Results: Of the 1684 patients with suspected VTE identified, 389 (23%) had VTE. The majority of the patients (87%) had a cancer type that is classified as low risk using Khorana cancer risk stratification. One thousand and sixty-nine (64%) patients had advanced-stage and 1112 had active cancer. Univariate analysis revealed that cancer type, stage, and status are all significant predictors of VTE. Cancer diagnosis within 1 year of the ED visit was significantly associated with the occurrence of VTE (odds ratio [OR] 1.83; 95% CI 1.46–2.32; $p < 0.001$). Similar results were observed in the multivariate analysis after adjusting for age, race, and sex. Patients with very-high-risk cancer type had higher chance of having VTE compared to the low-risk cancer group (OR 3.39; 95% CI 2.06–5.60; $p < 0.001$). Nevertheless, Khorana risk groups could not discriminate between high-risk and low-risk cancer types ($p = 0.126$). Advanced cancer stage and active cancer were also significantly associated with the occurrence of VTE (OR 1.56; 95% CI 1.02–2.45; $p = 0.046$ and OR 1.33; 95% CI 1.00–1.78; $p < 0.05$, respectively).

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Conclusions: Using data from cancer patients evaluated for suspicion of VTE, we have successfully identified cancer-related risk factors that can help in the prediction of VTE in cancer patients presenting to the ED. Expanding our study with a larger number of patients will help to validate these results and allow inclusion of more cancer-related factors, such as metastatic sites and treatment regimens in multivariate analysis. Modification of the risk grouping of cancer types can also be investigated because the Khorana risk grouping of cancer types failed to achieve good discrimination between low-risk and high-risk cancer groups.

☐ CANCER PAIN MANAGEMENT IN THE EMERGENCY DEPARTMENT: A RETROSPECTIVE COHORT STUDY

Background: Cancer pain has historically been very difficult to manage. Despite targeted initiatives by oncologists aimed at increasing the awareness of cancer pain, improving the documentation of pain, and improving pain medication regiments, some patients continue to have significant breakthrough symptoms and therefore seek additional care in the emergency department (ED). Unfortunately, the ED has classically struggled with providing appropriate pain management in the general population. Therefore, patients with cancer who are already at risk for inadequate analgesia may be at particular risk for poor pain management when they present to the ED.

Methods: We conducted a retrospective cohort study evaluating all adult patients with active cancer presenting to the ED with a pain-related chief complaint from June 1, 2012 to December 31, 2015. This was conducted at two academic EDs that were both associated with a National Comprehensive Cancer Center–designated cancer center. We recorded type of pain medications administered, time to analgesia (bed to medication), type of cancer, Eastern Cooperative Oncology Group (ECOG) performance status, pain scores, and location/type of pain. Our outcome variables included Δpain (final pain score minus initial pain score), final pain score, ED disposition, and return ED visit within 72 h. Descriptive statistics are reported and we utilized bivariate logistic regression to evaluate differences in time to analgesia.

Results: We enrolled 483 patients with active cancer who presented to our study EDs with a pain-related chief complaint. The cohort was 53.8% female, 60.3% non-Hispanic white, and had a median ECOG score of 1. These patients had solid tumors predominantly (87.3%), with the most common cancer being breast, followed by colon and liver. The median time to analgesia was 71.5 min, and i.v. hydromorphone 1 mg was the most common first analgesic (54.9%). Only 11% of patients who required additional analgesia received an escalated dose. Most (51.3%) patients in the cohort received only one dose of pain medication. Of the 483 patients enrolled, 233 (48.2%) received a primary pain-related ED diagnosis, the most common was abdominal pain (35.6%), followed by diffuse/non-specific pain (19.7%) and musculoskeletal (MSK) pain (17.2%). Patients with MSK pain had the highest final pain scores (mean 5.63) and the least improvement in pain (mean Δ –2.1), though patients with diffuse/non-specific pain were most likely to be admitted (58.7%). Patients who had a delay in analgesia (> 180 min) were more likely to be admitted vs. those who received analgesia in < 30 min ($p = 0.048$). Overall, 39.3% of patients were admitted, with 13% of the discharged patients requiring a second visit within 72 h (48.6% of which were admitted on this second visit).

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Conclusions: The management of pain in patients with active cancer has classically been very difficult, and this appears to be true in the ED setting as well. Overall, we encountered significant delays in analgesia, as well as underdosing. MSK pain appeared to be particularly difficult to manage, while diffuse/non-specific pain led to the highest percentage of admissions. Those patients who encountered long delays in analgesia were significantly more likely to be admitted. We hope that these results will help target future interventions to improve the care of cancer pain in the ED.

☐ SPONTANEOUS AORTIC THROMBOSIS IN THE ONCOLOGIC POPULATION: A SINGLE-CENTER EXPERIENCE

Background: Spontaneous aortic thrombosis (SAT), defined as new-onset aortic mural thrombosis without underlying atherosclerosis or aneurysmal degeneration, is uncommon and multifactorial in patients with active oncologic diagnoses. Malignancy-related hypercoagulability and platinum-based chemotherapy have been linked to SAT, however, data are limited. Additionally, optimal management for these patients is unclear.