Coronary Artery Disease
393 Outcomes With Drug-Coated Balloons for Treating the Side Branch of Coronary Bifurcation Lesions
  Michael Megaly, MD, MS; Michael Rofael, MD; Manwan Saad, MD, MS; Mehdi Shishehbor, DO, MPH, PhD;
  Emmanouil S. Brilakis, MD, PhD
  Treating coronary bifurcations remains limited by suboptimal long-term outcomes, often affecting the side branch
  (SB). Drug-coated balloon (DCB) in SB treatment could reduce neointimal hyperplasia and the risk for restenosis. A
  systematic review was performed of all studies (published from 2000 and early 2018) reporting the outcomes of DCB
  vs non-coated balloon angioplasty in the treatment of the SB in coronary bifurcation lesions. Outcomes included SB
  late lumen loss, SB binary restenosis, target-lesion revascularization, and major adverse cardiac event rate.

Peripheral Vascular Disease
401 Safety of the Atlas Gold Balloon in Treating Iliofemoral Veins: Experience From a Single Center
  Nicolas W. Shammas, MD, MS; Gail A. Shammas, BSN, RN; Susan Jones-Miller, MS; Qais Radaideh, MD
  This report examines intraprocedural and up to 1-year outcomes on the safety of the Atlas Gold balloon (Bard) in
  77 patients undergoing iliofemoral venous interventions at a single center. The primary safety endpoint was the intra-
  procedural freedom from major device-related serious adverse events.

Coronary Artery Disease
406 High-Sensitivity Troponin in Patients With Coronary Artery Endothelial Dysfunction
  Abdallah El Sabbagh, MD; Megha Prasad, MD; Chad J. Zack, MD; Robert J. Widmer, MD, PhD; Brad S. Karon, MD, PhD;
  Amir Lerman, MD; Allan S. Jaffe, MD
  Coronary endothelial dysfunction (CED) is associated with recurrent ischemia. The role of high-sensitivity cardiac
  troponin I levels in patients with CED has not been established. Patients with suspected ischemia, who underwent
  clinically indicated coronary angiography and were found to have non-obstructive coronary artery disease, were in-
  cluded in the study.

Radial Access Technique
411 A Comparison of Image Quality Using Radial vs Femoral Approaches in Patients Undergoing Diagnostic
  Coronary Angiography
  Wallace W.K. Chow, MD; Rong Bing, MD; Juliana Kanavati, MD; Jerrett Lau, MD; Javed Sheriff, MD; Mario D’Souza, MD;
  David Brieger, MD
  Radial access for diagnostic coronary angiography has gained traction in recent years over the femoral artery ap-
  proach, but difference in image quality has not been extensively studied. This study compared image quality and diag-
  nostic value in radial vs femoral access in patients undergoing invasive coronary angiography.

416 Bacterial Contamination of Lead Aprons in a High-Volume Cardiac Catheterization Laboratory and
  Disinfection Using an Automated Ultraviolet-C Radiation System
  Lawrence Ang, MD; Abdullah Almasoud, MD; Samhita Palakodeti; Ehtisham Mahmud, MD
  Bacterial contamination and ineffective disinfection of personal protective equipment in medical centers pose poten-
  tial health risks to patients and medical staff. The contamination burden of lead aprons and a reliable disinfection
  strategy are unknown. The goal of this study is to quantify and characterize bacterial contamination of lead aprons
  in a high-volume catheterization laboratory, and to evaluate the efficacy of decontamination using an ultraviolet-C
  radiation system.
Transcatheter Aortic Valve Replacement

421 Early Clinical Outcomes of Transcatheter Aortic Valve Replacement in Left Ventricular Outflow Tract Calcification: New-Generation Device vs Early-Generation Device

Takahiro Nomura, MD; Yoshiho Maeno, MD, PhD; Sung-Han Yoon, MD; Yigal Abramowicz, MD; Sharjeel Israr, MD; Masaki Miyasaka, MD; Yoshi Kanzumi, MD; Nobuyuki Takahashi, MD; Hirohiko Kawanori, MD, PhD; Mamoo Nakamura, MD; Hasan Jilaihawi, MD; Raj R. Makkar, MD

Transcatheter aortic valve replacement in cases with left ventricular outflow tract calcification (LVOT-CA) remains a challenging procedure. This study compares the early outcomes of patients undergoing TAVR in LVOT-CA with new-generation devices vs early-generation devices in two propensity-matched groups of 119 patients.

Radial Access Technique

428 Hand Hematoma After Cardiac Catheterization Via Distal Radial Artery

Michael Koutouzis, MD; Eleftherios Kontopoulos, MD; Andreas Tassopoulos, MD; Ioannis Tsiapfoutsis, MD; Efstatios Lazaris, MD

This is the first reported case of severe hand hematoma after cardiac catheterization through the distal radial artery (dRA), with the hematoma extending distally to the sheath insertion site. The distribution of the hematoma in this case is completely different than those observed after traditional radial catheterization, which extend to the forearm; therefore, the traditional EASY classification may not apply.

Editorial Commentary

429 Hematomas, Compartment Syndrome, and Boney Infarcts: Potential Melancholy for Dorsal Radial Access?

Ian C. Gilchrist, MD

A discussion on the report by Koutouzis et al addressing the concerns related to the unique technical and anatomical components of the hand.

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ORIGINAL CONTRIBUTION

ET13 In-Hospital Outcomes of Chronic Total Occlusion Percutaneous Coronary Intervention in Patients With Chronic Kidney Disease

Peter Tajti, MD; Aris Karatasakis, MD; Barbara A. Danek, MD; Khaldoon Alaswad, MD; Dimitri Karmgaliotis, MD, PhD; Farouc A. Jaffer, MD, PhD; James W. Choi, MD; Robert W. Yeh, MD, MMSc; Mitul Patel, MD; Ehtisham Mahmud, MD; M. Nicholas Burke, MD; Oleg Krestyanninov, MD; Dmitri Khelimekii, MD; Cenatin Toma, MD; Anthony H. Doing, MD; Barry Uretsky, MD; Michalis Koutouzis, MD; Ioannis Tsiapfoutsis, MD; R. Michael Wyman, MD; Santiago Garcia, MD; Elizabeth Holper, MD; Iosif Xenogiannis, MD; Banana V. Rangan, BDS, MPH; Subhash Banerjee, MD; Imre Ungi, MD, PhD; Emmanouil S. Brilakis, MD, PhD

The effect of chronic kidney disease (CKD) on in-hospital outcomes of chronic total occlusion (CTO) percutaneous coronary intervention (PCI) has received limited study. Therefore, we evaluated the prevalence of CKD and its impact on CTO-PCI outcomes in 1979 patients who underwent 2040 procedures between 2012 and 2017 at 18 centers. Success can be achieved in these patients, but CKD may be associated with higher in-hospital mortality rates.
CLINICAL IMAGES

E122 Rescue Implantation of Covered Stent in Pulmonary Artery Rupture During Balloon Pulmonary Angioplasty
Aleksander Araszkiewicz, MD, PhD; Stanisław Jankiewicz; Bartosz Zabicki; Maciej Lesiak
The ring-like lesions in chronic thromboembolic pulmonary hypertension (CTEPH) patients are sometimes difficult to dilate because they are hard and fibrotic. For this reason, slightly oversized balloons are used; however, this may result in an increased risk of vessel rupture. We present a 62-year-old female with residual pulmonary hypertension after pulmonary endarterectomy for CTEPH who underwent balloon pulmonary angioplasty (BPA). Implantation of a covered stent not only protects the ruptured vessel, but also keeps perfusion in the future.

CLINICAL IMAGES

E124 Superficial Femoral Artery Aneurysm as a Cause of Deep Vein Thrombosis Treated With a Covered Stent
Adrian Mercado-Alamo, MD; Anwar Zaitoun, MD; Saroj Neupane, MD; Thomas Davis, MD
Deep vein thrombosis due to superficial femoral artery aneurysm is an extremely rare condition that develops due to aneurysm direct compression of a segment of the venous system. We present a 57-year-old female patient who had recently undergone a left superficial femoral artery (SFA) intervention at an outside institution due to significant peripheral artery disease. Imaging revealed a 3.2 cm SFA aneurysm with secondary mass effect on the left mid superficial femoral vein. She underwent successful exclusion of the aneurysm with a 6.0 x 10 cm Viabahn covered stent.

CLINICAL IMAGES

E126 Percutaneous Management of Left Atrial Appendage Perforation: Keep Calm and Think Fast
Giovanni Lorenzoni, MD; Pierluigi Merella, MD; Paolo Pischedda, MD; Gavino Casu, MD
Left atrial appendage (LAA) perforation is a possible complication not only after release of the closure device, but also during the diagnostic phase due to sheath positioning in the LAA. We present an 83-year-old woman with permanent atrial fibrillation and high thromboembolic and bleeding risk who was admitted for elective percutaneous LAA closure. During angiographic study, she suddenly became hypotensive. Heart perforation with leakage of contrast in the pericardial space was evident and imaging confirmed cardiac tamponade. Rapid release of the closure device and pericardial evacuation allowed the operators to successfully manage the cardiac tamponade and avoid a surgical option.

CLINICAL IMAGES

E128 Interatrial Septal Dissection Complicating a MitraClip Procedure
Amged Abdelaziz, MD; Saqib Ali Gowani, MD; Brett Hiendlmayr, MD; Jennifer Jantz, MD; Francis Kiernan, MD; Raymond G. McKay, MD
Left atrial dissection is an exceedingly rare complication of cardiac surgery, with an incidence of 0.16%-0.84%. We report the first case of interatrial dissection and hematoma in association with the MitraClip procedure. The reported mortality in the surgical literature is 13.8%. Hemodynamically stable patients can be managed conservatively, with echocardiographic imaging, often with resolution of the dissection over the course of weeks. Our patient remained hemodynamically stable and asymptomatic post operation; at 1-month follow-up, echocardiogram showed resolution of the interatrial septal dissection.

CLINICAL IMAGES

E129 Novel Cerebral Protection Technique During Right Transcarotid TAVR in Bicuspid Aortic Stenosis and Porcelain Aorta
Brett Hiendlmayr, MD; Kerry E. McGuire, APRN; Lauren E. Curtis, APRN; William H. Perucki, MD; Saqib Ali Gowani, MD; Amged Abdelaziz, MD; Nicole E. Hoover, PA-C; Mohiuddin Cheema, MD; Talhat Azemi, MD
Periprocedural stroke related to transcatheter aortic valve replacement (TAVR) is associated with increased morbidity and mortality. Cerebral embolic protection using the Sentinel device (Claret Medical) has demonstrated reduced rates of stroke during TAVR. However, alternative access such as a transcarotid approach precludes the use of the Sentinel device. We report a case using cerebral embolic protection during a right transcarotid TAVR.

CLINICAL IMAGES

E130 Atrial Myxoma With Feeding Vessels From Both the Right and Left Coronary Arteries: A Rare Finding During Coronary Angiography
Pascal Frederiks, MD; Hans Vandekerckhove, MD; Kurt Hermans, MD
A 73-year-old woman presented with exertional chest pain and mild dyspnea for several months. In this case, preoperative coronary angiography showed neovascularization originating from the right coronary artery (RCA) and left circumflex (LCX). Vascular supply in left atrial myxomas usually originates from the LCX and sometimes from the RCA, but vascular supply from both the right and left coronary arteries is rarely seen.