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collaboration with other services in order to provide an increase and earlier access to hepatobilary interventions with the ultimate goal to improve patient comfort and survival.

Abstract No. 492

Comparison of complication rates associated with Celt and Angio-Seal vascular closure devices: a single-center retrospective review

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Purpose: Celt and Angio-Seal are prominent vascular closure devices (VCD) used for achieving hemostasis at the access site after endovascular procedures. The Celt uses a stainless-steel plug and the Angio-Seal uses a collagen-based plug. Complications of VCD placement include pseudoaneurysm, arteriovenous fistula formation, hematoma, and limb ischemia. To date, there is a paucity of published studies comparing the safety of these devices in interventional radiology (IR). We investigated the rates of complications between Celt and Angio-Seal in patients within interventional radiology.

Materials and Methods: A retrospective chart review of 238 patients at a single center who underwent endovascular procedures with femoral artery placement of either Celt or Angio-Seal VCD was conducted. There were 112 patients who had placement of Celt and 126 patients who had Angio-Seal placed during this period. Specific adverse events (AEs) were recorded using a search criterion for commonly known adverse events associated with VCDs. A chi-square test (P < 0.05) was used to compare difference in AE rates.

Results: For the period between November 2018—January 2020, 6 reported AEs involving VCD placement were identified in the database. Of reported AEs, 2 (1.8%) involved Celt and 4 (3.2%) involved Angio-Seal. No difference in rates of AEs were found between Celt and Angio-Seal (P = 0.495). Reported AEs included self-resolving hematomas of the groin and retroperitoneal space. There was one reported mortality in a patient who had Angio-Seal placement; however, a multi-disciplinary review determined that Angio-Seal was not the causative factor.

Conclusions: The rates of adverse events between Celt and Angio-Seal are not significantly different. The findings suggest both VCDs have relatively minimal complications in interventional procedures. The findings did not reveal a causative relationship between Angio-Seal and mortality.

Abstract No. 493

Is there any benefit from VIATORR stent overdilation?

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Purpose: VIATORR stent has become the standard of care in transjugular intrahepatic portosystemic shunt (TIPS) placement due to its longer primary and secondary patency rates. However, TIPS shunt maintenance with percutaneous transluminal angioplasty (PTA) with or without stent extension may be needed in many patients. In our practice we routinely over inflate 10-mm VIATORR stents using a 12-mm high-pressure angioplasty balloon if the portosystemic pressure gradients are still inadequate after 10-mm PTA. We intend to retrospectively evaluate the efficacy and safety of this approach.

Materials and Methods: IRB approval was obtained. We enrolled TIPS shunt revision cases with initial TIPS placement indication of either ascites or secondary variceal bleeding prophylaxis from 2010 to -2019. After applying exclusion criteria, 78 cases were recruited to this study, with 40 cases in the 10-mm PTA group as the control and 38 in the 12-mm PTA group. The post-procedural effect on hepatic encephalopathy, 30-day MELD score and pertinent lab values including serum creatinine (sCr), total bilirubin (TBili), platelet count (PLT) and International Normalized Ratio (INR) plus the secondary patency duration were analyzed. Major and minor complications were evaluated to establish a safety profile.

Results: Baseline demographic characteristics of both patient groups were similar (P > 0.05). Multivariate logistic regression was conducted, which did not show any significantly different effect on hepatic encephalopathy, 30-day MELD score and lab values including sCr, TBili, PLT, or INR, or secondary patency duration between the 2 groups. Among all enrolled cases, there were no minor or major complication at 30-day follow-up.

Conclusions: VIATORR stent overdilation with 12 -mm PTA may be a safe and effective technique to achieve the target intra-procedural portosystemic gradient when 10 -mm PTA is not adequate. This approach may avoid the need for a parallel TIPS placement procedure.

Abstract No. 494

Incidence of venous thromboembolism among hospitalized COVID-19 patients in the United States: systematic review of the reported risk and role of inferior vena cava filters

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Purpose: SARS-CoV2 virus or COVID-19 has been associated with increased prothrombotic risk especially in the critical care setting, resulting in increased venous thromboembolism (VTE) related morbidity. The purpose of this study is to determine the incidence of VTE among patients with COVID-19 hospitalized in the United States and whether there is a need for more aggressive prophylaxis.

Materials and Methods: A comprehensive literature review of PubMed and Cochrane database from inception to September 2020 was performed for studies that evaluated the incidence of VTE, including pulmonary embolism (PE), and or deep vein thrombosis (DVT) among COVID-19 patients hospitalized in the United States. We used “(Coronavirus OR COVID-19 OR SARS-CoV-2) AND (venous thromboembolism, VTE OR deep vein thrombosis, DVT OR pulmonary embolism (PE))”. Finally, we screened reference lists from evaluated full texts. This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Case reports and studies including cancer populations were excluded.

Results: A total of 973 patients hospitalized in the United States were included from 3 multicenter and 2 single-center retrospective studies. Of those, 3 retrospective studies determined the incidence
of VTE in critically ill patients only. Most studies reported universal in-hospital (95.3%). The overall incidence of VTE was 16.8% and 12% despite prophylactic anticoagulation. Interestingly, subgroup analysis in critically ill patients demonstrated an incidence of VTE of 27.5% and 26.5% despite prophylactic anticoagulation. The overall incidence of DVT was 7.3% and 22.5% in critically ill patients admitted to ICU. PE with or without DVT occurred in 9.5% of patients, 5% in critically ill patients and 2.9% was detected despite anticoagulation.

Conclusions: VTE was found at an alarming rate in hospitalized patients with COVID-19 in the United States and often presented as PE. Assessment of VTE risk is strongly recommended in patients with COVID-19. Given the observed higher than average pulmonary embolism incidence despite prophylactic anticoagulation, randomized trials are needed to determine whether there is any potential benefit of prophylactic IVC filter placement in patients with COVID-19, especially in the critical care setting.

Abstract No. 495

Microwave ablation for metastatic neuroendocrine tumors: a case series
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Purpose: Neuroendocrine tumors (NET) typically originate in the gastrointestinal tract or pancreas and present with quality-of-life limiting symptoms after hepatic metastases. Percutaneous microwave ablation (MWA) is a minimally invasive procedure proven to be effective for treating hepatocellular carcinoma and metastatic colorectal cancer in the liver. We retrospectively reviewed our single-institutional experience in treating NETs with MWA and aim to investigate its safety and efficacy in controlling hormonal symptoms.

Materials and Methods: A retrospective review of patients undergoing percutaneous MWA at our institution was performed from 2014 to 2020. Six patients (68.7 ± 6.4 years, 67% males) with 10 NETs (15 ± 9 mm, max 33 mm) were treated between 2014 and 2020. All procedures were performed with CT-guided high-power MWA system. Patient’s baseline medical history, hormonal treatment history, procedure details, post-operative hospitalization, and follow-up data were reviewed. All statistical analyses were performed with SAS (v.9.4).

Results: Three small bowel, two pancreatic, and one sigmoid NETs were included in our study. The median imaging follow-up was 39 months. Five patients underwent primary tumor surgical resection. One patient received chemotherapy. No hepatic resection was performed. After percutaneous MWA, all patients were discharged on the next day without major complications. The only patient that encountered hepatic recurrence was also the only one with multi-focal hepatic lesions. Five of six patients did not have NET symptoms at baseline and were not on hormonal therapy. One patient was symptomatic with diarrhea and flushing, controlled with hormonal therapy, his diarrhea improved post ablation but hormonal therapy was still continued.

Conclusions: Percutaneous microwave ablation of hepatic oligometastatic NET appears to be a safe and effective alternative to hepatectomy with relative sparing of hepatic parenchyma compared to surgery. Further data is needed to characterize its use in reducing NET tumor burden and hormonal symptoms.

Abstract No. 496

Telemedicine in outpatient interventional radiology: practice patterns during COVID-19
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Purpose: With the rise of the COVID-19 pandemic, interventional radiology (IR) clinics nationwide have adopted a virtual healthcare delivery model. The purpose of this study was to gauge the success of virtual visits at an outpatient interventional radiology practice in Washington, DC and compare the demographics and types of conditions seen before and after the transition to telemedicine.

Materials and Methods: In this IRB-approved retrospective study, appointments scheduled with interventional radiology at an academic tertiary care institution between April 1st, 2019 and July 15th, 2019 were compared with appointments scheduled during the same time frame in 2020. All appointments scheduled in 2019 were in-office visits while all appointments scheduled in 2020 were telemedicine visits. Charts were reviewed for sociodemographic characteristics, types of visits, diagnoses, comorbidities, and scheduled procedures. Descriptive statistics and Pearson’s chi-squared tests were used to compare appointments scheduled in 2019 and 2020.

Results: Of 180 appointments, 66.6% (n = 100) were scheduled in 2019 and 44.4% (n = 80) were scheduled in 2020. There was no difference in age, age ranges, gender, race distribution, or insurance status between both groups. While a greater percentage of patients presented for oncology-related problems in 2020 than in 2019, the overall difference in presenting problems was not significant (P = 0.13). The percentage of follow-up patients rose from 44.0% in 2019 to 56.3% in 2020 (P = 0.10). Of all telemedicine encounters, 91.3% demonstrated success of establishing a two-way secure audio and video connection with patients.

Conclusions: This interventional radiology department cared for similar demographics of patients and case types via telemedicine visits when compared to clinic visits of the same time frame in 2019. While limited by the small sample size, these results indicate that outpatient interventional radiology practices are amenable to transitioning to online-only visits with improved ability to perform longer term follow up.

Abstract No. 497

Necessity of imaging follow up to confirm gastrostomy tube position prior to use
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Purpose: To assess the value of obtaining routine next-day radiographic contrast tube study following placement of percutaneous push-type gastrostomy tubes

Materials and Methods: From January 2015 to February 2020, all primary percutaneous push-type gastrostomy tube placement procedures have been identified. Demographic data, purpose of procedure (feeding versus venting), periprocedural (one month) complications, and results of next-day radiographic contrast tube studies (performed prior to initiation of tube feeding) were