Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

secondary outcomes included 12-month primary patency, freedom from target lesion revascularization, and amputation-free survival. Random-effect model was used to pool the odds ratios (ORs) and related 95% confidence intervals (CIs).

Results: Our systematic review included three randomized controlled trials and five cohort studies. A total of 4262 patients treated with DES and 9259 patients with DCB were analyzed. All included cohort studies were high-quality with Newcastle-Ottawa scores from 7 to 8. The pooled results suggested that no significant difference in 12-month all-cause mortality was found between the DES and DCB groups, without significant heterogeneity (OR, 1.02; 95% CI, 0.92-1.14; $P = .69$; $I^2 = 0\%$, P heterogeneity = .80) (Fig 1). No significant difference was observed between the two groups in terms of primary patency (OR, 1.27; 95% CI, 0.75-2.15; $P = .36$; $I^2 = 55\%$; P heterogeneity = .06) (Fig 2) and freedom from target lesion revascularization (OR, 0.94; 95% CI, 0.64-1.40; $P = .77$; $I^2 = 0\%$; P heterogeneity = .72).

Conclusions: This systematic review and meta-analysis suggest that primary patency and freedom from target lesion revascularization were comparable between DES and DCB for treatment of lower extremity peripheral arterial disease. There is no significant difference in terms of 12-month all-cause mortality between the DES and DCB groups. The choice of DES or DCB could be decided individually based on the features, complexity and site of target lesions.

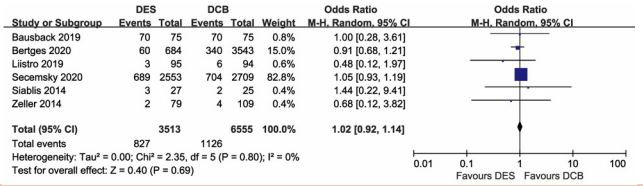

Fig 1. Forest plot for 12-month all-cause mortality. *CI,* Confidence interval; *DCB,* drug-coated balloon; *DES,* drug-eluting stent.

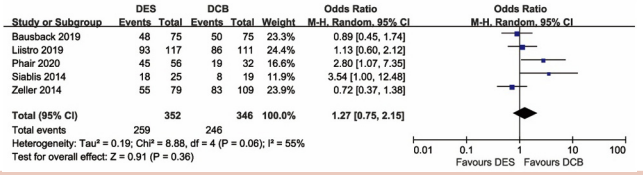

Fig 2. Forest plot for primary patency. *CI,* Confidence interval; *DCB,* drug-coated balloon; *DES,* drug-eluting stent.

Author Disclosures: X. Chen: Nothing to disclose; **J. Wang:** Nothing to disclose; **W. W. Zhang:** Nothing to disclose; **J. Zhao:** Nothing to disclose.

IFT08.

A Modern Series of Carotid Endarterectomy for Symptomatic Carotid Stenosis

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Objectives: Carotid endarterectomy (CEA) is the standard of care for symptomatic patients with moderate-to-severe carotid stenosis. We reviewed our recent multi-institutional experience with CEA to highlight techniques and outcomes in the modern era.

Methods: A multi-institutional database was retrospectively queried for all patients who underwent CEA for symptomatic carotid stenosis via International Classification of Disease-9 codes. Electronical medical records were reviewed for demographic data and outcomes, including hospital length of stay, complications, and discharge destination. Anesthesia records and operative reports were reviewed for surgical technique and perioperative data. The median follow-up period was 2.9 years.

Results: A total of 288 patients were identified who underwent CEA between 2015 and 2019, of which 217 were performed by vascular surgeons. Patients were predominantly Caucasian (90.3%) and men (66.8%), with a median age of 67 years (interquartile range [IQR], 74-81 years). Median carotid artery stenosis was 70% (IQR, 70-90%), measured via duplex ultrasound. Of the 217 patients, 201 (92.6%) underwent endarterectomy with patch angioplasty, 13 (6.0%) underwent eversion endarterectomy, two (0.9%) underwent primary repair, and one (0.5%) underwent internal carotid artery ligation with external carotid endarterectomy. The average operative time was 178 minutes (IQR, 157.8-207.3 minutes), with an estimated blood loss of 100 mL (IQR, 50-200 mL). Six patients (2.8%) suffered a postoperative stroke, secondary to acute thrombosis (n = 3), patch irregularity (n = 2), and watershed infarcts (n = 1). Postoperative complication rates were low, including cerebral hyperperfusion syndrome (n = 4; 1.8%), myocardial infarction (n = 2; 0.9%), wound infection (n = 1; 0.5%), and cranial nerve injury (n = 1; 0.5%). Postoperative mortality rate was 0.9% (n = 2) after 30 days.

Conclusions: CEA remains the standard of care for symptomatic patients with carotid artery stenosis. Our modern experience indicates that CEA continues to be an option for carotid revascularization with excellent outcomes.

Author Disclosures: A. Dua: Nothing to disclose; **Y. Kim:** Nothing to disclose; **S. Lee:** Nothing to disclose.

IFT09.

Impact of COVID-19 on Patients Undergoing Scheduled Hemodialysis Operations

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Objectives: The objective of this study was to determine the impact of the current COVID-19 pandemic in patients in end-stage renal disease (ESRD) who were scheduled for interventions related to hemodialysis (HD) accesses and had to be postponed secondary to the pandemic in centers in the United States.

Methods: An interim analysis of the VASCC Project 1: Impact of COVID-19 on Scheduled Vascular Operations United States data was performed. Modules were developed by international vascular surgeon working groups and extensively beta-tested before implementation. A REDCap database was developed and registered information of patients with ESRD whose HD access procedures were postponed during the COVID-19 pandemic included in the interim analysis. Demographic variables, time frame of surgical delay, and planned procedure information are reported.

Results: A total of 177 patients with ESRD undergoing dialysis intervention whose surgeries were postponed during the COVID-19 pandemic surge in the United States were included in the interim data analysis. The mean age was 58.3 years (standard deviation, 14.9 years), with 96 (54.2%) being male. Of the 177, 47 (26.6%) patients were white non-Hispanic, 60 (33.9%) were Hispanic, 14 (7.9%) Asian or Pacific Islander, and 46 (26%) were Black non-Hispanic. The planned procedures are represented in the Table. The most common postponed procedure was new creation for ESRD (n = 129; 72.9%), and the second most common was intervention for failing arteriovenous fistula or graft in 26 patients (14.7%). The average days of delay was 71.7 (standard deviation, 50.9). Of the 177 patients, 132 (74.6%) successfully completed surgery at time of data entry. At the time of completion of the case report form, 44 (24.9%) were still awaiting surgery. One patient (0.6%) decompensated and required an emergency surgery during the delay. One patient (0.6%) died waiting for surgery, and 5 (2.66%) died within the first 30 days of surgery. One patient had to initiate HD with a dialysis catheter during the study period.

Conclusions: COVID-19 pandemic has meant a paradigm shift in patient care. Patients requiring HD access are no exception and likely warrant closer evaluation due to often urgent to emergent care they require. The delay of these procedures could change the patient's possibilities for HD access as well impact in their quality of life and life expectancy. Unfortunately, until the completion of this report, 44 (24.9%) patients were

still awaiting procedures. No doubt COVID-19 have changed the global health policies and strategies. We must adapt to the circumstances in the care of patients with ESRD and implement strategies to minimize these delays.

Table. Indication for planned procedures

Indication	No. (%) n = 177
New creation	129 (72.9)
Failing arteriovenous fistula or graft	26 (14.7)
Thrombosis	3 (1.7)
Steal syndrome	1 (0.6)
Ulcer	1 (0.6)
Infection	1 (0.6)
Enlarging aneurysm	4 (2.3)
Other	12 (6.8)

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IFT10.

Fenestrated EVAR Promotes Positive Infrarenal Neck Remodeling Leading to Greater Sac Shrinkage Compared With EVAR

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Objectives: The standard of care treatment for abdominal aortic aneurysms (AAAs) in the modern era is endovascular aneurysm repair (EVAR). Numerous devices exist for standard infrarenal AAA repair, but in patients with short infrarenal necks, fenestrated endovascular aneurysm repair (fEVAR) offers a minimally invasive alternative to traditional open repair. Over time, aortic neck dilation can occur in the segment used as a seal zone, leading to loss of seal, endoleaks, and AAA sac growth. This study compares aortic remodeling post EVAR vs fEVAR and evaluates if fEVAR confers a benefit in terms of sac shrinkage.

Methods: A retrospective review of prospectively collected data on 120 patients undergoing EVAR was performed: 30 patients were treated with fEVAR (Cook Zenith Fenestrated) and 90 patients were treated with EVAR (30 with each Medtronic Endurant, Gore Excluder, and Cook Zenith). Demographic data were recorded, and anatomic measurements were taken for each patient preoperatively, 30 days postoperatively, and at the longest follow-up using three-dimensional reconstruction software. Statistical analysis was performed using SPSS, version 25 (IBM, Armonk, NY).

Results: There were no significant differences in demographics data between the four groups. fEVAR was used more often in aortas with large necks (diameter >30 mm) and irregular morphology ($P = .004$). At the time of longest follow-up, the suprarenal aorta encompassing 5ALRA, 10ALRA, and 15ALRA dilated the most for fEVAR vs all EVAR groups. Despite this, the infrarenal segment tended to decrease in size by a greater amount for fEVAR than all EVAR groups, resulting in the overall greatest proportion of sac shrinkage for the fEVAR group compared with Medtronic, Gore, and Cook devices (13.90% vs 5.75% vs 2.31% vs 4.68%; $P = .025$). There was no statistically significant difference in endoleaks among groups at longest follow-up.

Conclusions: Compared with EVAR, patients treated with fEVAR had greater suprarenal dilation over time, indicating an overall greater burden of disease in the proximal native aorta. However, the infrarenal segment decreased to a greater extent over time in the fEVAR group compared with all EVAR groups, suggesting that fEVAR stabilizes the treated segment and promotes sac shrinkage, as evidenced by the greatest degree of decrease in largest AAA diameter in the fEVAR group. The increased seal zone in fEVAR may confer protection against infrarenal neck dilation through decreased endotension, resulting in overall greater sac shrinkage.

Author Disclosures: N. S. Cayne: Nothing to disclose; **L. M. Ferreira:** Nothing to disclose; **M. Ferrer:** Nothing to disclose; **K. Garg:** Nothing to disclose; **C. Li:** Nothing to disclose; **T. S. Maldonado:** Nothing to disclose; **C. B. Rockman:** Nothing to disclose; **K. Teter:** Silk Road Medical: Consulting Fees (eg, advisory boards).

IFT11.

The Long-term Outcomes of Catheter-directed Ultrasound Assisted Thrombolysis (CDUAT) in Pulmonary Embolism on Chronic Thromboembolic Pulmonary Hypertension

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Objectives: Pulmonary embolism (PE) is the third most common cause of cardiovascular deaths worldwide. Acute PE has a mortality of up to 30% if left untreated. Mortality can be significantly reduced with anticoagulation. However, recurrent PE and chronic thromboembolic pulmonary hypertension (CTEPH) are potential long-term complications in patients surviving the initial phase of PE. CTEPH is a disabling condition affecting 0.4% to 9.1% of patients with PE. It is estimated at 3.8% at 2 years following initial insult. As part of our multidisciplinary Pulmonary Embolism Response Team, we hypothesized that patients undergoing aggressive therapy with catheter-directed, ultrasound-assisted thrombolysis, the incidence of post-PE syndrome and CTEPH will decrease at 2 years follow-up.

Methods: Patients treated with acute massive and submassive PEs from 2015 to 2020 were retrospectively collected from a single center. Variables were categorized as either categorical or continuous. The χ^2 test was used for categorical data, and the Student *t*-test was used for continuous variables. Presentation demographics, preoperative labs, and imaging were collected to identify the status of their presentation. Follow-up V/Q scans were collected to assess the degree of perfusion mismatch. A multivariate regression controlling for the cofounders will be performed to evaluate the association between the severity of the PE and the degree of CTEPH burden after EKOS-BTG use.

Results: Consecutive Pulmonary Embolism Response Team activations were reviewed for 57 patients that underwent catheter-directed thrombolysis due to PE. The mean age was 60.33 years (standard deviation, 15.1 years). The cohort had more males than females (54.38%; 31/57). In the cohort, 12.9% had negative cardiac markers. Saddle PE was identified in 44.8%. Pre-intervention right ventricular pressure was 52.99 mm Hg (range, 16.4-99.6 mm Hg). Follow-up ranges from 2 to 5 years, with post-intervention V/Q scan to assess for any perfusion defects and CTEPH status. The remainder of the follow-up and data analysis is forthcoming.

Conclusions: No patients were that underwent catheter-directed, ultrasound-assisted thrombolysis for PE had evidence of CTEPH at 2 years follow-up. A multi-disciplinary approach to PE is beneficial, and early treatment with catheter-directed, ultrasound-assisted thrombolysis may decrease long-term sequelae of CTEPH. More long-term follow-up and data are necessary to guide index treatment.

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IFT12.

Open Repair of Thoracoabdominal Aortic Aneurysms With a Four-branched Graft

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Objectives: A four-branched graft (BG) in thoracoabdominal aortic aneurysm (TAAA) open repair (OR) is especially ideal in four conditions: