**Background:** Universally accepted recommendations about the need for splenectomy with distal pancreatectomy in trauma do not exist because pancreatic injuries are rare and the literature is scarce. The aim of this study was to compare outcomes after distal pancreatectomy and splenectomy vs spleen-preserving distal pancreatectomy for trauma. We hypothesized that splenic preservation would be appropriate in a minority of patients and associated with worse outcomes.

**Methods:** The National Trauma Data Bank (NTDB) was searched (01/01/2007-12/31/2014) for all patients who underwent distal pancreatectomy (NTDB procedure code 52.52). Patients with concomitant splenic injury and those who underwent partial splenectomy were excluded. Demographics, clinical data, procedures, and outcomes were collected. Patients who underwent distal pancreatectomy with splenectomy were compared to those who underwent spleen-preserving distal pancreatectomy. Baseline characteristics between groups were compared with univariate analysis, using Mann-Whitney U test for continuous variables and Fisher’s Exact Test for categorical variables. Multivariate analysis, adjusting for age, gender, admission SBP and GCS, mechanism of injury, and ISS, was used to examine differences in outcomes.

**Results:** Over the study period, 2,223 patients underwent distal pancreatectomy for trauma. After excluding 1,381 with concomitant splenic injury (62%) and 8 (0.3%) who underwent partial splenectomy, 834 (38%) remained for analysis. Median age was 23 years (range 0-86) and 634 (77%) were male. Mechanism of injury was penetrating in 413 (50%). Median ISS was 10 (interquartile range [IQR] 4-18).

Of the 834 patients, 469 (56%) also underwent splenectomy and 365 patients (44%) did not. Compared to patients with distal pancreatectomy and splenectomy, those who underwent spleen-preserving distal pancreatectomy were younger (18 years [IQR 11-28] vs 27 years [IQR 20-40], p<0.001), more likely to have sustained blunt trauma (58% vs 36%, p<0.001), and less severely injured (ISS 5 [IQR 4-14] vs ISS 16 [IQR 9-24], p<0.001). On multivariate analysis, only hospital length of stay (LOS) was significantly shorter among patients undergoing spleen-preserving distal pancreatectomy as compared to those with distal pancreatectomy and splenectomy (10 days [IQR 7-18] vs 15 days [IQR 8-28]), p=0.010). Complications, mortality, and ICU LOS were the same between groups.

**Conclusion:** After traumatic injury to the distal pancreas, there was no difference in mortality, complications, or ICU length of stay between patients who underwent distal pancreatectomy alone as compared to those who received distal pancreatectomy and splenectomy. In young patients after blunt trauma who are not severely injured, spleen-preserving distal pancreatectomy should be considered as it allows for conservation of splenic function and is associated with shorter hospital length of stay. In all other patients, the surgeon should not hesitate to remove the spleen with the distal pancreas.
Background: Higher rates of mortality have been associated with Emergency Medical Service (EMS) transportation following traumatic injury. The validity of this relationship has not yet been established in patients requiring operative intervention.

Methods: The National Trauma Data Bank was queried from 2007 to 2014 for all admissions. Patients <14 years and those transported aerially were excluded; only patients transported by EMS, police transport (PT), or private vehicle (PV) were included. Patients were stratified by injury mechanism and need for operative intervention. Multivariate logistic regression examined the impact on mortality and infectious complications of transportation mode while controlling for differences in patient characteristics and injury severity.

Results: A total of 3,285,817 patients were identified. Of these admissions, 2,058,767 (62.66%) were male, the mean Injury Severity Score was 8.98 (SD 8.60), and 372,681 (11.3%) required urgent operation immediately after admission. A total of 2,624,850 (79.88%), 32,619 (0.99%), and 628,348 (19.12%) patients were transported by EMS, PT, and PV. In patients requiring urgent operative intervention, multivariate logistic regression comparing EMS and PV indicated that PV was significantly associated with lower rates of mortality in patients sustaining blunt injuries to the chest (OR 0.564, p=0.023), abdomen (OR 0.448, p=0.001), and extremities (OR 0.247, p<0.001). Similar relationships were found in patients sustaining penetrating injuries to the chest (OR 0.726, p = 0.016), abdomen (OR 0.747, p=0.018), and extremities (OR 0.450, p<0.001).

Conclusion: Compared to EMS, PV was consistently associated with lower rates of mortality even after controlling for differences in patient characteristics and injury severity. These results warrant additional research into the mechanism causing the clinical outcome disparities between transportation modes.
7:15am - 7:20am

P33. A POPULATION BASED COMPARISON OF MALE BREAST CANCER WITH FEMALE BREAST CANCER IN THE UNITED STATES

AN Cobb MD, F Vaince MD, CV Godellas MD, PC Kuo MD
Loyola University Medical Center
Presenter: Adrienne N Cobb MD

Background: Male breast cancer is relatively uncommon when compared to the high prevalence of female breast cancer. Much research has been directed toward female breast cancer, but there have been few studies to compare how male breast cancer patients are faring compared to their female counterparts. This study aims to compare male breast care patients with female patients over the course of 40 years using a population-based cancer registry.

Methods: A cross-sectional review of 1,115 male breast cancer patients and 147,032 female breast cancer patients pulled from the Surveillance, Epidemiology, and End Results Program (SEER) between the years 1973 and 2013. Overall patient characteristics of both groups were performed using univariate statistics; chi square for categorical variables and Student ttest for continuous variables. Male breast cancer patients were then propensity score matched with female breast cancer patients on the basis of year of diagnosis, race, overall stage, size of the tumor, and nodal status for Kaplan-Meier analysis to compare 5 year overall survival, disease free survival and breast cancer specific mortality.

Results: The average age at diagnosis was 66.5 and 61.7 years of age for male and female breast cancer patients respectively. Both groups were largely Caucasian, had invasive cancer, and majority of tumors were less than 2 cm. Male patients showed overall higher histological grade, overall stage, and higher rates of node positive disease. Men were also had higher rates of estrogen and progesterone receptor positivity, whereas female patients were more likely to be Her2 positive. Men were more likely to die of causes other than breast cancer. Matched analysis showed that female patients had lower overall 5 year survival compared to males with approximately 65% vs. 70% respectively, and this persisted with 5 year disease-free survival of 75% for females vs. 90% for males. The mean number of months survived was 73 month for men vs. 36 months for women (p<0.001).

Conclusion: Male breast cancer patients tend to have better overall survival as well as breast cancer specific survival when compared to their female counterparts despite later age at diagnosis and higher overall stage.
P34. PROVIDER VARIATION OF DISCHARGE OPIOID PRESCRIPTIONS AFTER ELECTIVE SURGERY
MJ Nooromid MD, E Blay MD, K Ho MD, JK Johnson PhD, JL Holl MD, KY Bilimoria MD, JJ Stulberg MD, MK Eskandari MD
Northwestern Memorial Hospital
Presenter: Michael Nooromid MD

Background: Existing literature has shown a wide variation in the quantity of opioids prescribed across surgical specialties after elective surgery, but the extent to which variation is driven by provider level has not been established. We sought to evaluate whether opioid prescribing practices differed between residents, attendings, or advanced practice providers (APP) for similar surgical scenarios.

Methods: A retrospective medical record review of patients undergoing laparoscopic cholecystectomy, laparoscopic appendectomy, open umbilical hernia repair, simple mastectomy, or thyroidectomy between July 2015 and July 2016 at a single urban academic medical center was performed. The primary prescriber (resident, attending, APP), medication dosage, number of days prescribed and the quantity dispensed were recorded for each patient.

Results: Among a total of 615 unique surgical cases, 94.8% of patients received discharge opioids. The majority of discharge prescriptions were written by residents with 352 (57.2%) orders, followed by attending surgeons with 147 (23.9%) and APP with 116 (18.9%). Notably, surgical interns were accountable for 22.3% of all postoperative discharge prescriptions. The median (range) number of tablets prescribed by provider type were: residents 20 (6-189), attendings 30 (6-72), and APP 40 (5-100) (p<0.001). When the total morphine milligram equivalents (MME) were evaluated by prescriber type the results were: residents 200 MME (30-1600), attendings 140 MME (30-600), and APP 240 MME (25-1000) (p<0.001). Subgroup analysis comparing surgical residents across resident levels showed that median (range) total MMEs were 200 (20-1600) for interns, 300 (30-600) for junior surgical residents, and 200 (70-600) for senior surgical residents (p=0.19).

Conclusion: Our study indicates that the number of tablets and strength of opioid analgesics prescribed following a surgical encounter varies widely between members of the surgical team. In addition to creating better guidelines for post-operative opioid prescribing, there is a need to understand and address the underlying knowledge, attitudes, and beliefs of each provider type for future education and outreach activities.
7:25am - 7:30am
P35. FACTORS THAT PREDICT BIOLOGICAL AGGRESSIVENESS IN ESTROGEN RECEPTOR-POSITIVE, HUMAN EPIDERMAL GROWTH FACTOR RECEPTOR 2-NEGATIVE, LYMPH NODE-NEGATIVE BREAST CANCER
LE Arthur MD, LN Slattery BS, GM Fuhrman MD, AM Mackey MD, AE Rivere ME, RL Corsetti MD
Ochsner Clinic Foundation
Presenter: Lauren Slattery BS

Background: Traditionally breast cancer is staged using TNM criteria, which is based on tumor size, nodal status, and evidence of distant metastasis. Oncotype DX assay uses genomics to predict the likelihood of distant recurrence in estrogen receptor (ER)-positive, human epidermal growth factor receptor (HER2)-negative disease. This study uses Oncotype DX Recurrence Score (RS) to determine if there is a correlation between tumor size, progesterone receptor (PR) status, or age and biological aggressiveness of the tumor. Biological aggressiveness is represented by the Oncotype DX RS.

Methods: This is a retrospective review of breast cancer patients evaluated between 2007 and 2017 with Oncotype DX RS and ER-positive, HER2-negative, lymph node-negative tumors. Tumor size is reported as pathological size in mm and the receptor status is as reported from Oncotype DX assay. Tumor size was compared to RS in two separate groups, ER+/PR+/HER2- and ER+/PR-/HER2-.

Results: The data set includes 296 tumors, 248 are ER+/PR+/HER2- and 48 are ER+/PR-/HER2-. RS ranges from 0 to 66, age ranges from 33 to 77 years, and tumor size ranges from 1 to 65 mm. For our comparison of age and RS no significant correlation was found (r=-0.073, p=0.208). PR-negative tumors were found to have a statistically significantly higher RS regardless of size (PR- mean RS=30.8+/-12.7, PR+ mean RS=16.3+/-7.3, t(53)=7.6, p=<0.0001). Our comparison of tumor size versus RS was performed for the entire data set and for the two sub-groups. Overall there was no significant correlation between tumor size and RS (r=0.028, p=0.635) and this remained true for the PR-positive subgroup (r=0.114, p=0.072). However, in the PR-negative subgroup there was a significant negative correlation between tumor size and RS (r=-0.343, p=0.017) meaning smaller tumors were associated with a higher RS. Further analysis was performed on this group to assure differences in grade were not to account for this correlation. We found equal distribution of low, intermediate, and high grade tumors throughout the different tumor sizes.

Conclusion: Increasing tumor size may not be not associated with increasing biological aggressiveness. Traditionally T1a and T1b tumors are felt to be of lower risk based upon T size alone, but they may warrant genomic analysis to assess a more accurate risk of distant recurrence. Therefore, all tumors meeting the ER-positive, HER2-negative criteria, regardless of size, should be considered for genotyping. In the PR-negative subgroup there may be a negative correlation between tumor size and biological aggressiveness, which supports the suggestion to genotype all PR-negative tumors regardless of size. The significantly higher RS in PR-negative tumors demonstrates PR-negative receptor status as a predictor for higher risk of distant recurrence. We found that age may be not associated with biological aggressiveness and therefore tumors in women of any age should be treated with similar concern for aggressiveness.
Background: Gastroschisis is a congenital abdominal wall defect associated with intestinal atresia in approximately 10% of cases. The presence of atresia is associated with higher mortality, longer hospitalization and prolonged requirement for total parenteral nutrition. Limited data exists examining the various surgical strategies for these patients with overall outcomes.

Methods: A retrospective review of patients with gastroschisis and intestinal atresia treated by an urban pediatric surgery practice between 2002 and 2012 was performed. A description of the associated atresias was performed and outcomes of the major treatment strategies utilized for these patients compared.

Results: 172 gastroschisis patients were identified; 17 (10%) patients had associated atresia. None of the atresias associated with gastroschisis were diagnosed prenatally. Most atresias (76%) were diagnosed on the first day of life. In patients with multiple atresias (n=7), small bowel and colonic atresias coexisted in every case. Four management strategies were identified. The three most common management strategies were compared: (1) primary atresia and immediate abdominal wall repair (single stage, n=3); (2) primary abdominal repair with ostomy placement (primary/ostomy, n=7) and (3) silo placement with delayed ostomy creation (silo/ostomy, n=5). Single Stage repair demonstrated shortest time to full enteral feeding, LOS and duration of TPN dependence. A strong correlation was found between the duration of bowel discontinuity and the achievement of full enteral feeding among patients with small bowel atresia with no subjects achieving full feeds prior to bowel continuity.

Conclusion: Intestinal atresia complicates 10% of gastroschisis patients. When multiple atresias are present, small and large bowel atresias often coexist. Single stage repair of the atresia and closure of the gastroschisis was feasible in 18% of cases, and was associated with excellent outcomes. In children with gastroschisis and small bowel atresia, ostomy takedown was often required to achieve full enteral feeds.
Background: Combined chemoradiotherapy (CRT) is considered first-line therapy for patients with locally advanced anal squamous cell carcinoma (SCC), with abdominoperineal resection (APR) reserved for treatment failure or recurrence. African Americans (AA) are reported to have an increased incidence and mortality from SCC of the anal canal. We sought to determine the rates of adherence to treatment guidelines at a national level, and examine whether AA undergo standard of care treatment at the same rate as Caucasians.

Methods: We utilized the Surveillance, Epidemiology, and End Results database to find patients diagnosed with squamous cell tumors (T2 or greater) of the anus between years 2000-2013. Radiotherapy was used as a surrogate for receipt of combined CRT. Rates of radiation receipt, abdominoperineal resection (APR), and standard of care treatment sequence (radiation alone or prior to APR) were compared between races.

Results: 4,781 patients (11% AA) with anal SCC were reviewed. Significantly more AA patients were under age 50 years old (38% versus 20%, p<0.0001). Significantly more men were in the AA group (47% versus 36%, p<0.0001). No differences in disease stage were found between races (p=0.10). Only 63% percent of Caucasians and only 53% of AA received standard of care treatment (p<0.0001). Overall, Caucasians were more likely to receive radiation compared to AA patients (87% versus 80%, p<0.0001) but not more likely to receive APR (4.7% versus 4.3%, p=0.70). More Caucasians received radiation without subsequent surgery compared to AA (59% versus 51%, p<0.0001). Those patients undergoing radiation had lower rates of APR compared to those not receiving radiation (4% versus 11%).

Conclusion: Despite the existence of evidence-based guidelines, a large portion of patients continue to not receive standard of care treatment. Among these patients, AA with anal SCC are less likely to receive standard of care treatment compared to Caucasians. The reasons for this are unclear. Adherence to evidence-based guidelines and the elimination of racial disparities in the treatment of gastrointestinal cancers should be a priority for the surgical community.
Background: Vasopressors (VP) are commonly utilized agents in the surgical intensive care unit (ICU) to achieve desired hemodynamics in patients with hemodynamic shock. Despite their common use, very little is known about the patterns of VP utilization and their impact on mortality. The purpose of this study was to characterize VP use in critically ill surgical patients and attempt to develop a predictive scoring system for mortality.

Methods: Patients admitted between 01/2015-12/2016 to the surgical ICU of an urban, tertiary medical center and receiving at least 1 VP during their stay were selected. Demographics, APACHE IV scores, type of shock and additional treatments including continuous renal replacement therapy (CRRT), administration of steroids, and/or neuromuscular blockade were collected. In addition, patterns of VP utilization were recorded, including initiation dates, number, and duration. Patients who died were compared to those who survived and a forward logistic regression was utilized to identify independent predictors of mortality. A predictive score based on predictors of mortality was developed.

Results: A total of 242 patients received at least one VP during the study period with a mortality of 34%. The most common type of shock was septic (71%), followed by hemorrhagic/hypovolemic (19%). Patients who died were significantly more likely to have an APACHE IV score > 50 (66% vs. 25%, p=0.01), require mechanical ventilation (99% vs. 70%, p<0.01), and CRRT (43% vs. 16%, p<0.01). The number of VP utilized was higher in patients who died (median 3 vs. 1, p<0.01), as was the duration (8 vs. 2 days, p<0.01). Patients who died were also more likely to be restarted on VP during their ICU stay (57% vs. 43%, p<0.01). A forward logistic regression identified APACHE IV score, CRRT, mechanical ventilation and number of VP as independent predictors of mortality. A predictive score ranging from 1 to 10 was developed and was highly predictive of mortality in this population. The AUC for the score was 0.866.

Conclusion: Patients who require a higher number and duration of VP are at increased risk for mortality. A simple scoring system, named the Vaso-Score, accounting for common variables utilized in the surgical ICU can serve the surgical intensivist in determining the mortality risk. Further validation of this scoring system at a large scale is required.
Background: Positive fluid balance in the intensive care unit (ICU) may be reflective of the severity of patient illness, and therefore a marker for increased risk of venous thromboembolism (VTE). In addition, the venous distension related to a positive fluid balance might be a cause for VTE. We hypothesized that an early positive fluid balance (FB) would be associated with VTE occurrence.

Methods: A retrospective review of surgical ICU patients at an urban, academic hospital was conducted from May 2011 to December 2014. Data collected included patient demographics, trends in daily FB for the first three ICU days, ventilator days, length of stay (LOS), and imaging results. Patients with a VTE were compared to those who did not develop a VTE (NVTE).

Results: There were 619 patients admitted to the SICU during the study period with 77 (12.4%) diagnosed with a VTE. The VTE cohort was similar to NVTE with respect to age and sex. Those with a VTE had longer ventilator days (4 vs. 3 days, p<0.01) and ICU stay (9 vs. 4.5 days, p<0.01), and were more likely to have a net FB ≥4L over the first three days (62% vs. 44%, p<0.01). After adjusting for confounders, a FB ≥4L over the first three ICU days was found to be an independent predictor of VTE (AOR 1.74, p=0.04).

Conclusion: Patients with an early positive fluid balance are more likely to develop a VTE. Clinicians should increase VTE surveillance in this population and future research is required to determine if avoiding an early positive fluid balance reduces VTE rate.