorax (22.5%), lung contusion (26.1%), pleural effusion (14.1%). Key comorbidities included hypertension (42.9%) and chronic pulmonary disease (21.7%). Home or home health discharge was observed in 72.1% patients with SRF versus 67.6% patients without SRF ($p<0.0001$). Admission to skilled nursing facilities (SNF) was 14% greater in patients without SRF vs with SRF.

CONCLUSIONS: Despite added surgical healthcare utilization, MRF patients who received SRF had a greater home or home health discharge rate, and lower SNF discharge rate, compared to matched MRF patients without SRF.