FINAL PROGRAM



MAY 1–3, 2026

JW MARRIOTT, SAN JOSÉ DEL CABO | BCS, MEXICO

Southern California Vascular Surgical Society

44th Annual Meeting



Dr. Andrew Barleben
2026 President



Dr. Pouria Parsa
2026 Program Chair

SCS SURGICAL CONFERENCE SOLUTIONS

CONTACT
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Dear Colleagues and Friends,

I am delighted to invite you to the Southern California Vascular Surgical Society Annual Meeting, which will be held at the JW Marriott in San José del Cabo, B.C.S., Mexico, from May 1–3, 2026. This event presents an exceptional opportunity for us to collaborate, exchange ideas, explore innovative techniques, and gain insights from our peers.

To facilitate the exchange of knowledge, we invite you to submit abstracts for consideration. The submission deadline is February 15, 2026, and the abstract submission period commences on December 15, 2025. Your contributions are instrumental in shaping the scientific agenda of this meeting, and we eagerly anticipate showcasing the latest advancements in vascular surgery.

I am honored to introduce our Program Chair, Dr. Pouria Parsa, who is collaborating with the program committee to develop an innovative and engaging scientific program for this year's event.

We encourage you to mark your calendars and prepare for an unforgettable weekend of education, camaraderie, and professional growth in Cabo.

Sincerely,

Dr. Andrew Barleben
Professor of Surgery, Director,
Aortic Center at UC Davis Health
President, Southern California
Vascular Surgical Society

2025 - 2026 OFFICERS AND COMMITTEE CHAIRS

PRESIDENT
Andrew Barleben, MD

PRESIDENT ELECT
Scott Musicant, MD

SECOND PRESIDENT ELECT
Afshin Molkara, MD

PAST PRESIDENT
Kevin (Kaushal) Patel, MD

PAST PRESIDENT
Jessica O' Connell, MD

RECORDER
Ali Azizzadeh, MD

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Nii-Kabu Kabutey, MD

COUNCILOR
Sukgu Han, MD

COUNCILOR
Jesus Ulloa, MD

MEMBERSHIP CHAIR
Kristyn Mannoia, MD

PROGRAM CHAIR
Pouria Parsa MD

REGISTER ONLINE

SCHEDULE OF EVENTS

FRIDAY MAY 1, 2026

3:00PM – 7:00PM	SCVSS Registration Open
3:00PM – 6:00PM	Exhibits Set Up
4:00PM – 5:00PM	SCVSS Executive Meeting
6:00PM – 7:00PM	Welcome Reception

SATURDAY MAY 2, 2026

7:00AM – 12:30PM	Registration Open
7:00AM – 12:30PM	Exhibitor Displays Open
7:00AM – 8:30AM	Breakfast with Exhibitors
8:00AM – 12:00PM	General Scientific Sessions
9:30AM – 10:00AM	Coffee Break with Educational Exhibits
11:00AM – 12:00PM	Presidential Guest Lecture
12:00PM – 12:15PM	SCVSS Business Meeting – Members only
12:15PM – 1:30PM	Industry Sponsored Lunch Symposium
6:00PM – 8:30PM	Presidential Banquet with Entertainment

SUNDAY MAY 3, 2026

7:00AM – 12:00PM	Registration Open
7:00AM – 10:30AM	Sponsor Displays Open
7:00AM – 8:00AM	Breakfast with Exhibitors
8:00AM – 12:00PM	General Scientific Sessions
10:15AM - 10:45AM	Coffee Break with Educational Exhibits
12:00PM – 12:30PM	Dr. Robert Hye Memorial Awards & Adjournment

ROBERT J. HYE BEST TRAINEE COMPETITION



Dr. Bob Hye was an outstanding vascular surgeon committed to excellence in research by being the San Diego Area Research Chair for SCPMG. His academic interests included carotid and peripheral arterial disease. Bob published over 100 articles and book chapters and was the Principal Investigator in 40 clinical research trials to better the field of vascular surgery. He was also responsible for founding registries to track abdominal aortic aneurysms within the Kaiser Permanente System.

As a physician, educator, researcher, and scholar Bob's life is a testament to vascular surgery – the surgical specialty he cultivated and helped flourish at UCSD and in the Southern California region. His counsel, enthusiasm for vascular surgery, commitment to resident education, and leadership was especially significant.

He took advantage of every day and never complained about his illness, referring to it as only "bad luck". He was pragmatic, sharp and funny. He passed on February 22, 2016. He is deeply missed by everyone whose life was touched by his. Cash prizes will be awarded to the top three papers presented by residents at the meeting to honor loyal past member Dr. Robert J. Hye.

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DR. J. DENNIS BAKER MEMORIAL GUEST LECTURE



Shahab A. Toursavadkohi, MD

Associate Professor of Surgery,
Co-Director, Center for Aortic Disease

Dr. Shahab Toursavadkohi is the Bartley P. Griffith Professor of Surgery and Innovation and Chief of Vascular Surgery at the University of Maryland Medical Center and School of Medicine. He serves as Co-Director of the Center for Aortic Disease and Director of the UMMC Annual Vascular Surgery Symposium.

He earned his medical degree from Tehran University of Medical Sciences, completed his general surgery residency at Henry Ford Hospital, and his vascular surgery fellowship at the University of Maryland, where he joined the faculty.

Dr. Toursavadkohi specializes in the treatment of complex aortic and thoracoabdominal aneurysms and dissections, with a focus on advanced endovascular and hybrid techniques. In 2016, he founded the nation's first Vascular Acute Care Surgery (VACS) program, providing 24/7 dedicated vascular emergency coverage. He has been instrumental in establishing the Center for Aortic Disease, now a nationally recognized program for complex aortic care.

A pioneer in fenestrated and branched endovascular aortic repair, Dr. Toursavadkohi has helped position the University of Maryland as one of the few centers capable of treating aortic disease from the aortic valve to the iliac arteries. His work has led to the development of EndoArch and Endo-Bentall procedures, offering selected high-risk patients minimally invasive alternatives to traditional open aortic surgery.



SCVSS Past President,
Dr. J. Dennis Baker,
Professor Emeritus of Surgery passed on January 26, 2021, due to heart failure. Dr. Baker was a gifted surgeon, educator, mentor, administrator, and dedicated researcher in vascular physiologic testing and imaging.

He was devoted to his patients and trainees and was a beloved UCLA faculty member and doctor at the Veterans Administration. He served the VA for over 46 years as a surgeon, chief of vascular and in several administrative positions.

To honor his contributions to the vascular community members voted to tribute a guest lecture in his name. In 2021 Dr. Teruya chose Dr. Farber to be the inaugural Dr. J. Dennis Baker Presidential Guest Lecturer.

REGISTER ONLINE

2026 PROGRAM COMMITTEE

Pouria Parsa, MD, Program Chair

Claire Janssen, MD, Program Committee Member

Catherine Chang, MD, Program Committee Member

Andrew Barleben, MD, Society President

Afshin Molkara, MD, Society 2nd President-Elect

ACCME INFORMATION

Physicians

Amedco LLC designates this live activity for a maximum of **7.0 Category 1 Credits™** for physicians. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

American Board of Surgery (ABS) MOC

Successful completion of this CME activity, which includes participation in the evaluation component, enables the learner to earn credit toward the Self-Assessment requirements of the American Board of Surgery's Continuous Certification program. It is the CME activity provider's responsibility to submit learner completion information to ACCME for the purpose of granting ABS credit.
Max of 6.0 Self-Assessment.

*You must request your certificate within **45 days** of the activity to meet the deadline for submission to PARS. Credits are generally reported during the first week of each month for those who claimed during the month prior.*



OVERALL LEARNING OBJECTIVES

"The **overall** purpose of this activity is to enable the learner to…"

1. to improve the standard of care and practice of vascular surgery in the Southern California geographical area
2. to contribute to the active continuing education of its members
3. to advance the science and art of vascular surgery

JOINTLY ACCREDITED PROVIDER™
INTERPROFESSIONAL CONTINUING EDUCATION

JOINT ACCREDITATION STATEMENT

In support of improving patient care, this activity has been planned and implemented by Amedco LLC and Southern California Vascular Surgical Society. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Amedco Joint Accreditation Provider Number: 4008163.

The available CME credit total is TBD by Amedco.

REGISTER ONLINE

Southern California Vascular Surgical Society

44th Annual Meeting | MAY 1-3, 2026

JW MARRIOTT, SAN JOSÉ DEL CABO | BCS, MEXICO

REGISTRATION IS OPEN!

All registrations include scientific session access, CME access, breakfasts, Welcome Reception, and Presidential Banquet ticket.

REGISTRATION OPTIONS:

SCVSS Member: $350.00

SCVSS Retired Member: $175.00

Non-Member Physician: $450.00

Non-MD AHP: $175.00

Resident or Fellow: $175.00

Medical Student: Free

Spouse/Guest: $100.00

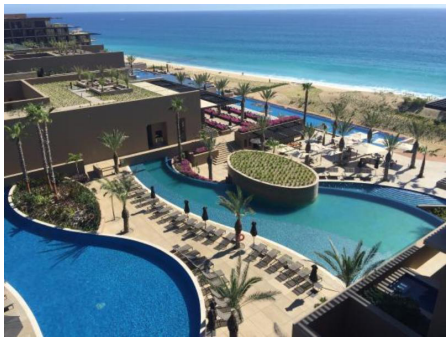
Virtual Attendee w/CME: $100.00

REGISTER NOW



ACCOMMODATION DETAILS

The **JW Marriott Los Cabos Resort** is a luxury escape in Puerto Los Cabos, known for its modern architecture, stunning Sea of Cortez views, diverse gourmet dining, and high-end meeting facilities, offering a blend of relaxation and activities for a perfectly balanced meeting experience.







VENUE:
JW Marriott Los Cabos
San Jose del Cabo,
Baja California Sur, Mexico

Booking Window:
April 27 - May 06, 2026

Special Group Rates:
319.00 USD – 589.00 USD per night

Last Day to Book:
Friday, March 30, 2026

NOT A SOCIETY MEMBER YET? APPLY TODAY!

We now welcome applicants in the two member categories below. Scan the QR code to apply >>>>

ACTIVE *member applicants must be certified in Vascular Surgery by the American Board of Surgery (ABS) and practicing vascular surgery in the geographic area of Southern California as defined by those counties included in the Southern California and San Diego Chapters of the ACS.*

AHP *member applicants shall consist of those individuals who are not vascular surgeons but have made and continue to make meaningful contributions to the science and clinical practice in the field of vascular disease. This category may include non-MD's allied health professionals who are part of a vascular surgery team or working in the field of vascular research.*

Southern California Vascular Surgical Society

44th Annual Meeting | MAY 1-3, 2026

JW MARRIOTT, SAN JOSÉ DEL CABO | BCS, MEXICO



2026 Scientific Program

Friday May 1, 2026

3:00 PM	**7:00 PM**		**Meeting Registration Desk Open**
3:00 PM	**6:00 PM**		**Exhibit Setup**
4:00 PM	**5:00 PM**		**SCVSS Executive Meeting**
6:00 PM	**7:00 PM**		**Welcome Reception**

Saturday May 2, 2026

7:00 AM	**8:30 AM**		**Breakfast with Sponsors**
7:00 AM	**12:30 PM**		**Meeting Registration Desk Open**
7:00 AM	**1:30 PM**		**Exhibits Open**
7:50 AM	**8:00 AM**		**Presidential Welcome & Opening Remarks**
8:00 AM	**9:30 AM**		**Scientific Session I - Aorta**
			Moderators: Dr. Ahmed Abou-Zamzam & Dr. Pouria Parsa
8:00	8:12	1	**Zone 0 Thoracic Branch Endoprosthesis with Thoracic Endovascular Aortic Repair: A Single Center Report**
		★	**Mohyee Ayouty, MD,** *Cedars-Sinai Medical Center*
8:12	8:24	2	**Fenestrated Endovascular Modification for Iliacs (FEMI) for Preservation of Hypogastric Arteries in Aortic and Common Iliac Aneurysms**
		★	**Lauren Cralle, MD,** *UC Davis Health*

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



8:24	8:36	3	**Long term surveillance after EVAR and TEVAR: Are Patients Truly Lost to Follow-Up?"** ★ **Lara Schwieger, MD, MSc,** *Cedars-Sinai Medical Center*
8:36	8:48	4	**Transcaval Approach Can Augment Transfemoral Approach to Branched and Fenestrated Endovascular Aortic Repair in the Setting of Iliofemoral Occlusive Disease** **Andrew Barleben, MD, MPH,** *UC Davis*
8:48	8:53	5	**False Lumen Embolization using Shape Medical Plugs in Extent II Thoracoabdominal Aortic Aneurysm Repair** **Lauren Cralle, MD,** *UC Davis Health*
8:53	8:58	6	**Transapical Route for TEVAR in High-Risk Thoracic Aortic Anatomy: A Case Report** **Sean Hormozian, MD,** *Arrowhead Regional Medical Center and Kaiser Permanente Fontana Medical Center*
8:58	9:03	7	**Endovascular Repair of Anastomotic Pseudoaneurysms After Complex Open Thoracoabdominal Aneurysm Repair** **Eric Sung, MD,** *Loma Linda University Health*
9:03	9:08	8	**Tandem Thoracic Branch Endoprosthesis (tTBE) for Aortic Arch Injury after Blunt Trauma** **Lauren Cralle, MD,** *UC Davis Health*
9:08	9:13	9	**Tailored Branched Endovascular Repair: Three Configuration Strategies Withing Five-Branch Endograft for Complex Post-Dissection Aneurysms** **Martinique Lamb, MD,** *University of Maryland*
9:13	9:18	10	**Endovascular Repair of Coarctation of the Aorta in Adults: Two Case Reports** **Duha Alfatlawi, BA,** *University of California, Irvine*

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



9:18	9:23	11	**Multidisciplinary Repair of Perivisceral Aortic Aneurysm with Complex Renal Artery Reconstruction** **Marvin Chau, MD,** *University of California, Los Angeles*
9:23 AM	**9:30 AM**		**Group Discussion**
9:30 AM	**10:00 AM**		**Coffee Break with Educational Exhibits**
10:00 AM	**11:00 AM**		**Complications Session** *Moderators: Dr. Ali Azizzadeh & Dr. Andrew Barleben & Dr. Toursavadkohi*
10:00	10:07	12	**Open Repair of Iatrogenic Retrograde Subclavian Arterial Cannulation with Clavicular Osteotomy for Exposure: A Case of Delayed Upper Extremity Ischemia** **Timothy Liang, MD,** *Harbor UCLA Medical Center*
10:07	10:14	13	**Intravascular Ultrasound Guided Endovascular Retrieval of a Retained Balloon Fragment Following Transcatheter Mitral Valve Replacement** **Sheldon Gong, MD,** *Huntington Hospital, an Affiliate of Cedars-Sinai*
10:14	10:21	14	**A Hybrid Approach to Aberrant Right Subclavian Artery (ARSA) Complicated by Left Vertebral Artery Occlusion and Right Hemidiaphragm** **Lauren Cralle, MD,** *UC Davis Health*
10:21	10:28	15	**Delayed Iliac Stent Migration After Endovascular Repair of Blunt Aortoiliac Dissection with Bilateral Limb Ischemia** **Gunnar Wolfe, MD,** *Riverside University Health Systems (RUHS)*
10:28	10:35	16	**Extravascular Mediastinal Migration of an IVC Filter During Retrieval Managed with Suprasternal Open Extraction** **Raquel Wolfe, MD,** *Riverside University Health Systems (RUHS)*

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



10:35	10:42	17	**Intraoperative & Post Operative Lessons Learned from Complex Type A (0,11) Dissection Repair via L CCA to LSA Transposition and Physician Modified Gore TAG TBE Device** **Joshua Fallentine, MD,** *Kaiser Permanente San Diego*
10:42	10:49	18	**Treatment of a Para-Aortic SMA Visceral Aneurysm with 5-Vessel PMEG and Left Accessory Renal Preservation Complicated by Left Renal Artery Occlusion** **Joshua Fallentine, MD,** *Kaiser Permanente San Diego*
10:49 AM	**11:00 AM**		**Group Discussion**
11:00 AM	**12:00 PM**	19	**Dr. Dennis Baker Invited Guest Lecturer -** Dr. Shahab A. Toursavadkohi
12:00 PM	**12:30 PM**		**SCVSS Business Meeting –** *Members Only*
12:30 PM	**1:30 PM**		**Industry Lunch Symposium – Sponsored by GORE**
6:00 PM	**8:30 PM**		**Presidential Banquet with Entertainment**

Sunday May 3, 2026

7:00 AM	**12:00 PM**		**Meeting Registration Desk Open**
7:00 AM	**10:45 AM**		**Exhibits Open**
7:00 AM	**8:30 AM**		**Breakfast with Sponsors**
8:00AM	**9:15AM**		**Scientific Session II - Peripheral Artery Disease (PAD) and Access** *Moderators: Dr. Hodgkiss-Harlow & Dr. Wesley Lew*
8:00	8:07	20	**Comparison of Combined Vasq External Support Device with Anastoclip Vs Vasq with Conventional Suture Anastomosis on Outcomes of Arteriovenous Fistula Creation for Hemodialysis** **Benjamin Lin, MD,** *Huntington Health*

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



8:07	8:14	21	**Transhepatic Inside-Out Recanalization for Salvage Hemodialysis Access in Complete Central Venous and Inferior Vena Cava Occlusion** **Michael Clenshaw, MD**, *Riverside University Health System*
8:14	8:21	22	**Management of Penetrating Injuries to the Popliteal Fossa in Wartime Gaza** **Ahmad Hussain, MD,** *Emanate Health*
8:21	8:28	23	**Amputation-Free Survival Following Post-Market LimFlow® Deep Venous Arterialization: The Role of Aggressive Multidisciplinary Limb Preservation in No-Option CLTI** **Imani McElroy, MD, MPH,** *University of Southern California*
8:28	8:35	24	**Impact of Comorbid Psychiatric Disorders on Endovascular Lower Extremity Revascularization Outcomes** **Lavender Micalo, BSc,** *David Geffen School of Medicine at UCLA*
8:35	8:47	25	**Independent Association Between Safety-Net Hospital Care and Major Amputation in Chronic Limb-Threatening Ischemia** **Carrie Tackett, DO,** *University of Southern California*
8:47	8:52	26	**Management of Digital Gangrene Presenting as a Rare Variant of Calciphylaxis** **Ashley Wang, MD,** *Kaiser Permanente, Fontana*
8:52	8:57	27	**Percutaneous Transmural Arterial Bypass After Multiple Failed Open Lower Extremity Bypasses: A New Era in Limb Salvage Surgery** **Brianna-Marie Riu, MD,** *Arrowhead Regional Medical Center*
8:57	9:02	28	**Impact of Impella in the Setting of LimFlow Revascularization** **Brianna-Marie Riu, MD**, *Arrowhead Regional Medical Center*

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



9:02	9:07	29	**A Novel Use of Shockwave Intravascular Lithotripsy (IVL) for Treatment of Coral Reef Aortic Calcifications in a Patient with Chronic Limb Threatening Ischemia** **Taylor Orton, MD,** *University of California, Irvine*
9:07 AM	**9:15 AM**		**Group Discussion**
9:15 AM	**10:15 AM**		**Scientific Session III - Cerebrovascular Occlusive Disease (CVOD) & Infection** *Moderators: Dr. Nii-Kabu Kabutey & Dr. Claire Janssen*
9:15	9:22	30	**Comparable Stroke and Survival Rates After Carotid Endarterectomy and Carotid Artery Stenting in Symptomatic Patients with Chronic Kidney Disease** **Emika Saito, BS,** *University of California, Irvine*
9:22	9:27	31	**Transthoracic Innominate-to-Right Common Carotid Artery Bypass with Shunt Placement to Treat Supra-Aortic Trunk Steno-Occlusive Disease Causing Cerebral Hypoperfusion** **Jesse Han, MD,** *Harbor-UCLA*
9:27	9:32	32	**Treatment of Early Severe Restenosis After Carotid Endarterectomy with Drug-Coated Balloon Angioplasty Prior to TCAR** **Andre Ksajikian, MD,** *Huntington Hospital, an Affiliate of Cedar Sinai*
9:32	9:37	33	**Staged Subclavian–Carotid Transposition Followed by Robotic Resection of an Aberrant Right Subclavian Artery for Dysphagia Lusoria: A Case Report** **Gunnar Wolfe, MD,** *Riverside University Health Systems (RUHS)*
9:37	9:42	34	**TransCarotid Artery Revascularization (TCAR) with Intraoperative Intravascular Ultrasound for Management of Asymptomatic Carotid Web** **Claire Yang, MD,** *University of California, Irvine*

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



9:42	9:47	35	**Two Successful Outcomes After Staged Approach for Excision and Repair of Infected Iliac Artery/Grafts Via Extra-Anatomic Bypass with Autologous Great Saphenous Vein** **Olivia Fuson, MD,** *UC San Diego Health*
9:47	9:52	36	**Chronic Coxiella Burnetti Infection Resulting in a Ruptured Abdominal Aortic Aneurysm and Bilateral Psoas Muscle Abscesses** **Brianna-Marie Riu, MD,** *Arrowhead Regional Medical Center*
9:52	9:57	37	**CMV-Associated Ilioenteric Fistula After Pancreas Transplantation: A Case Report** **Marvin Lu, MD,** *Cedars-Sinai Medical Center*
9:57	10:02	38	**Complete Resolution of Stage III Bilateral Chronic Lymphedema Following Redo Left Hip Hemiarthroplasty: A Case Report** **Sam Simister, MD,** *University of California, Irvine*
10:02 AM	**10:15 AM**		**Group Discussion**
10:15 AM	**10:45AM**		**Coffee Break with Educational Exhibits**
10:45 AM	**11:45 AM**		**Scientific Session IV - Miscellaneous Topics** *Moderators: Dr. Scott Musicant & Dr. Omar Al-Nouri*
10:45	10:52	39	**Artificial Intelligence can Streamline Surgical Documentation and Ease Clerical Burden** **Michael Brewer, MD,** *Kaiser Permanente Downey Medical Center*
10:52	10:59	40	**Glucagon-Like Peptide-1 Receptor Agonists (GLP1) are Associated with Fewer Venous Thromboembolic Events and Limb Complications in Patients with Chronic Venous Insufficiency** **Lavender Micalo, BSc,** *David Geffen School of Medicine at UCLA*

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



10:59	11:06	41	**The Intersection of Hypermobile Ehlers-Danlos Syndrome and Thoracic Outlet Syndrome** **Thomas Munro,** *UCLA*
11:06	11:11	42	**Acute Limb Ischemia in a patient with Mitochondrial Encephalomyopathy with Lactic Acidosis and Stroke-like Episodes** **Jesse Han, MD,** *Harbor-UCLA*
11:11	11:16	43	**Mesenteric Revascularization Associated with Improved Type 2 Diabetes Glycemic Control** **Megan Goetz, BA,** *Kaiser Permanente Bernard J. Tyson School of Medicine; Kaiser Permanente Downey Medical Center*
11:16	11:21	44	**Staged Reconstruction of a Complex Upper Extremity Wound with Exposed Brachial Artery and Arteriovenous Graft Using Novosorb® Biodegradable Temporizing Matrix** **Brianna-Marie Riu, MD,** *Arrowhead Regional Medical Center*
11:21	11:26	45	**Delayed Rebleeding Following Selective Distal Splenic Artery Embolization for Blunt Splenic Trauma** **Jesus Lopez, MD,** *Riverside University Health System Medical Center*
11:26	11:31	46	**Endovascular Management of a Giant Hepatic Artery Aneurysm** **Laura Roberson, DO,** *Community Memorial Hospital*
11:31	11:36	47	**Recurrent Hematochezia as a Rare Presentation of Inferior Vena Cava Occlusion** **Carrie Tackett, DO,** *University of Southern California*
11:36 AM	**11:45 AM**		**Group Discussion**
11:45 AM	**12:00 PM**		**Dr. Robert Hye Memorial Awards and Adjournment**

★ *Indicates presentation is eligible for Robert Hye Best Presentation Competition*



Scientific Abstracts & Case Reports

1. ZONE 0 THORACIC BRANCH ENDOPROSTHESIS WITH THORACIC ENDOVASCULAR AORTIC REPAIR: A SINGLE CENTER REPORT

Mohyee Ayouty, MDa ; Marvin Lu, MDa ; Lara Schwieger, MDa ; Donna Bahroloomi, MDa ; Elizabeth Chou, MDa ; Donald Baril, MDa ; NavYash Gupta, MDa ; Ali Azizzadeh, MDa

a: Division of Vascular Surgery, Cedars-Sinai Medical Center, Los Angeles, CA, USA

Background:
Thoracic endovascular aortic repair (TEVAR) has emerged as a less invasive alternative to open surgical repair of thoracic aortic pathologies. With the development of thoracic branched endoprosthesis (TBE), more complex aortic arch disease pathologies have been treated with preservation of branch vessel perfusion and more recently, TEVAR-TBE use has been explored to treatment of Zone 0 aortic pathology. We present our outcomes using a hybrid approach of a debranching procedure of the great vessels followed by TEVAR-TBE.

Methods:
Inclusion criteria included patients with aneurysmal disease or penetrating atherosclerotic ulcers involving zones 0–2 of the aortic arch. Patients who had underwent prior open aortic arch repair or replacement were included. Demographic data, comorbidities, procedural characteristics, in-hospital outcomes, neurologic events, and follow-up imaging findings were analyzed with a particular interest in post-operative stroke or ischemic related complications as well as branch vessel patency.

Results:
A total of 8 patients underwent TEVAR-TBE during the study period all of whom either had previous debranching procedure completed or underwent a right common carotid artery (CCA) to left CCA bypass and a left CCA to left subclavian artery (SCA) bypass prior to undergoing TEVAR-TBE (Table 1). Technical success was achieved in 100% of cases. The overall 30-day stroke rate was 0%. The in hospital mortality was 0% and 30-day mortality was 12.5%. Median intensive care unit (ICU) stay was 1 day and overall hospital stay was 4 days. Notably there were no reported complications releated to extremity, mesenteric, or spinal cord ischemia with a spinal drain placed in only 1 case. Two patients had a post operative Type 1b endoleak and two patients had a Type 2 endoleak however none of which required operative re-intervention to date and continue to undergo surveillance. Branch vessel patency was observed in all cases (Table 2).

Conclusions:

TEVAR-TBE is a safe and effective option for the treatment of complex thoracic aortic disease involving the arch, with excellent technical success and favorable short-term outcomes. Neurological and ischemic complication rates were low particularly in patients who underwent a hybrid approach to treatment with prior debranching. Continued surveillance and longer-term data are warranted to confirm the durability of these outcomes, but early results support the broader adoption of TBE with debranching in appropriately selected patients.

Table 1:

TEVAR-TBE Demographics and History (n=8)

Demographics	Age [median, (IQR)]	69 (61.5,74)
	Sex (M/F)	6/2
	BMI [median, (IQR)]	23.8 (23.0,27.1)
Medical History	Coronary artery disease	6 (75%)
	Stroke	5 (63%)
	Diabetes Mellitus	1 (13%)
	COPD	1 (13%)
	Atrial Fibrillation	3 (38%)
	Congestive Heart Failure	2 (25%)
	Dialysis Dependent	1 (13%)
	Hypertension	8 (100%)
	Hyperlipidemia	6 (75%)
	Smoking	2 (25%)
Surgical History	TEVAR	0 (0%)
	Open Aortic Surgery	5 (63%)
	Amputation	0 (0%)
	Aneurysm repair	4 (50%)
	Carotid endarterectomy/stent	0 (0%)
	Percutaneous Coronary Intervention	1 (13%)
	Coronary Artery Bypass Graft	3 (38%)

Table 2:

TEVAR-TBE Outcomes and Complications (n=8)

Perioperative Data	Average operative time (minutes)	114
	ICU days [median, (IQR)]	1 (0,1.5)
	Length of stay days [median, (IQR)]	4 (2, 4.5)
	Spinal drain	1 (13%)
	In hospital mortality	0 (0%)
	30-day mortality	1 (13%)
Post-operative Complications		
	Post-op Dialysis	0 (0%)
	Access site hematoma	0 (0%)
	Leg ischemia	0 (0%)
	Arm ischemia	0 (0%)
	Mesenteric ischemia	0 (0%)
	Renal ischemia	0 (0%)
	Spinal Cord Ischemia	0 (0%)
	30-day stroke	1 (13%)
	Myocardial Infarction	0 (0%)
Graft-related outcomes	Post-op Aortic Dissection	1 (13%)
	Aneurysm rupture	0 (0%)
	Graft related complications	0 (0%)
	Post-op endoleak	4 (50%)
	Branch Vesel Stenosis or Occlusion	0 (0%)

2. FENESTRATED ENDOVASCULAR MODIFICATION FOR ILIACS (FEMI) FOR PRESERVATION OF HYPOGASTRIC ARTERIES IN AORTIC AND COMMON ILIAC ANEURYSMS

Lauren Cralle, MD, Melissa Keller, MD PhD, AJ Davidson, MD, Shaun Gifford, MD, Misty Dawn Humphries, MD MPH, Andrew Barleben, MD MPH

Background:
The Fenestrated Endovascular Modification for Iliacs (FEMI) is a method of preserving internal and external iliac artery perfusion. Preservation of both internal and external iliac arteries is crucial is repair of aortic and iliac artery anuerysms, dissection, and atherosclerotic disease. Patients with anatomic constraints such as small iliac vessels, significant tortuosity, and prior endovascular aortic repairs are not amenable to current FDA-approved iliac branch devices (IBDs), therefore we developed a physician-modified endograft that uses single ipsilateral access with a smaller profile - 12-14Fr.

Methods:
We selected patients undergoing endovascular repair of abdominal aortic or iliac artery disease, in which we modified Excluder Iliac Endoprostheses (W. L. Gore & Associates) when FDA-approved Iliac Bifurcated Devices (IBD) had anatomic limitations. Technical success was defined as successful preservation of internal and external iliac arteries with FEMI. The primary endpoint was graft patency at 30 days without endoleak, stenosis, or device migration. Secondary endpoints were 30-day major adverse events, freedom from reintervention, and reported symptoms of pelvic ischemia.

Results:
From April to August 2025, 11 patients underwent FEMI (6 Right, 3 Left, 2 Bilateral). There were 3 Female patients and 8 Male patients. Indications for repair include being part of a larger aortic aneurysm repair (55%), management of 1B Endoleak after prior repair (27%), and isolated iliac artery aneurysm (18%). The range of graft sizes was 12-16mm straight and tapered grafts in 7-12cm lengths, and the delivery sheaths were 12 or 14Fr. The choice of stent for the internal iliac artery depended on concomitant occlusive disease (VBX) or significant tortuosity (Viabahn). All procedures were technically successful (100%). There were 2 patients (18%) with endoleaks on follow-up, both Type 2 from proximal aortic repair. One patient required unplanned cutdown on the same side as the FEMI after removing the 22Fr sheath. There was 1 patient with a major adverse event after complex aortic repair including FEMI, which was heart failure requiring prolonged hospitalization. No patients

required reintervention or readmission. All-cause mortality at 30-days was 0%. All other outcomes were similar across patients. No patients reported symptoms of pelvic ischemia.

Conclusions:
FEMI is a safe and effective technique to preserve iliac arteries when standard IBD is unavailable. FEMI delivery sheath sizes remained smaller than commercially available IBDs and were able to be delivered through ipsilateral access. In the short-term, there have been no device-related endoleaks and all target vessels have remained patent without stenosis or device migration. This early evaluation highlights the success, safety, and early efficacy of an alternative approach for maintaining pelvic perfusion in patients with anatomy not amenable to IBD.

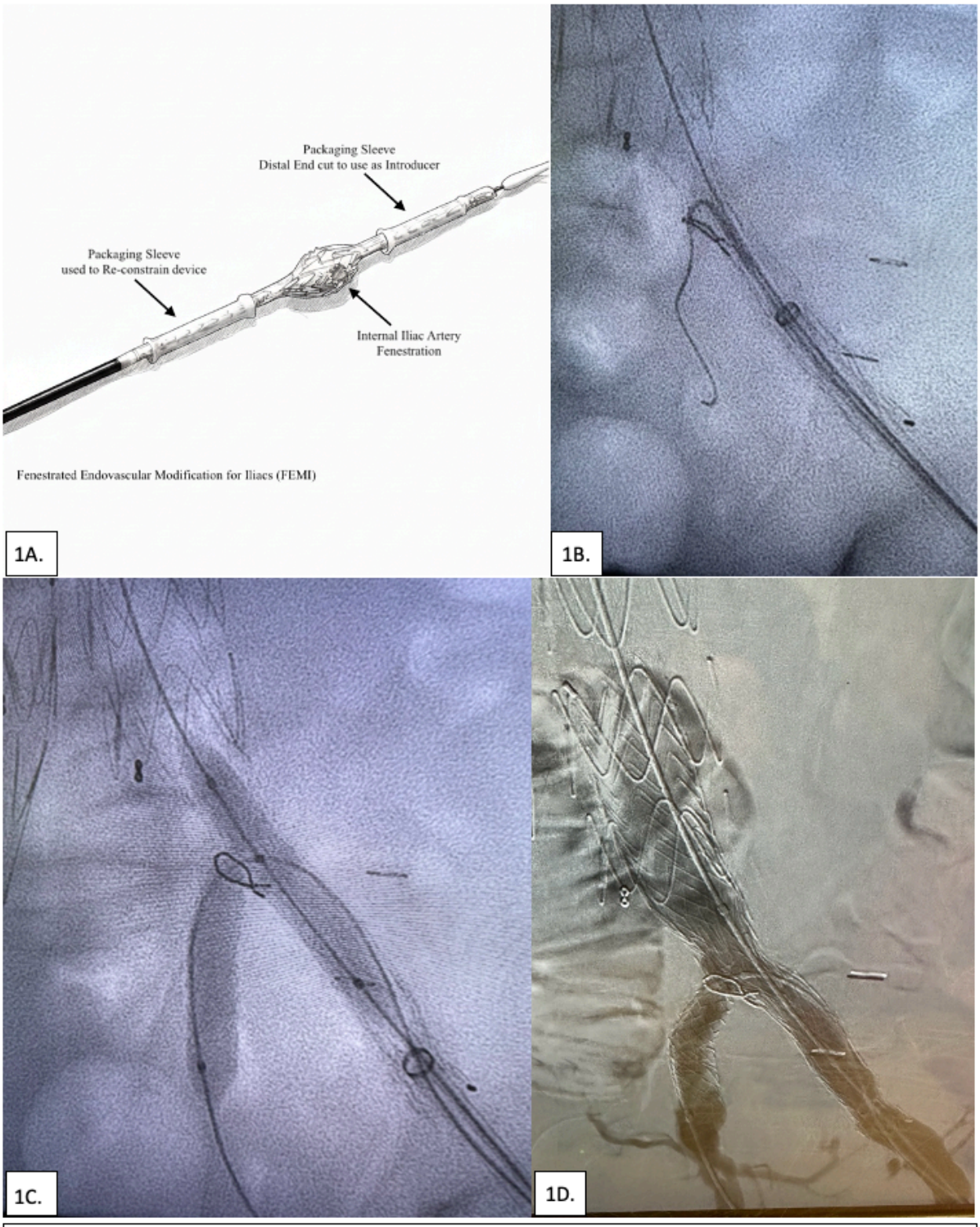


Figure 1A. FEMI backtable modification of Gore Excluder Iliac Endoprosthesis. **1B.** Cannulation of Internal Iliac Artery from ipsilateral access. **1C.** Simultaneous post-dilating of seal zones between common, internal, and external iliac artery stents. **1D.** Completion angiogram of FEMI.

3. LONG TERM SURVEILLANCE AFTER EVAR AND TEVAR: ARE PATIENTS TRULY LOST TO FOLLOW-UP?

Lara Schwieger MD, Steven Scarlett MS, Donna Bahroloomi MD, Cassra Arbabi MD, Navyash Gupta MD, Donald Baril MD, Ali Azizzadeh MD, Elizabeth L. Chou MD

Background:
The importance of long-term follow-up and surveillance (LTFUS) after endovascular aneurysm repair (EVAR) and thoracic endovascular aortic repair (TEVAR) is well documented. However, defining LTFUS in a manner that is clinically meaningful remains incompletely characterized. The increasing availability of integrated electronic medical records (EMR) and health information exchange (HIE) systems present an opportunity to explore LTFUS after EVAR/TEVAR. We evaluated whether utilizing HIE within a single healthcare system may facilitate LTFUS assessment without direct patient contact.

Methods:
We performed a single-center retrospective review of patients who underwent EVAR/TEVAR and were enrolled in the Vascular Quality Initiative (VQI) from 2011-2022. All patients deemed lost to long term follow-up according to VQI definitions of 9-21 months (LTFUS-VQI) were reviewed in the EMR enhanced by HIE (LTFUS-HIE). Radiology reports and documents available through EMR and HIE were reviewed (aortic abdominal ultrasounds, computed tomography (CT) images, and magnetic resonance imaging/angiography (MRI/MRA)). Suitable LTFUS was defined as imaging data sufficient for clinical care and decision making, including aneurysm diameter and/or presence or absence of endoleak. LTFUS-VQI and LTFUS-HIE compliance was compared.

Results :
Among 461 EVAR/TEVARs from a single institution, 214 (46.4%) patients were considered lost to follow-up by VQI criteria. The vast majority (79%, 169/214) of these patients, however, had imaging following their repair when using HIE. Inclusion of HIE data and expanding the duration of LTFUS to beyond 21 months reduced the true lost to follow-up rate to 9.8% (45/461) compared to VQI criteria defined lost to follow-up of 46.4% (214/461). (Figure 1)

Almost half of HIE enabled data (47.7%) was obtained during the VQI-defined 21-month period and over 30% of all HIE data was obtained from outside the hospital system or state of the index surgery. In the LTFUS-HIE group, 49.5% underwent dedicated imaging for aneurysm surveillance, while 27.1% underwent incidental imaging containing sufficient

aortic information. When comparing preoperative measurements to most recent imaging evaluating aortic remodeling, 19.8% of patients meeting LTFUS-VQI criteria had aneurysm expansion, compared to 26.6% of patients with HIE available surveillance reports. (Table 1)

Conclusion:

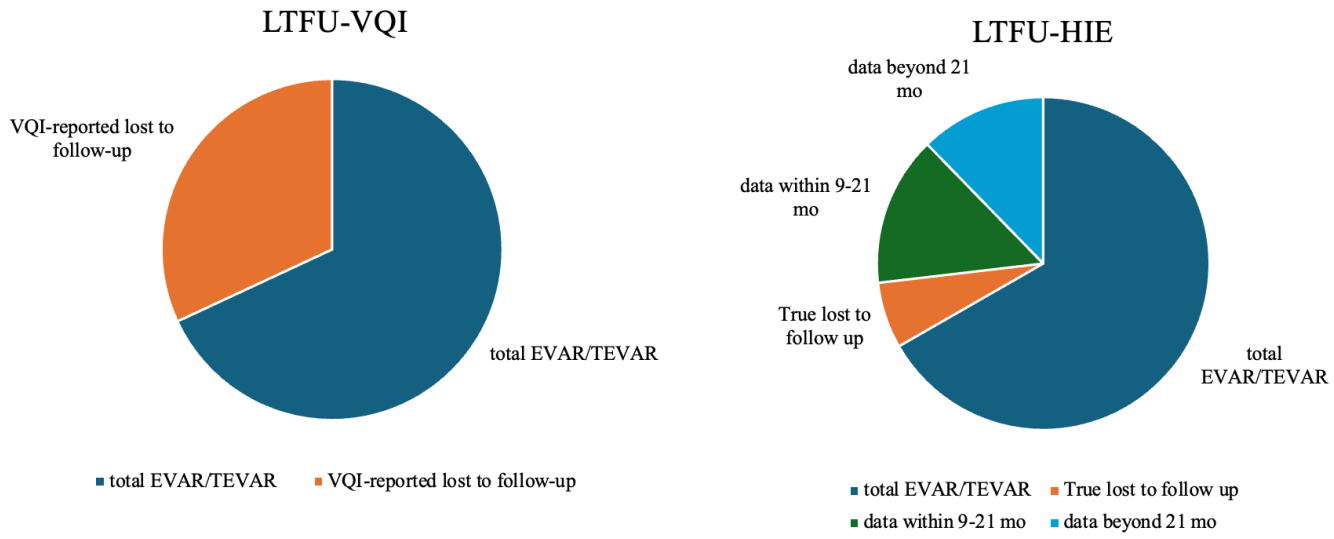
A majority of patients deemed lost to follow-up by VQI-criteria were not lost to overall care, suggesting that passive surveillance strategies leveraging EMR and HIE may improve longitudinal monitoring without direct patient contact. These findings have important implications for how surveillance is investigated and reported, as VQI definitions of long-term follow-up remain a cornerstone in published literature and guidelines on outcomes of endovascular aortic surgery.

Table 1. Characteristics of patients evaluated by VQI criteria (LTFUS-VQI) and those lost to follow-up evaluated with HIE (LTFUS-HIE)

	LTFUS-VQI	LTFUS-HIE
Total EVAR and TEVARs, n	461	214*
Age at surgery (Yrs, Std)	77.0 ± 12.4	75.0 ± 13.0
Sex, n (%)		
Male	365 (79.2%)	155 (72.4%)
Female	96 (20.8%)	59 (27.6%)
Lost to follow-up, n (%)	214 / 461 (46.4%)	45 / 214 (21.0%)
Data within period (9-21 mths), n (%)	247 / 461 (53.5%)	102 / 214 (47.7%)
Data beyond 21 mths, n (%)	0 (0%)	86 / 214 (40.2%)
Long term imaging data, n	247	214*
Indication for imaging, n (%)		
Aortic surveillance	247 / 247(100%)	106 (49.5%)
Incidental/Other	0 (0%)	58 (27.1%)
Aneurysm remodeling, n	242 / 247 (%)	214*, (%)
Decrease in size >5mm**, n (%)	88 (36.4%)	48 (22.4%)
Stable in size n (%)	106 (43.8%)	51 (23.8%)
Increase in size >5mm**, n (%)	48 (19.8%)	57 (26.6%)

*deemed lost to follow-up by VQI criteria
** by max diameter radiology reports

Figure 1. VQI reported lost to follow-up versus true lost to follow-up by HIE analysis



Patients lost to follow up as defined by VQI compared to those who were analyzed using HIE enhanced data. Of the 461 total TEVAR/EVARs, 46.4% were defined by VQI as lost to follow-up. Of the 214 LTFU-HIE analyzed patients, 21% were true lost to follow-up, 47.7% had imaging during the VQI 9-21 month LTFU period, and 40.2% had data beyond 21 months.

4. TRANSCAVAL APPROACH CAN AUGMENT TRANSFEMORAL APPROACH TO BRANCHED AND FENESTRATED ENDOVASCULAR AORTIC REPAIR IN THE SETTING OF ILIOFEMORAL OCCLUSIVE DISEASE

Lauren Cralle, MD, Keenan Gibson, MD, Melissa Keller, MD PhD, Misty Humphries, MD, Shaun Gifford, MD, Andrew Barleben, MD MPH

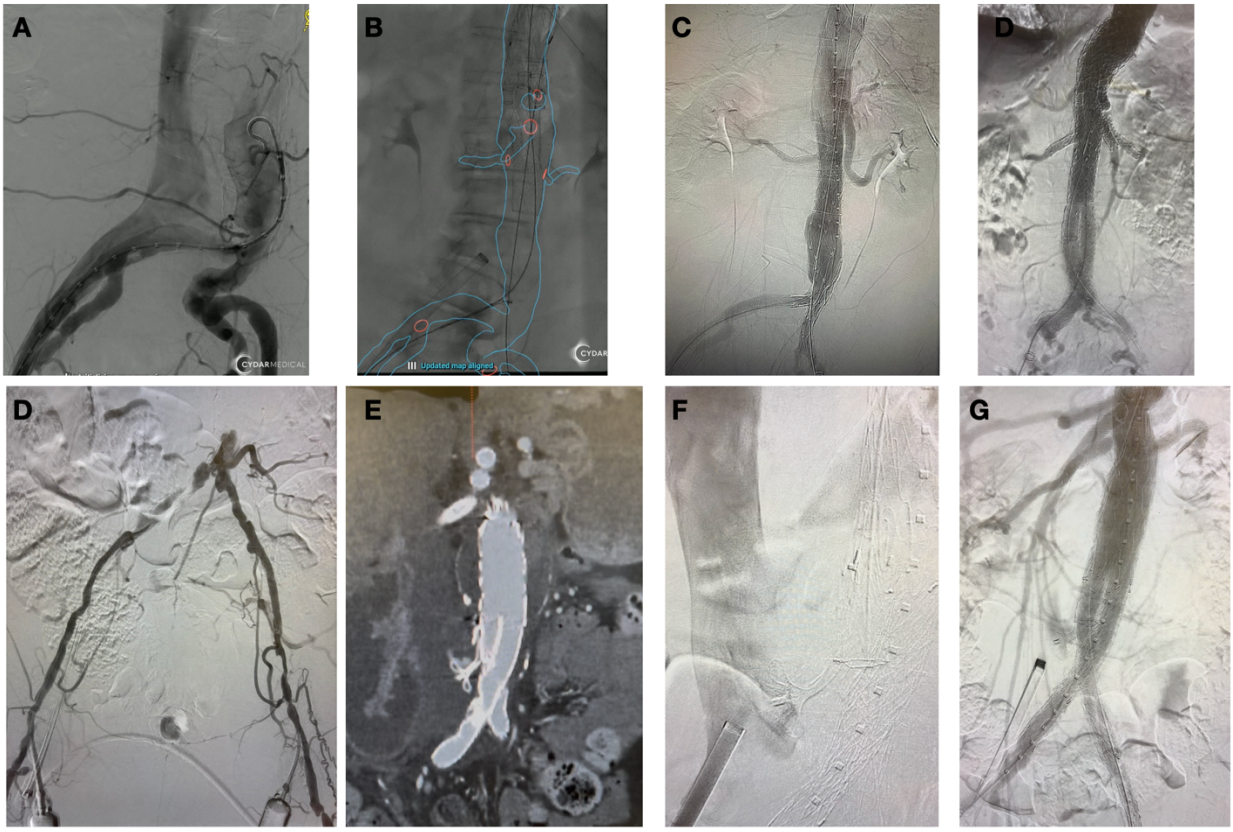
Background:
Fenestrated and branched endovascular aneurysm repair (f/bEVAR) approaches to complex abdominal aortic aneurysms (cAAA) and thoracoabdominal aortic (TAAA) aneurysms have shown a lower risk of death and peri-operative complications. A challenge to complex endovascular aortic repair remains hostile iliac access for delivery of these devices. Transcaval (TC) access is a method of creating a common channel from the Inferior Vena Cava (IVC), across the retroperitoneal space, and into the abdominal aorta for delivery of large devices while remaining percutaneous. While it is well described in interventional cardiology spaces, we aim to describe complex endovascular aortic repair using femoral arterial and venous access to deliver large-bore sheaths and aortic stent grafts in patients with hostile iliac access.

Methods:
Four patients from a prospectively collected retrospective data series met the criteria of attempted transcaval approach for total transfemoral (tTF) f/bEVAR. Devices included the Gore thoracoabdominal endoprosthesis (TAMBE) at 22 French and a physician modified endograft (PMEG). Technical success was defined as delivery of a large bore sheath from venous to arterial and all planned stents for a TC, tTF f/bEVAR repair.

Result:
Three out of four patients (75%) had successful delivery of the TC tTF f/bEVAR while another failed to cross due to porcelain calcification of the iliacs and distal aorta. CT scan FU at 1 (3 patients) and 6 months (1 patient) shows one endoleak (33%, type 2), no persistent caval flow, and patent flow through all target vessels. One patient had TAMBE with Endologix AFX due to tight distal aorta (Figure 1, A-C), one patient had TAMBE with all Gore components (Figure 1, D), and one patient had Cook PMEG fEVAR with Gore Excluder for bifurcated device (Figure 1, D-G). Only one patient had a septal closure device for the iatrogenic aorto-caval fistula due to its concerning rapidity on completion angiogram. No patients had lower extremity swelling, ultrasound positive deep venous thrombosis and no pulmonary emboli were noted on postoperative CT scan.

Discussion:

Small caliber access vessels or aortoiliac occlusive disease, often precluding them from both off-label and on-label repairs, which require 20-26 French outer diameter delivery systems. Early results of transfemoral with transcaval access to the infrarenal abdominal aorta appears to be safe and effective in delivering large devices in patients with iliofemoral disease that would otherwise prohibit traditional transfemoral arterial delivery. Limitations include porceline calcification of the aorto-iliac arteries, previous EVAR and chronic iliocaval occlusion.



5. FALSE LUMEN EMBOLIZATION USING SHAPE MEDICAL PLUGS IN EXTENT II THORACOABDOMINAL AORTIC ANEURYSM REPAIR

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UC Davis Health

Background:
For patients with chronic dissection and aneurysmal degeneration, sac regression after endovascular repair is widely viewed as a positive prognostic factor. False lumen or aneurysm sac embolization is a method by which surgeons prophylactically treat Type 2 Endoleaks and promote sac regression. Many embolic materials are radiopaque so as to be effectively seen on angiography, but they cause significant artifact in follow-up imaging by that same reasoning as the metallic and contrast components of coils and glue fill the sac surrounding the stent graft. Shape Medical Impede-FX plugs are embolic plugs composed of a porous polymer scaffold and small metallic cap.

Methods:
A 54-year old woman presented to another hospital with Acute Type A Dissection in March 2025 and underwent ascending aortic repair with coronary bypass. She was referred to our clinic after surveillance for her Chronic Type B Dissection showed rapid aneurysmal degeneration. From July 2025 to August 2025, her Extent II thoracoabdominal aortic aneurysam (TAAA) grew from 48mm to 52mm. She was offered a staged endovascular repair with a physician-modified endograft (PMEG). She first underwent left carotid-to-subclavian bypass and Thoracic Branch Endoprosthesis (TBE) into Zone 0 with the branch to the innominate and in-situ laser fenestration to the left subclavian artery. She tolerated that well and was discharged home with plan for second-stage procedure 8 weeks later.

Result:
The patient underwent successful second-stage fenestrated endovascular aortic repair (FEVAR) using a Conformable Gore TAG Thoracic Endoprosthesis (CTAG) with 4 fenestrations and Endologix AFX2. Building the repair from the bottom up, the AFX2 was deployed successfully, then the false lumen was selected and a wire was left prior to introducing and deploying the modified CTAG into the true lumen. After cannulating and stenting the FEVAR, a Fenestrated Endovascular Modification for Iliacs (FEMI) was used to extend the repair distally to the right internal and external iliac arteries. Exchanging the wire in the false lumen for a long 6 Fr sheath, angiography of the false lumen was performed and 60 Shape Medical Impede plugs were deployed into the false lumen. Completion imaging

revealed a Type 2 Endoleak from an intercostal artery. The patient recovered well and was discharged home. At her 30-day follow-up, imaging revealed appropriately positioned stent grafts with no evidence of endoleak and sac regression from 52mm to 42mm.

Discussion:

Accurate surveillance of repairs and monitoring for sac expansion is crucial in preventing late aortic rupture. Prophylactic false lumen and aneurysm sac embolization using Impede-FX plugs allows for accurate post-intervention surveillance by limiting radiographic artifact as seen with coils and embolic glue. In this case, false lumen embolization with was associated with sac regression of 10mm in a 1-month period following repair of Extent II TAAA.



Figure 1A. Completion angiography of thoracic portion of repair. **1B.** Completion angiography of abdominal portion of repair. **1C.** Post-operative Day 3 imaging prior to discharge showing suspected Type 2 Endoleak. **1D.** Follow-up imaging at one-month post-op showing resolution of endoleak.
* Shape Medical Impede-FX embolization plugs noted with arrows.

6. TRANSAPICAL ROUTE FOR TEVAR IN HIGH-RISK THORACIC AORTIC ANATOMY: A CASE REPORT

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Introduction:

Thoracic endovascular aortic repair (TEVAR) is the preferred treatment for descending thoracic aortic aneurysms when anatomically feasible. However, severe aortic tortuosity, extensive prior endovascular repairs, and inadequate peripheral arterial access can preclude standard retrograde delivery. Alternative access strategies are required in such complex cases. We report the use of transapical (TA) ventricular access to facilitate TEVAR in a patient with hostile anatomy and refractory to deployment despite adjunctive maneuvers.

Methods:

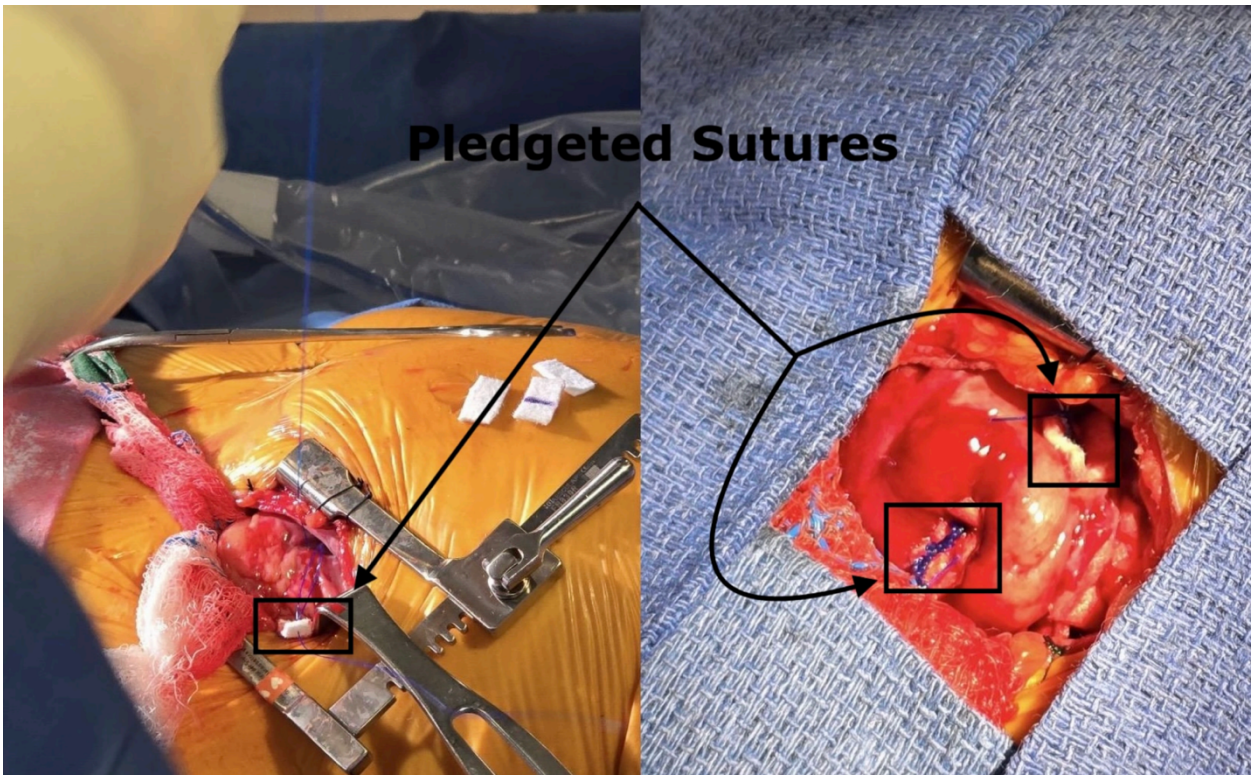
We present a single-patient case of a 74-year-old woman with a history of thoracic endovascular aortic repair, physician-modified fenestrated endovascular aneurysm repair, and ascending aortic hemiarch repair who developed progressive distal aortic arch aneurysmal degeneration with distal migration of prior thoracic endograft. Conventional retrograde endovascular access and through-and-through brachiofemoral access failed due to extreme aortic tortuosity and friction with prior endografts. After multidisciplinary discussion and patient-centered decision-making, TEVAR was performed using transapical access through a left anterior mini-thoracotomy. The left ventricular apex was accessed under transesophageal echocardiographic guidance at the 5th intercostal space under general anesthesia with single lung ventilation, and an 18-French sheath was advanced antegrade into the thoracic aorta allowing for deployment of a 38 mm x 216mm Cook Alpha thoracic stent graft.

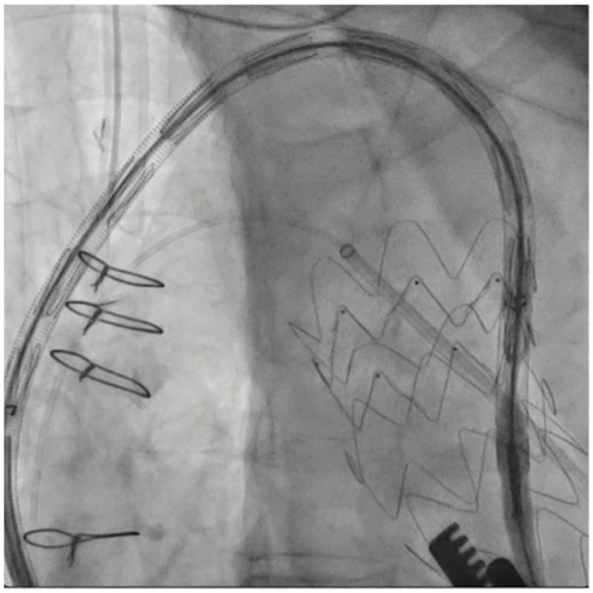
Results:

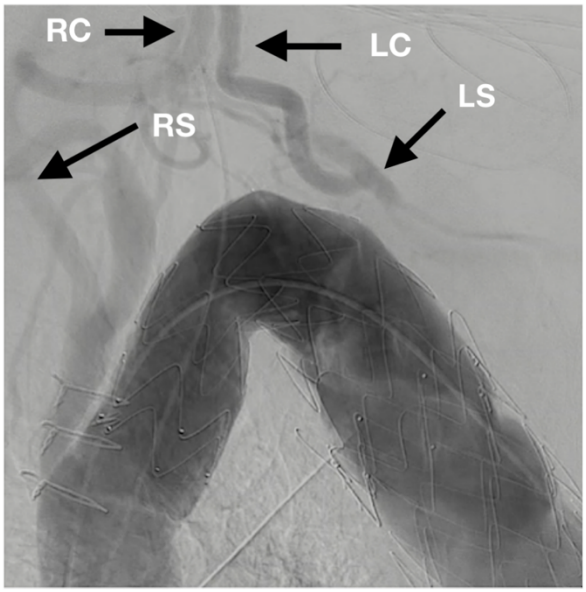
The thoracic endograft was successfully deployed across the distal arch aneurysm. Completion angiography demonstrated exclusion of the aneurysm without type I or III endoleak. An anticipated type II endoleak from the left subclavian artery was noted and later treated with embolization on the same admission. Of note, prior carotid-carotid and left carotid-subclavian bypass has been completed and were patent on angiography. The patient tolerated both procedures without intraoperative complications. She was discharged on postoperative day 7 and remained asymptomatic. Follow-up CTA demonstrated near-complete aortic coverage with stable graft positioning and thrombosis of distal aortic arch/proximal descending thoracic aneurysm.

Conclusion:

Only a handful of cases using TA access to perform TEVAR have been reported in the literature, largely outside the United States. TA access provides a direct antegrade route to the thoracic aorta and may overcome limitations posed by severe tortuosity, prior endografts, or inadequate peripheral access. While associated with unique risks, transapical TEVAR can be safely performed in select patients at experienced centers using a multidisciplinary approach. This case highlights the feasibility of transapical TEVAR as a salvage strategy in complex aortic pathology and underscores the importance of early assessment and treatment of proximal aortic disease should more distal interventions be needed.







*RC = Right Common Carotid Artery; *LC = Left Common Carotid Artery; *LS = Left Subclavian Artery; *RS = Right Subclavian Artery

7. ENDOVASCULAR REPAIR OF ANASTOMOTIC PSEUDOANEURYSMS AFTER COMPLEX OPEN THORACOABDOMINAL ANEURYSM REPAIR

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Background:
Anastomotic pseudoaneurysms following open aortic repair are rare but challenging occurrences. Endovascular surgery provides a minimally invasive option for repair. We present a case of complex endovascular repair of multiple anastomotic pseudoaneurysms eight years following open thoracoabdominal aortic aneurysm repair.

Case Report:
An 81-year-old female presented with left-sided abdominal pain. She had a history of a 7.5-centimeter Type IV thoracoabdominal aneurysm repair in 2016 with a two-graft technique including 1) a trifurcated graft from the distal descending thoracic aorta with anastomoses to the celiac, superior mesenteric, and left renal arteries and 2) in-line 20mm Vascutek graft from the distal thoracic aorta to the aortic bifurcation with reimplantation of the right renal artery. Imaging revealed a 1.7cm pseudoaneurysm at the aorto-trifurcated graft anastomosis, and another 9.5 x 3.1 x 2.5cm pseudoaneurysm at the level of the left renal artery anastomosis. (Figure 1) After exclusion of infectious etiologies, endovascular repair was conducted in a staged approach. First, the left renal artery anastomotic pseudoaneurysm was treated via a brachial approach with deployment of two, 8mm Viabahn stents. The second stage was conducted two weeks later to address the aortic anastomotic pseudoaneurysm. A Gore Excluder bifurcated graft was deployed in the proximal descending thoracic aorta via the right femoral artery. A left axillary artery conduit was used for contralateral gate cannulation and deployment of an Excluder contralateral bell bottom limb delivered in an upside-down fashion into the trifurcated graft. An additional bell bottom limb was deployed from the femoral approach extending from the main body limb into the suprarenal aortic graft. (Figure 2) Postoperative course was unremarkable, and 30-day follow-up CTA demonstrated patent trifurcated graft and visceral branches with no evidence of aneurysm sac filling and resolution of pseudoaneurysms.

Conclusions:
Endovascular repair of complications following prior open aortic repairs is a safe and durable option in patients with significant comorbidities and complex anatomy.

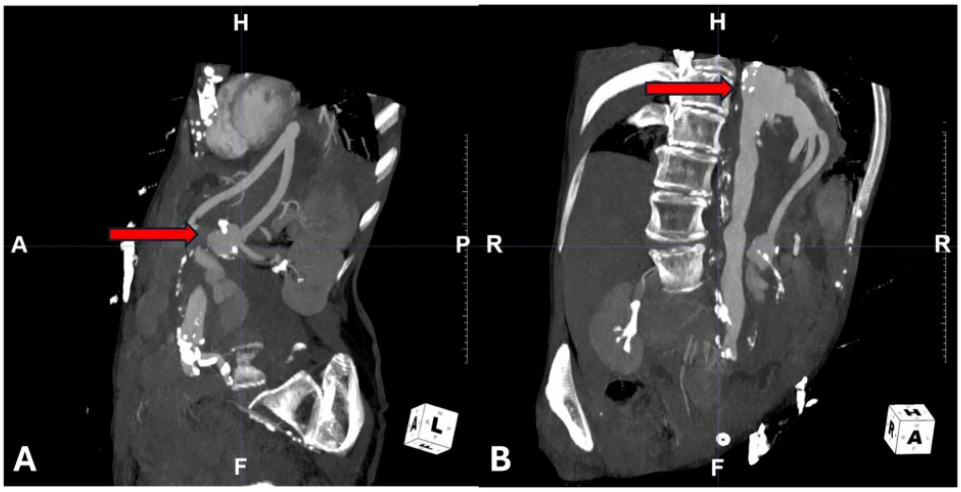


Figure 1: A) Sagittal view of anastomotic pseudoaneurysm at the level of the left renal artery anastomosis extending inferiorly measuring 9.5 x 3.1 x 2.5 cm. B) Coronal view of anastomotic pseudoaneurysm at the level of the trifurcated graft to descending thoracic aorta anastomosis measuring 1.7 cm.



Figure 2: Completion angiogram demonstrating repair with Gore Excluder deployed in the proximal descending thoracic aorta with extension of contralateral iliac bell-bottomed limb ending immediately proximal to the trifurcation of the visceral graft and the ipsilateral limb extension ending in the aortic tube graft just proximal to the right renal artery anastomosis.

8. TANDEM THORACIC BRANCH ENDOPROSTHESIS (TTBE) FOR AORTIC ARCH INJURY AFTER BLUNT TRAUMA

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UC Davis Health

Background:
This case report describes the use of tandem Gore Thoracic Branch Endoprosthesis (tTBE) to treat an extensive Grade 3 Blunt Thoracic Aortic Injury (BTAI) with pseudoaneurysms of both the arch near the innominate artery (Zone 0) and the descending thoracic aorta (Zone 3) with associated intramural hematoma (IMH). Patients with BTAI requiring repair typically undergo Thoracic Endovascular Aortic Repair (TEVAR) as the injury is often isolated to the descending thoracic aorta at the isthmus due to the ligamentum arteriosum. Use of single TEVAR graft with or without coverage of the left subclavian artery and use of Gore TBE have been well described in these instances. In rare cases, injuries extend beyond the descending thoracic aorta and few cases of endovascular repair of these injuries exist in current literature.

Method:
A 69 year old woman presented with Zone 0 pseudoaneurysm and Zone 3 pseudoaneurysm with associated intramural hematoma after blunt traumatic injury to the chest. Cardiac surgery evaluated the imaging and deemed the injury to not require open surgical intervention. Due to location of concomitant injuries, there was no appropriate landing zone for repair on the Zone 3 injury, so we proceeded with endovascular aortic arch repair with left carotid-to-subclavian transposition followed by tandem deployment of two TBE in a “longhorn” configuration.

Results:
The patient underwent successful left carotid-to-subclavian transposition followed by endovascular repair of aortic arch and descending thoracic aorta with two TBE. The distal TBE (Gore 34mm x 15cm) was deployed first and landed in Zone 1 with a branch (Gore 12mmx15cm) to the left subclavian artery, landing proximal to the left vertebral artery and the anastomosis of the transposition, which was noted to be hemostatic and without stenosis. Then the more proximal TBE (Gore 34mm x 15cm) was introduced and positioned in Zone 0. To ensure access to the left subclavian and the transposition, a 13mm x 50mm Viabahn was positioned via the contralateral side and positioned from the left subclavian

branch to the descending thoracic aorta prior to deploying the proximal TBE. The proximal TBE branch was deployed in the innominate (Gore 12mm x15cm) landing proximal to the bifurcation. The patient tolerated the procedure well and without complication, recovered in the Surgical Critical Care unit for two days, and discharged home after recovering from her other traumatic injuries. Follow-up imaging showed successful exclusion of traumatic aortic injuries with patent stents and no evidence of endoleak.

Conclusion:

We describe the successful treatment of a patient with Gradfe 3 Blunt Aortic Injury (BTAI) of Zone 0 and 3 after blunt trauma with a hybrid technique of left carotid-to-subclavian artery transposition and tandem TBE deployment in Zone 0-4 in a “longhorn” configuration.

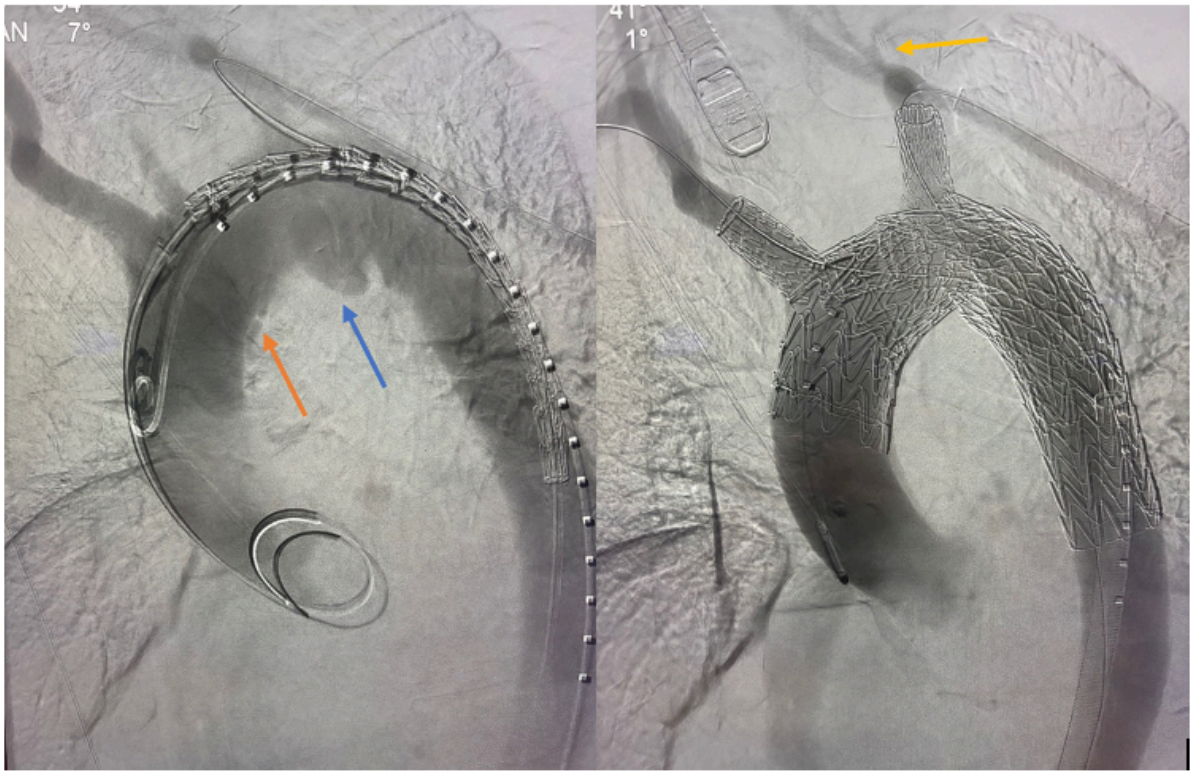


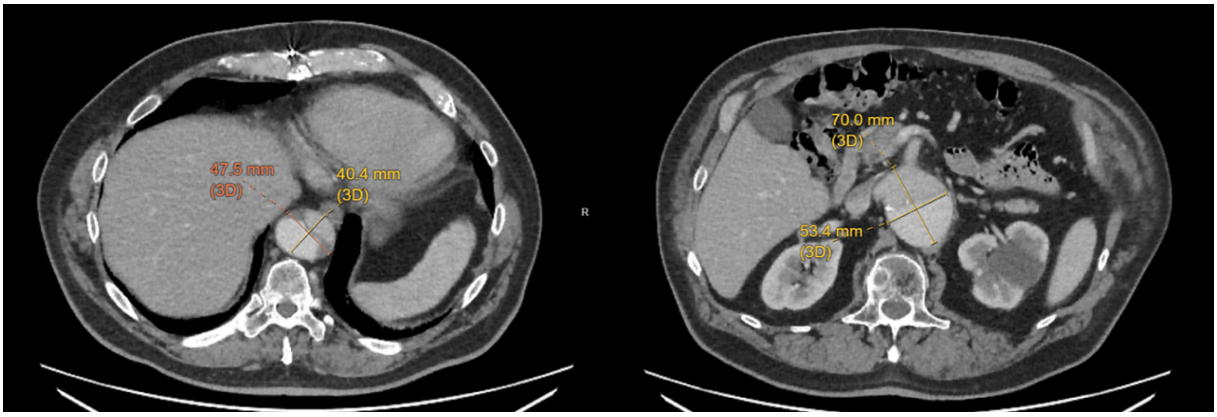
Figure 1. Left - intraoperative imaging showing Zone 0 (orange arrow) and Zone 3 (blue arrow) pseudoaneurysms. Right – Complete repair with tTBE deployments and patent left carotid-to-subclavian transposition (yellow arrow) with exclusion of Grade 3 BTAI.

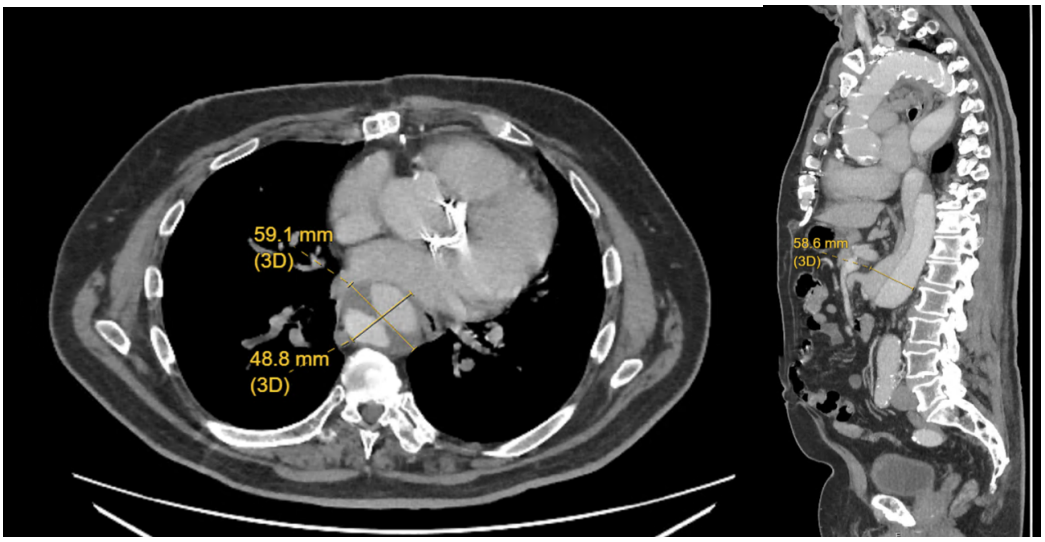
9. TAILORED BRANCHED ENDOVASCULAR REPAIR: THREE CONFIGURATION STRATIGIES WITHING FIVE-BRANCH ENDOGRAFT FOR COMPLEX POST-DISSECTION ANEURYSMS

Martinique Lamb, MD
Shahab Toursavadkohi, MD

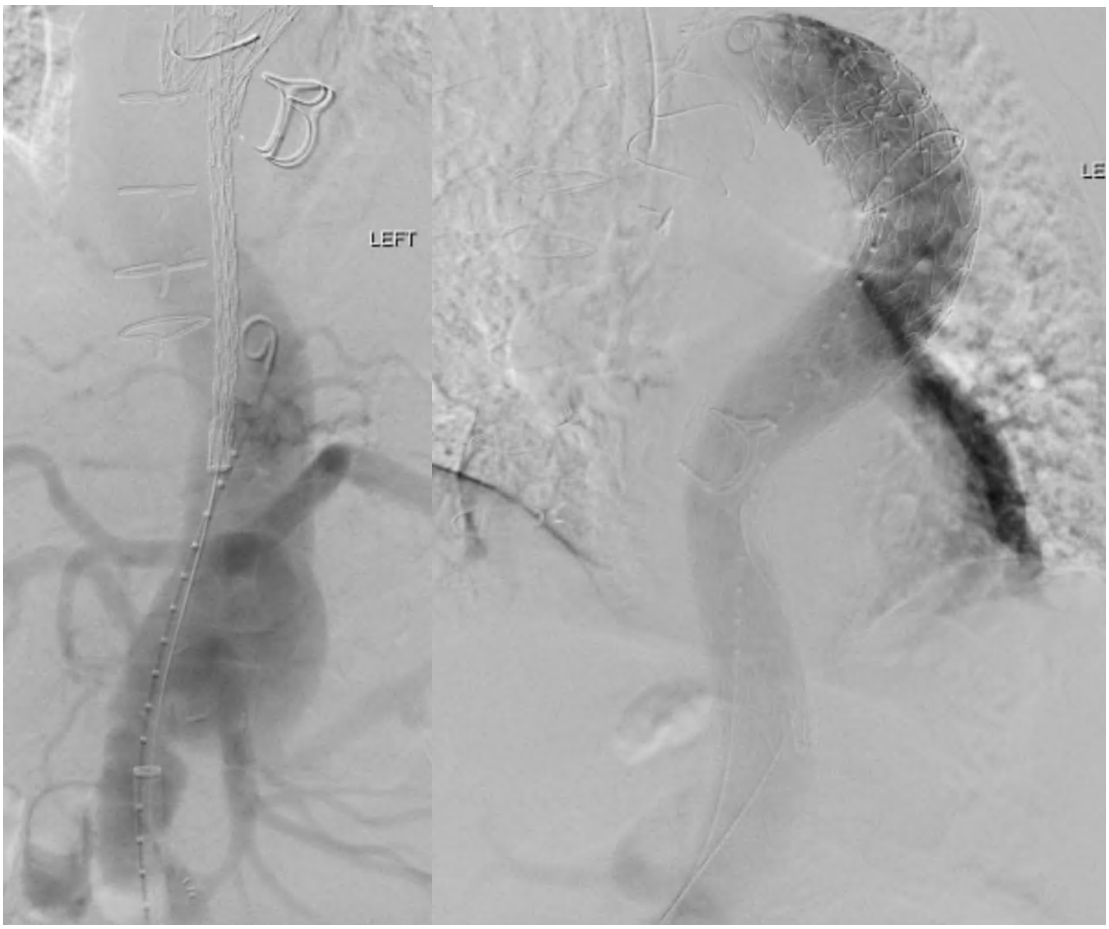
University of Maryland

This patient is a 71 y/o male who was evaluated in our aortic center for evaluation for TAAA repair. He had a previous open infrarenal AAA repair in 2010, subsequent Type A aortic dissection repaired with aortic root repair in 2019 and a total arch and thoraflex graft in 2024 now with rapid aneurysmal degeneration of the false lumen. The largest diameter was in the paravisceral segment of the aorta measured 7.3 cm. Of note the largest diameter of the thoracic aorta was 5.9 cm. Given his previous arch repair and thoraflex graft we planned to stage his operations in treatment of his TAAA to decrease his risk of spinal ischemia. Our first stage would be to extend from the thoraflex graft in zone 4 to zone 5 with a TEVAR and at a later date complete a branched PMEG repair of the visceral aorta for complete seal of the aneurysmal segment.



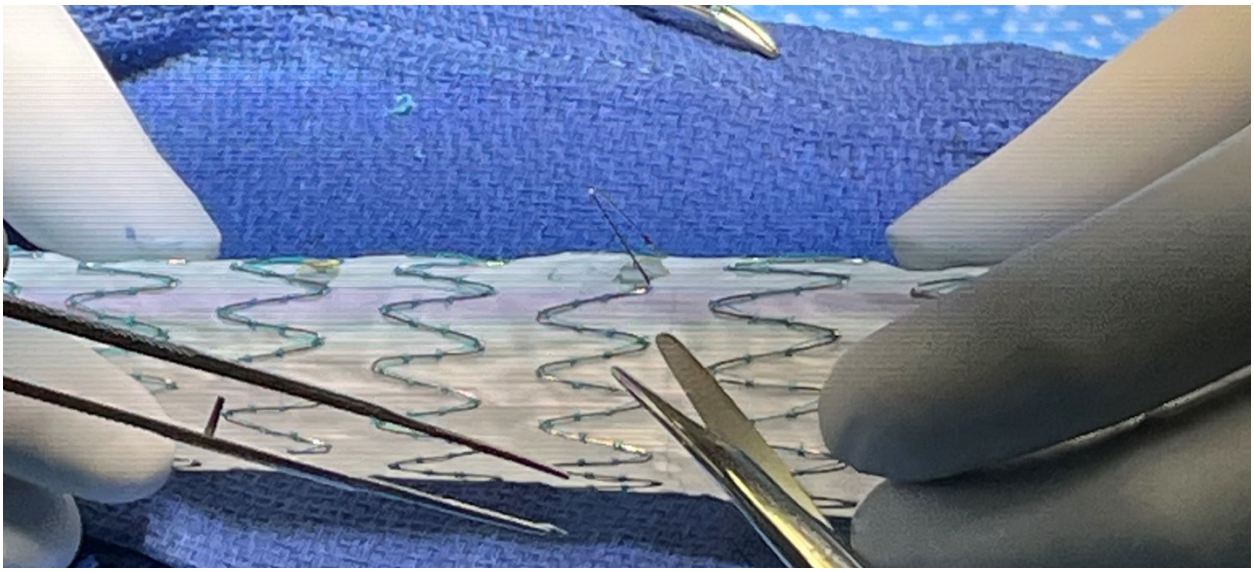


Stage one was completed with a 37 x 200 and 37 x 150 Gore CTAG deployed from zone 4-5 to prepare a landing zone for our PMEG at a later date.

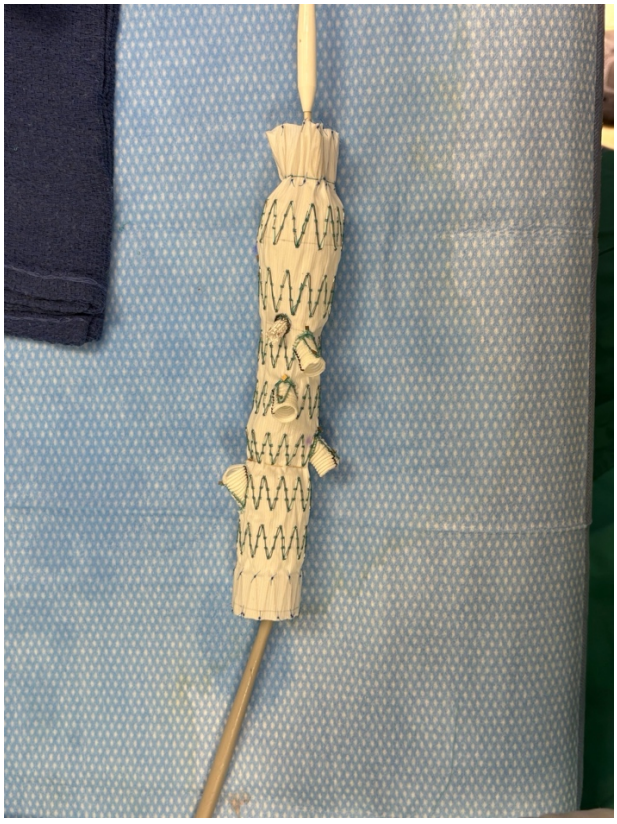


Several months later we completed the second staged operation. In consideration of the significant aneurysmal degeneration and need for septostomy to access the left renal

artery we designed a branched PMEG to better support our visceral stents within the large aneurysm sac and decrease risk of stent migration/dislodgment and endoleak. We used a 36 x 34 x 154 Cook TX2 graft which we back table modified with 5 branches: 4 antegrade and 1 single retrograde branch for the left hepatic artery, celiac trunk, and SMA, and bilateral renal arteries (right renal was the retrograde branch). All branches were composed of 8mm Dacron graft to emulate the T-Branch Cooke CMD; however, for the left hepatic branch for which we used a 6mm viabahn stent due to the smaller vessel diameter.

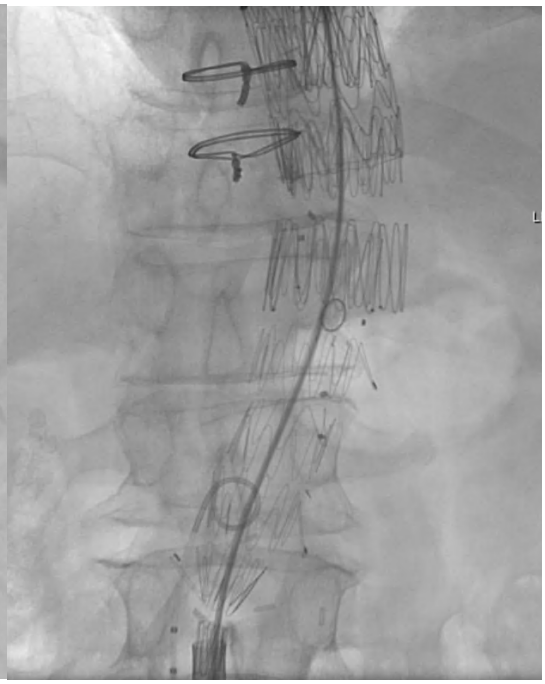


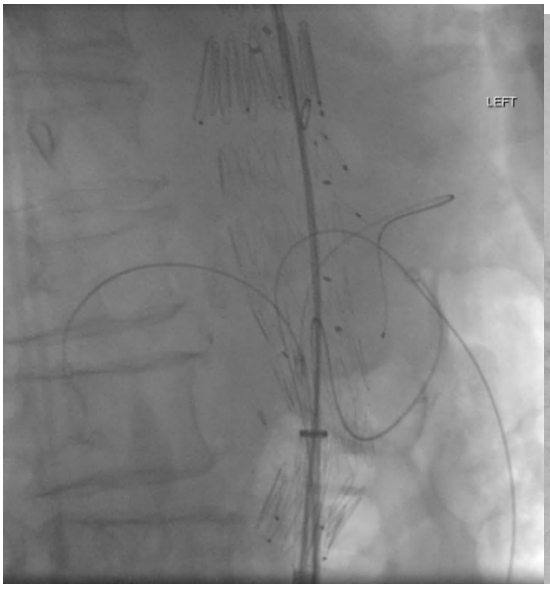




Once the graft was complete we proceeded with an electrified septostomy which was performed from zone 5 down through zone 6 at the site of his previous open repair prior to introducing our modified graft into the aorta. All branches were stented using VBXs except for the left hepatic which was left unstented to perfuse the true and false lumen to decrease risk of spinal ischemia and reduce radiation exposure in this patient.



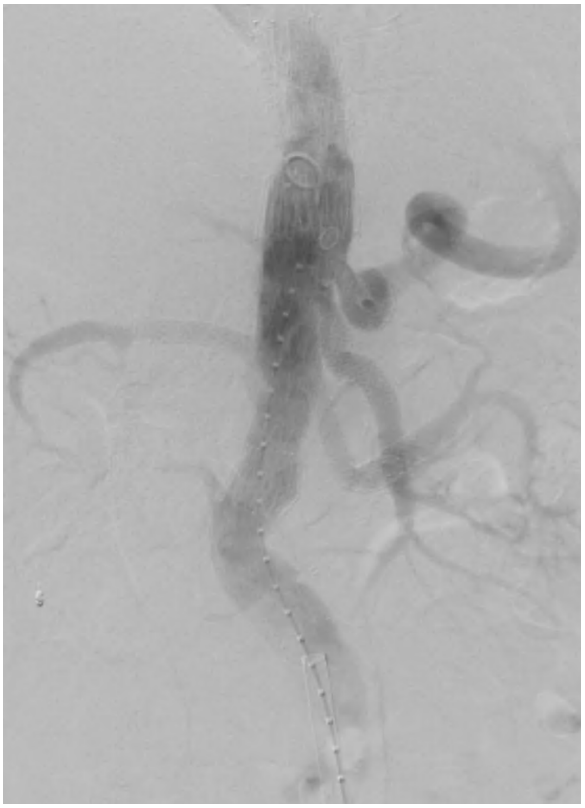












This patient will be scheduled in the near future to complete the stenting of the left hepatic artery branch and completely seal the aneurysmal segment.

10. ENDOVASCULAR REPAIR OF COARCTATION OF THE AORTA IN ADULTS: TWO CASE REPORTS

Authors: Duha H. Alfatlawi; BA, Claire Yang, MD; Anthony H. Chau, MD

Affiliations: Division of Vascular and Endovascular Surgery, Department of Surgery, University of California, Irvine, Orange, CA

Background:
Coarctation of the aorta is a congenital narrowing of the descending aorta at the ligamentum arteriosum that is typically diagnosed in childhood. When it is discovered as a previously undiagnosed finding in adults, thoracic endovascular aortic repair (TEVAR) has emerged as a less invasive therapeutic approach compared to traditional open surgical repair which carries significantly higher morbidity. However, due to the rarity of such cases, there is limited evidence for efficacy and safety in this group. This case report contributes additional clinical evidence supporting endovascular repair as a valid alternative to surgical repair in two selected adults with previously undiagnosed coarctation of the aorta.

Methods:
This report describes two adult cases where TEVAR was used to achieve significant anatomical and hemodynamic improvement in coarctation of the aorta. Both patients were initially diagnosed during hospitalization, one in a 32-year-old male with new left-sided heart failure with reduced ejection fraction (patient 1) and the other in a 61-year-old male with refractory hypertension (patient 2). They were subsequently treated with TEVAR following medical optimization. TEVAR was performed in both cases with GORE conformable aortic cuffs. Periprocedural symptoms and hemodynamic gradients were examined.

Results:
Both procedures were technically successful with no intraoperative complications. Patient 1 had a pre-intervention systolic pressure gradient of 48mmHg across the narrowing resolved completely following endograft deployment with normalization of upper and lower extremity pressures. He experienced a reduction in systolic blood pressure from readings in the 200s to 140-160s and was also able to undergoa successful Bentall procedure three days after TEVAR.

Patient 2 had an initial near-total occlusion that had a sustained luminal diameter gain to 14mm. He demonstrated normalization of upper and lower extremity blood pressures (120s and 140s), with reduction in antihypertensive medication requirements. Patient 2 also had a planned coronary artery bypass grafting that was deferred due to significant

clinical improvement following TEVAR. At follow-up (5 weeks for patient 1 and 9.5 months for patient 2), both patients demonstrated sustained clinical improvement.

Conclusions:

These cases demonstrate that TEVAR may be a safe and effective therapeutic approach for resolution of undiagnosed coarctation of the aorta in adults. Through achieving significant hemodynamic improvements, TEVAR may also facilitate staged cardiac surgery and functional clinical improvement.

11. MULTIDISCIPLINARY REPAIR OF PARAVISCERIAL AORTIC ANEURYSM WITH COMPLEX RENAL ARTERY RECONSTRUCTION

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Affiliation: 1. UCLA Division of Vascular Surgery 2. UCLA Department of Urology

Background:
Renal artery aneurysm is a rare cause of pediatric renovascular hypertension, particularly when associated with a paravisceral abdominal aortic aneurysm. Management is technically complex and often requires nephrectomy when the renal hilum is involved. We report a 13-year-old girl successfully treated with combined aortic reconstruction and orthotopic renal autotransplantation using cryopreserved arterial grafts.

Case Presentation:
A previously healthy 13-year-old female presented during routine evaluation with incidentally discovered malignant hypertension. Computed tomography angiography demonstrated a 4-cm irregular paravisceral abdominal aortic aneurysm involving the left renal artery origin, along with two additional aneurysms near the left renal hilum and associated renal hypoperfusion. Extensive rheumatologic evaluation, including ANA, anti-dsDNA, and ANCA testing, was negative.

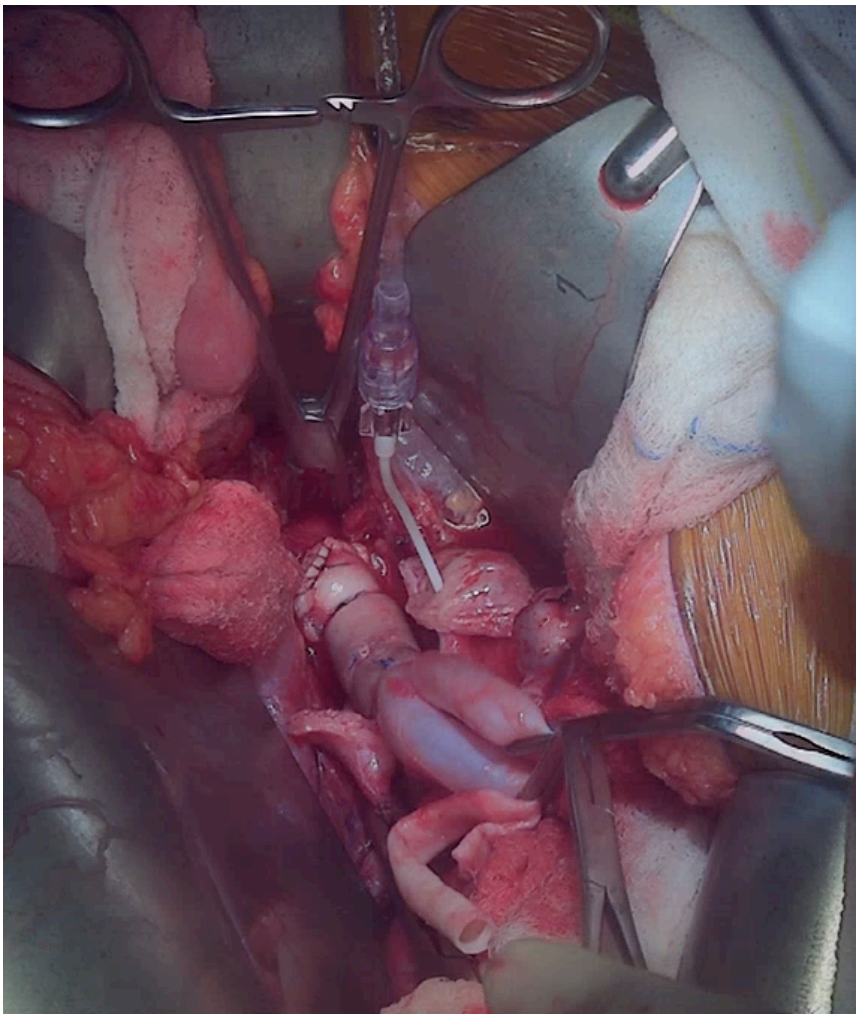
Initial surgical recommendation elsewhere included aneurysm repair with nephrectomy. The family sought a kidney-preserving approach, and the patient was transferred to our institution. After multidisciplinary discussion between vascular surgery and transplant urology teams, we proceeded with aortic reconstruction followed by ex vivo renal artery reconstruction and orthotopic autotransplantation.

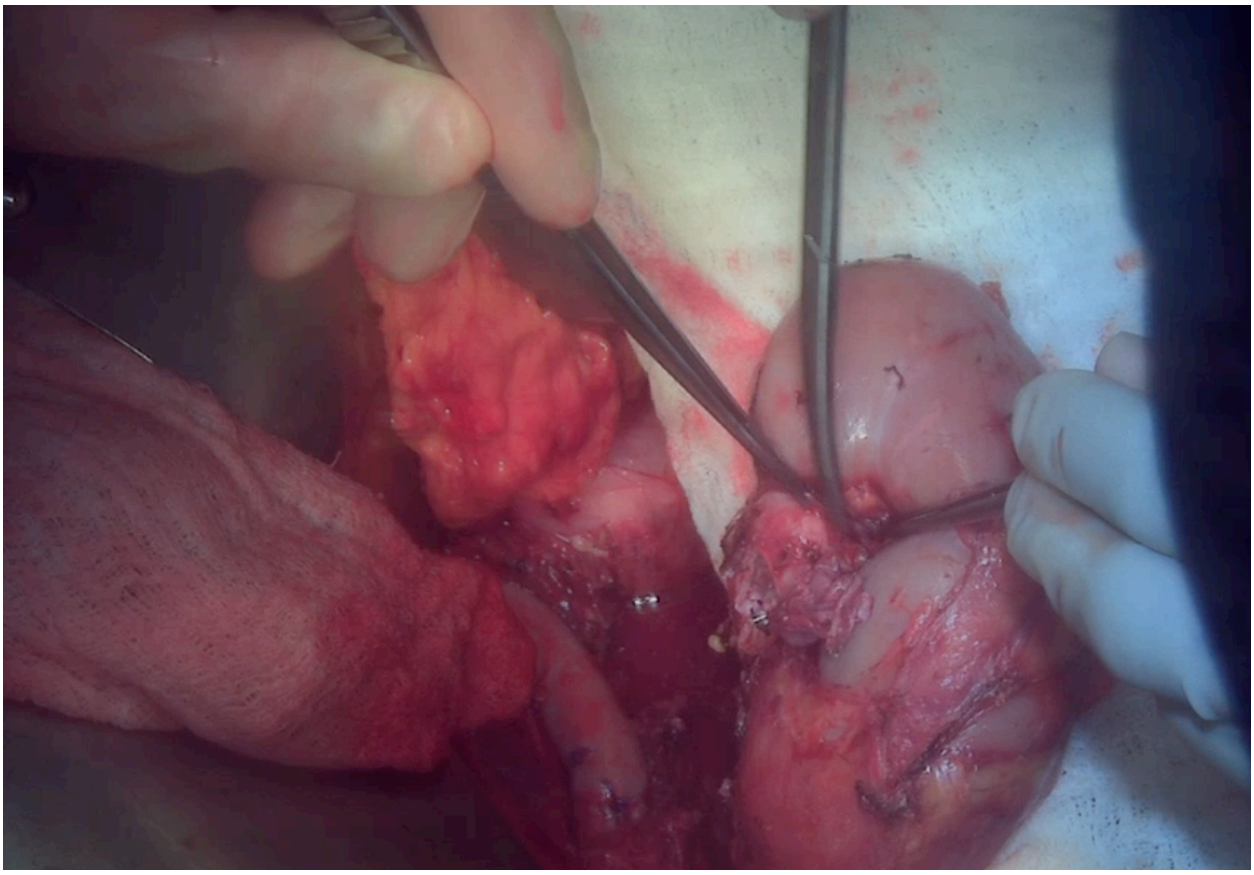
The left renal vein was divided for exposure. The diseased aortic segment was resected and replaced with an interposition cryopreserved arterial allograft using running 4-0 Prolene for proximal and distal end-to-end anastomoses. Ex vivo renal artery reconstruction was performed with dissection to the segmental branches. The tandem renal artery aneurysms were dissected to the hilum, preserving a patch incorporating the segmental arteries. This patch was reconstructed using cryopreserved arterial graft and anastomosed to the reconstructed aorta. The renal vein and its branches were reimplanted end-to-side to the inferior vena cava.

The patient tolerated the procedure well. Duplex ultrasound on postoperative day one confirmed renal artery patency. She recovered without complication, with preserved renal function and blood pressure controlled on a single antihypertensive agent.

Conclusion:

This case demonstrates the feasibility of expert-level vascular reconstruction combined with kidney-sparing management using orthotopic renal autotransplantation for complex pediatric renovascular aneurysmal disease. Successful outcomes require multidisciplinary collaboration at a tertiary care center with experienced vascular and transplant surgeons, specialized anesthesia, and dedicated pediatric ICU support.





12. OPEN REPAIR OF IATROGENIC RETROGRADE SUBCLAVIAN ARTERIAL CANNULATION WITH CLAVICULAR OSTEOTOMY FOR EXPOSURE: A CASE OF DELAYED UPPER EXTREMITY ISCHEMIA

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3. Division of Vascular and Endovascular Surgery, David Geffen School of Medicine at UCLA, Ronald Reagan Medical Center, University of California Los Angeles, Los Angeles, CA.

History:

Three weeks after catheter placement, patient presented with progressive left upper-extremity weakness, numbness, and digital-tip gangrene. The arm was cool with delayed capillary refill and monophasic Doppler signals. Chest radiograph demonstrated abnormal catheter positioning, and computed tomography confirmed cannulation of the left subclavian artery with retrograde extension into the descending thoracic aorta and occlusive thrombus in the proximal and distal subclavian artery.

Plan:

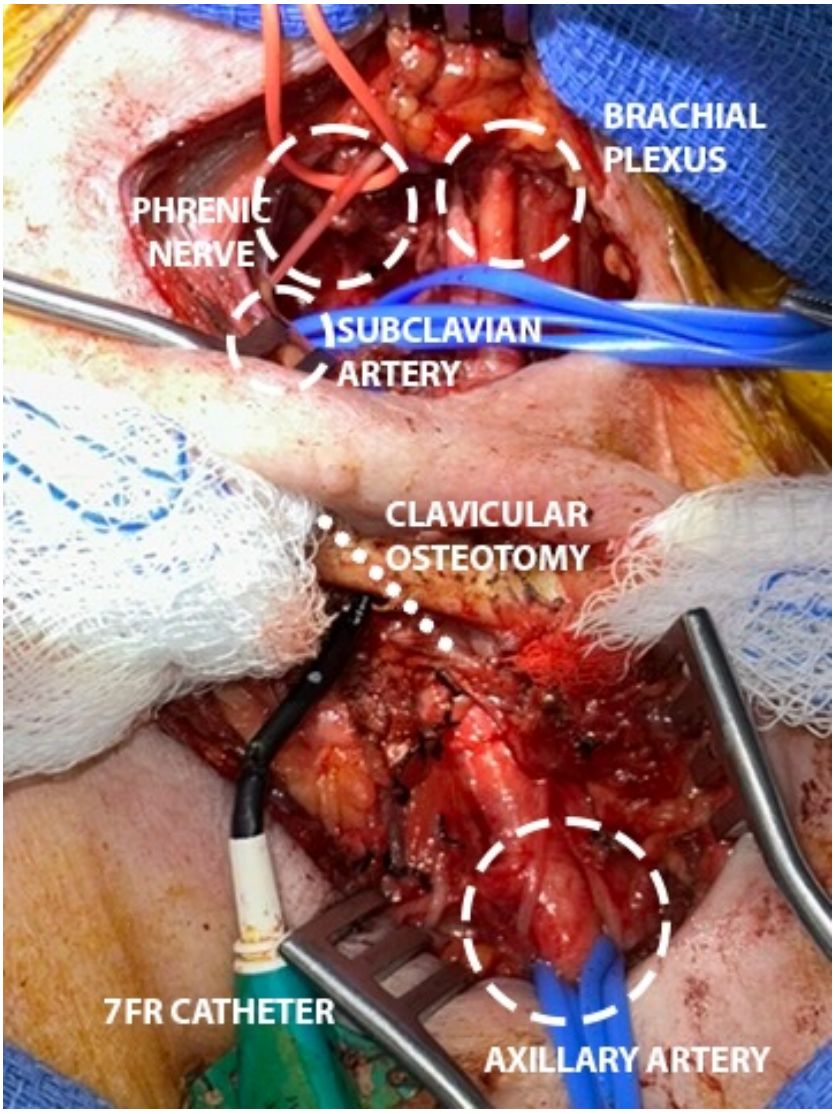
The patient was taken urgently to the operating room. Combined supraclavicular and infraclavicular incisions were performed to obtain proximal and distal control. Intraoperative findings revealed the catheter entered the subclavian artery deep to the clavicle and was inaccessible from either approach. A midshaft clavicular osteotomy was performed, distracted for exposure, and the catheter was removed under direct visualization. The artery was repaired primarily. Balloon embolectomy proximally and distally through the axillary artery yielded organized thrombus and restored flow. The osteotomy was reduced with lag screw and plate fixation. Postoperatively, the patient had improved perfusion and partial neurologic recovery, with demarcation of digital gangrene.

Discussion:

Iatrogenic arterial cannulation during central venous access occurs in 0.5–1% of cases and may cause hemorrhage, pseudoaneurysm, thromboembolism, or limb ischemia. Reported management includes manual compression, open arterial repair, or endovascular treatment with percutaneous closure or covered stents. In this patient, delayed recognition

and extensive thrombus burden made endovascular exclusion less favorable, necessitating open repair.

Exposure of the distal subclavian artery can be obscured by the clavicle. Claviculectomy has been reported but may result in nonunion, scapular dysfunction, or strength deficits. Temporary clavicular osteotomy with fixation preserves bone continuity and provides controlled exposure. This case highlights its utility as a valuable adjunct when improved visualization is required for complex subclavian arterial repair.



13. INTRAVASCULAR ULTRASOUND GUIDED ENDOVASCULAR RETRIEVAL OF A RETAINED BALLOON FRAGMENT FOLLOWING TRANSCATHETER MITRAL VALVE REPLACEMENT

Sheldon Gong, MD; Shriya Reddy, MD; Jessica Efird, MD; Andre Ksajikian, MD; Benjamin Lin, MD; Sally Schonefeld, MD; Theodore Teruya, MD

Huntington Hospital, an Affiliate of Cedars-Sinai

Introduction:
Transcatheter mitral valve replacement (TMVR) has emerged as a viable option for patients with degenerated bioprosthetic valves or severe mitral annular calcification who are poor surgical candidates. While TMVR is now well established, procedure-related complications remain uncommon but potentially serious. Device-related events such as balloon rupture or retained fragments may result in ischemia or hemodynamic compromise if not promptly identified. We report a rare case of balloon rupture during TMVR with distal embolization to the visceral aorta, successfully managed using intravascular ultrasound (IVUS)–guided endovascular retrieval.

Case Presentation:
An 81-year-old woman with a history of mitral and aortic valve replacements (2007), hypertension, COPD, and CKD stage 3, underwent elective TMVR for structural valve deterioration.

During TMVR, balloon rupture occurred with distal migration of the balloon fragment. This was identified during the procedure. Therefore, a postprocedural CTA was performed and this demonstrated a filling defect dorsal to the superior mesenteric artery (SMA), consistent with a retained foreign body. The patient remained asymptomatic without abdominal pain or evidence of limb ischemia.

The patient underwent percutaneous retrieval via bilateral common femoral artery access and left radial access on post procedure #2. Conventional aortography failed to visualize the fragment due to its radiolucent composition. IVUS was therefore utilized, allowing precise localization of the retained balloon fragment within the visceral aorta, real-time guidance of snare positioning, and confirmation of complete retrieval. The procedure was completed successfully without complication, and the patient was discharged home on postoperative day 2.

Conclusion:

Balloon rupture during transcatheter valve interventions is rare but may lead to embolization with potentially catastrophic consequences. This case highlights the limitations of angiography in detecting radiolucent foreign bodies and underscores the critical role of IVUS as an adjunctive imaging modality. Prior reports have demonstrated successful IVUS-guided retrieval of embolized balloon fragments that were otherwise invisible on fluoroscopy. Our experience corroborates these findings and demonstrates that IVUS-guided endovascular retrieval can safely obviate the need for open surgical intervention. As transcatheter mitral interventions become increasingly common, early recognition of device-related complications and prompt multidisciplinary management are essential to optimize patient outcomes.




Object Distance = 150 mm)

14. A HYBRID APPROACH TO ABERRANT RIGHT SUBCLAVIAN ARTERY (ARSA) COMPLICATED BY LEFT VERTEBRAL ARTERY OCCLUSION AND RIGHT HEMIDIAPHRAGM

Lauren Cralle, MD, Andrew Barleben, MD MPH

Background:
Aberrant right subclavian arteries (ASRA) require intervention when they become aneurysmal (Kommerell diverticulum) and cause symptoms--dysphagia lusoria, back or chest pain, arm ischemia, or dyspnea as well as the risk of rupture. Traditionally, this requires thoracotomy and aortic bypass. Recently, a hybrid approach to the pathology has been described with right carotid-subclavian bypass, embolization of ARSA, and coverage with thoracic endovascular aortic repair (TEVAR). We present a case of ARSA repair using a Gore Thoracic Branch Endoprosthesis (TBE) to the left subclavian artery, complicated by unintended coverage of the left vertebral artery and phrenic nerve injury.

Methods:
A 43-year old woman with ARSA causing dysphagia lusoria. After extensive workup with gastroenterology and her primary care provider, she was offered repair with right carotid-subclavian bypass and TEVAR. Her medical history included hypertension, asthma, obstructive sleep apnea, multiple sclerosis, prediabetes, and morbid obesity (BMI 59.6kg/m2).

Results:
The patient underwent right carotid-subclavian bypass with 8mm ringed PTFE graft via right supraclavicular incision. Then from the right femoral artery, a 34mm x 150mm Gore TBE was successfully advanced into Zone 2 of the aorta with the portal directed to the left subclavian artery. From the left femoral artery, the aberrant right subclavian artery origin was selected and a long sheath was introduced. The TEVAR was deployed and the left subclavian artery was stented with a 12mm x 6cm side branch. Despite identifying a landing zone proximal to the origin, the left vertebral artery was unintentionally covered due to poor visualization through the patient's body habitus. As the left vertebral artery appeared dominant, the decision was made to recanalize the artery. From the left radial access, a wire was used to navigate around the left subclavian stent into the left vertebral artery to place a 3mm x 15mm bare metal coronary stent. Completion angiography revealed successful recanalization of the left vertebral artery through the ""snorkel."" A

12mm Amplatz plug was deployed into the right subclavian artery proximal to the bypass and right vertebral artery.

Angiography showed patent right carotid-subclavian bypass with retrograde flow to right vertebral artery and absent flow to ARSA. Post-operatively, the patient reported dyspnea and was found to have right hemidiaphragm. She was evaluated several times for dyspnea and required supplemental oxygen but eventually returned to her baseline and is being evaluated for bariatric surgery to optimize her for diaphragm plication.

Discussion:

This case underscores the importance of patient selection as well as the need for diligent identification and preservation of key structures during both open and endovascular surgery. A hybrid approach remains a viable option for ARSA, particularly in this patient who was not a candidate for thoracotomy and open aortic surgery.

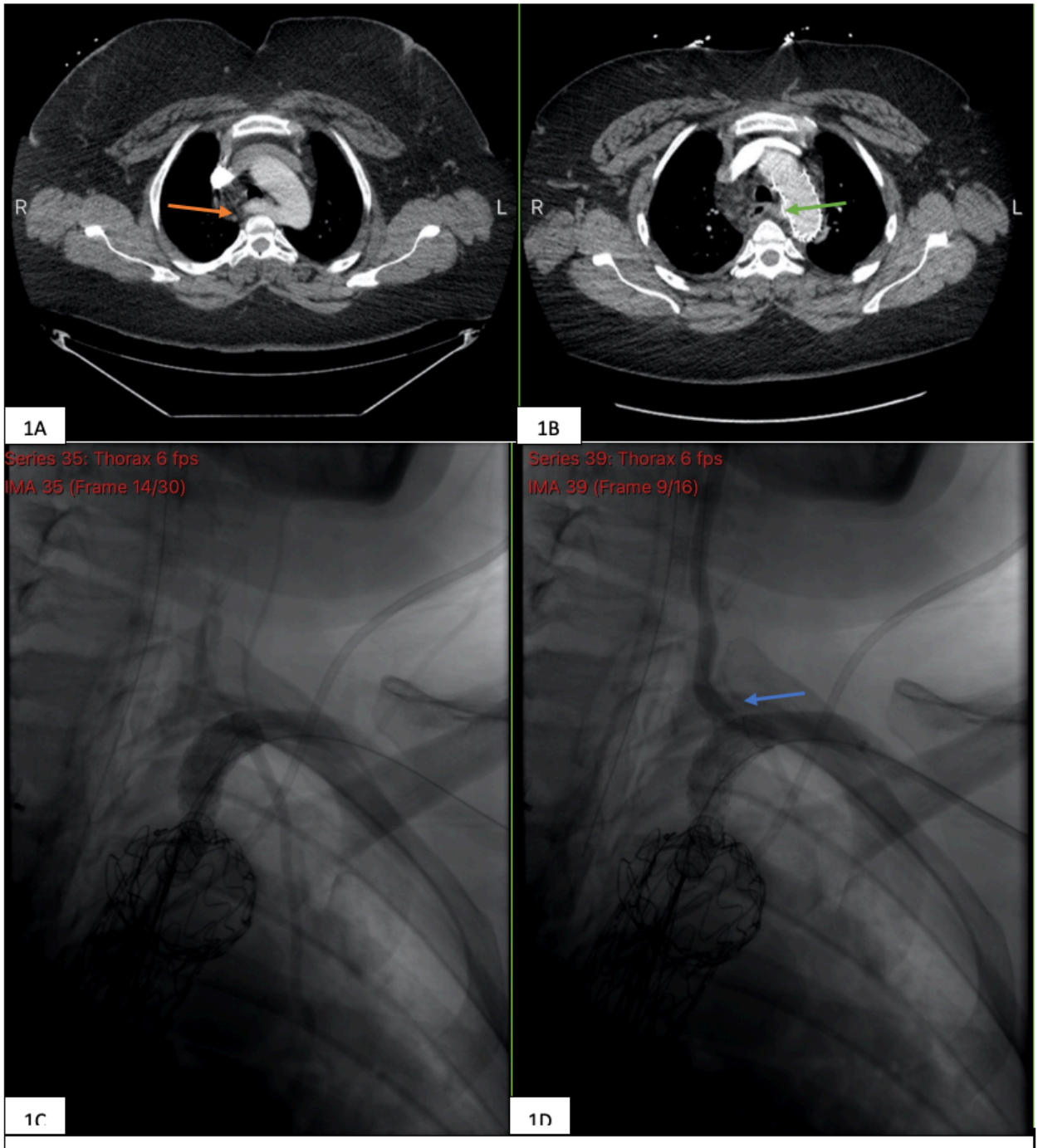


Figure 1A. Preoperative imaging showing aberrant right subclavian artery (orange arrow) with compression of esophagus. **1B.** Post-operative imaging showing resolution of compression and patent TEVAR with no contrast seen in remnant aberrant right subclavian artery (green arrow). **1C.** Angiography showing absent filling of left vertebral artery. **1D.** Completion angiography showing return of flow to left vertebral artery after recanalization (blue arrow).

15. DELAYED ILIAC STENT MIGRATION AFTER ENDOVASCULAR REPAIR OF BLUNT AORTOILIAC DISSECTION WITH BILATERAL LIMB ISCHEMIA

Gunnar Wolfe, MD (PGY-3 General Surgery RUHS)
Raquel Wolfe, MD (PGY-2 Vascular Surgery RUHS)
Ji Young Li, MD (PGY-1 General Surgery RUHS)
Michael Clenshaw, MD (Vascular Fellow LLU)
Beatriz Leong, MD (Vascular Surgery, RUHS)

Background:
Blunt infrarenal aortic injury with flow-limiting dissection is rare but can present with bilateral acute limb ischemia in polytrauma, requiring rapid aortoiliac reperfusion amid damage-control priorities. Endovascular reconstruction can restore inflow rapidly; however, trauma physiology and dynamic vessel caliber may predispose to device-related complications including delayed stent migration.

Method:
We report a 21-year-old man with severe polytrauma after a high-speed motor vehicle collision who was a transient responder to resuscitation. After CT evaluation he developed worsening hemodynamics and underwent emergent damage-control laparotomy for high-energy blunt abdominal trauma including complete sigmoid transection, grade IV splenic injury, and a zone I retroperitoneal hematoma. Vascular surgery was consulted intraoperatively based on CT evidence of blunt aortoiliac injury; bedside vascular assessment demonstrated absent Doppler signals in both lower extremities. Following damage-control laparotomy, aortography confirmed a flow-limiting infrarenal aortic dissection extending from L3 into the left common iliac artery and to the right common iliac bifurcation. Aortoiliac reconstruction was performed with balloon-expandable kissing iliac stent grafts (VBX 8×59 mm) post-dilated in the infrarenal aorta with a 10×40 mm balloon. Residual right common iliac dissection extending past the bifurcation with flow-limiting external iliac stenosis was treated with a bare-metal stent (Innova 7×40 mm). Persistent absence of infrapopliteal signals prompted bilateral popliteal exposures with thromboembolectomy and bilateral lower-extremity four-compartment fasciotomies.

Results:
Completion angiography demonstrated resolution of the flow-limiting blunt aortic injury with inline flow to the femorals. The patient returned to the operating room on POD1 for definitive intraabdominal management with bowel anastomoses and abdominal closure; fasciotomy closure was performed on POD4. On POD8, CT obtained for leukocytosis and

delayed return of bowel function incidentally revealed migration of the right external iliac stent into the right common femoral artery. He underwent right femoral cutdown and successful retrieval of the migrated stent on POD11. He was downgraded from the ICU on hospital day 15 and discharged to rehabilitation on hospital day 24.

Conclusion:
While endovascular aortoiliac repair is an effective damage-control strategy for blunt aortoiliac dissection with limb-threatening ischemia, trauma physiology can make vessel sizing unreliable. Delayed iliac stent migration may be driven by relative undersizing in the setting of shock-related vasoconstriction and subsequent expansion of vessel caliber after resuscitation. Postoperative surveillance and a low threshold for femoral exploration are warranted when migration threatens lower extremity perfusion.

16. EXTRAVASCULAR MEDIASTINAL MIGRATION OF AN IVC FILTER DURING RETRIEVAL MANAGED WITH SUPRASTERNAL OPEN EXTRACTION

Raquel Wolfe, MD (PGY-2 Vascular Surgery RUHS)
Gunnar Wolfe, MD (PGY-3 General Surgery RUHS)
Jesus Lopez, MD (PGY-1 General Surgery RUHS)
Kristyn Mannoia, MD (Vascular Surgery RUHS)
Beatriz Leong, MD (Vascular Surgery RUHS)

Background:
Retrieval of temporary inferior vena cava (IVC) filters is routinely performed, but prolonged dwell time and filter incorporation can necessitate advanced removal techniques that increase the risk of complications. Central venous injury with extravascular migration into the mediastinum is rare and may require open surgical salvage.

Method:
We report a 71-year-old woman with an IVC filter placed three months earlier for left lower extremity DVT and pulmonary embolism with inability to tolerate anticoagulation. She was subsequently diagnosed with stage IIIC cecal adenocarcinoma and requested filter retrieval before chemotherapy. Because of a right-sided port-a-cath, retrieval was attempted via ultrasound-guided left internal jugular access. Standard snare retrieval with a Cook CloverSnare sheath failed to engage the hook, suggesting incorporation. A wire-loop technique was used to capture the filter collar; the sheath was upsized to 12 Fr and the filter was withdrawn. During withdrawal, the filter migrated proximally and became lodged at the left innominate vein and could not be recaptured. Additional left brachial (8 Fr) and right internal jugular access were obtained with repeated snare and angled/reverse catheter maneuvers. Venography demonstrated mediastinal contrast extravasation with concern for an extraluminal hook. Completion venography also documented non-occlusive left internal jugular and innominate vein thrombus. The patient remained hemodynamically stable and underwent CTA.

Results:
CTA demonstrated pericardial fluid and the filter positioned in the anterior mediastinum, consistent with left innominate vein perforation and extravascular migration. She underwent hybrid endovascular–open salvage for retrieval. Right common femoral venous access was used and a 14 Fr sheath was placed to position a CODA balloon in the SVC for hemorrhage control. Venography showed an occluded left innominate vein. A 3-cm suprasternal incision with dissection along the pretracheal fascia into the superior mediastinum enabled palpation and visualization of the filter hook protruding in the

anterior mediastinum at the expected location of the left innominate vein. The filter was removed intact with long forceps without significant bleeding. Completion venography demonstrated no extravasation, and fluoroscopy confirmed no retained fragments.

Conclusion:
Advanced IVC filter retrieval can precipitate rare but high-risk complications, including proximal migration with perforation and mediastinal displacement. When extravasation or extraluminal position is suspected, prompt imaging, early multidisciplinary escalation, and readiness for endovascular hemorrhage-control adjuncts are critical. A focused suprasternal mediastinal approach can provide effective open salvage when endovascular recapture fails.

17. INTRAOPERATIVE & POST OPERATIVE LESSONS LEARNED FROM COMPLEX TYPE A (0,11) DISSECTION REPAIR VIA L CCA TO LSA TRANSPOSITION AND PHYSICIAN MODIFIED GORE TAG TBE DEVICE

Joshua Fallentine, MD – University of California San Diego, Integrated Vascular Surgery Resident
Pouria Parsa, MD, FACS – Kaiser Permanente Health, San Diego

A 73-year-old female presented with a Type A (0,11) dissection extending to the right external iliac and left common iliac arteries. After hemiarch repair, CTA demonstrated a complex residual thoracoabdominal and iliac dissection with a severely compressed true lumen. The celiac and SMA arose from both true and false lumens; the right renal arose from the true lumen and the left renal from the false lumen. She had no clinical malperfusion and proceeded with staged endovascular repair.

Methods:
A physician-modified GORE TAG TBE was prepared with a fenestration 25 mm distal to the portal for the left subclavian artery (LSA). A left common carotid–subclavian transposition was performed to maintain perfusion to the left carotid artery during proximal thoracic coverage.

Bilateral femoral access was obtained. The true lumen was cannulated and confirmed with IVUS, and a wire was advanced to the ascending aorta. A second wire was advanced into the false lumen, snared to create true-to-false through-and-through access, and a zone 3–5 septotomy was performed using Bovie electrocautery.

The modified TBE was deployed with right radial through-and-through access. Completion angiography demonstrated preserved flow to the innominate and LSA fenestration. Two Cook ZDEG stents were deployed proximal to the celiac artery to expand the true lumen. Completion imaging showed improved true lumen expansion; however, the SMA demonstrated abrupt cutoff 10 cm from its origin.

The SMA was cannulated, the Pioneer re-entry device was used to access the false lumen, and serial balloon angioplasty restored flow. Final angiography confirmed SMA reperfusion.

Results:
The patient was discharged without complication.

At 1 month, CTA neck and brain demonstrated no significant stenosis of the carotid–subclavian transposition. Subsequent CTA chest/abdomen/pelvis demonstrated a “string

sign” concerning for high-grade stenosis. Angiography with IVUS showed a widely patent anastomosis without narrowing or thrombus.

Further review determined the apparent stenosis was positional: arms were abducted during CTA chest/abdomen/pelvis and adducted during CTA neck/brain and angiography. No intervention was required.

Conclusion / Lessons Learned:
Septotomy and Stent Alignment: Stent graft deployment must correspond precisely to the level of septotomy and not extend beyond it. In this case, extension beyond the septotomy likely contributed to dynamic SMA compromise after true lumen expansion.

Branch Vessel Vigilance: True lumen expansion in complex dissection can destabilize vessels with mixed lumen origin; intraoperative readiness to restore perfusion is critical.

Positional Imaging Artifact: Apparent carotid stenosis was positional. Careful correlation of imaging modality and patient positioning is essential to avoid unnecessary re-intervention.

18. TREATMENT OF A PARA-AORTIC SMA VISCERAL ANEURYSM WITH 5-VESSEL PMEG AND LEFT ACCESSORY RENAL PRESERVATION COMPLICATED BY LEFT RENAL ARTERY OCCLUSION

Joshua Fallentine, MD – UC San Diego Integrated Vascular Surgery Resident
Pouria Parsa, MD, FACS RPVI – Kaiser Permanente San Diego

Background:
An 86-year-old female with CKD IIIa presented with abdominal pain and progressive symptoms of chronic mesenteric ischemia, including 20-pound weight loss over one year. CTA revealed a penetrating aortic ulcer with a rapidly expanding 5.6 cm para-visceral aneurysm abutting the SMA origin, causing high-grade near occlusion of the SMA.

Given her anatomy and comorbidities, she consented to compassionate-use five-vessel physician-modified fenestrated EVAR (PMEG).

Methods:
A Cook ZDEG device was modified on the back table with 6 mm fenestrations for the celiac, SMA, right renal, left renal, and left accessory renal arteries. Internal branches were created for both left renal vessels in opposite orientations: the primary left renal portal faced cranially and the accessory left renal portal faced caudally.

Left axillary artery exposure was performed for upper extremity access. Bilateral iliofemoral access was obtained. Due to severe calcific disease, Shockwave lithotripsy of the bilateral common and external iliac arteries was performed with 7, 9, and 10 mm balloons. The left femoral access was upsized to 20 Fr.

The modified graft was introduced and partially deployed to align SMA and celiac fenestrations. Using an Oscor steerable sheath from axillary access, the celiac, SMA, and bilateral renal arteries were cannulated. The left accessory renal artery was cannulated from femoral access.

Bridging stents: iCast for celiac, left renal, and accessory left renal; VBX for SMA and right renal. All were post-dilated 2–3 mm to flare into the aorta. Cone beam CT confirmed alignment without kinking. Completion angiography showed no endoleak.

An iliofemoral angiogram from axillary access identified left common femoral artery occlusion after ProGlide closure, requiring cutdown and endarterectomy.

Results:

Postoperatively, the patient developed acute kidney injury requiring temporary hemodialysis.

CTA on postoperative day 22 demonstrated a stable aneurysm without endoleak. However, thrombosis of the cranially oriented left renal branch was identified with associated renal infarction. The caudally oriented accessory left renal branch remained patent.

Renal function subsequently improved, dialysis was discontinued, and the patient resumed a full diet with weight gain.

Conclusion:

Preservation of both the primary and accessory left renal arteries increased technical complexity. Dual opposing portals may have contributed to thrombosis of the cranially oriented left renal branch due to geometric factors or competitive flow.

An alternative strategy may have included embolization of the accessory left renal artery and construction of a single left renal fenestration, potentially simplifying branch geometry and improving durability.

This case highlights the balance between maximal visceral preservation and procedural complexity in multi-vessel PMEG, particularly in elderly patients with baseline renal dysfunction.

20. COMPARISON OF COMBINED VASQ EXTERNAL SUPPORT DEVICE WITH ANASTOCLIP VS VASQ WITH CONVENTIONAL SUTURE ANASTOMOSIS ON OUTCOMES OF ARTERIOVENOUS FISTULA CREATION FOR HEMODIALYSIS

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Shriya Reddy, MD - Huntington Health General Surgery Residency
Sheldon Gong, MD - Huntington Health General Surgery Residency
Andre Ksajikian, MD - Huntington Health General Surgery Residency
Sally Schonefeld, MD - Cedars-Sinai Vascular Surgery
Theodore Teruya, MD - Cedars-Sinai Vascular Surgery

Introduction:
The AnastoClip Closure System (LeMaitre Vascular, Burlington, MA, USA) and the VasQ External Support device (Laminate Medical Technologies, Israel) are two adjuncts to arteriovenous fistula creation that have been used in an attempt to improve outcomes such as maturation rates and patency. The AnastoClips are nonpenetrating titanium clips, thought to be an alternative to suture with the theoretical advantage of causing less endothelial injury and thus less intimal hyperplasia due to its nonpenetrating and interrupted technique. The VasQ External Support device is a nitinol construct implanted around the arteriovenous anastomosis that works by physically supporting the anastomosis and controlling the geometric configuration. There have been no studies to date that investigate both devices combined. This single-institution retrospective analysis compares combined AnastoClip and VasQ to VasQ with conventional suture anastomosis.

Methods:
A review of dialysis procedures at a single institution was performed. All patients undergoing placement of arteriovenous fistulas with the VasQ device were analyzed from Dec 2024-Nov 2025. Primary outcomes included primary, primary-assisted, and secondary patency at 3 months follow-up. Secondary outcomes included anastomotic or VasQ adjacent stenoses requiring intervention. Comparisons were analyzed via Fisher's exact test.

Results:
35 patients were identified. 16 patients had suture anastomoses; 19 patients had AnastoClip anastomoses. There were 2 failures in the suture group and 3 failures in the AnastoClip group. Comparing AnastoClips to suture, the primary patency was 42% (8) vs 63% (10), p=.315; primary-assisted patency was 79% (15) vs 88% (14), p=.666; secondary patency was 84% (16) vs 88% (14), p=1. 5 patients (26%) in the AnastoClip group had

anastomotic or VasQ-adjacent stenoses requiring intervention compared to 2 in the suture group (13%), p=.41.

Conclusions:
The combined VasQ and AnastoClip group had slightly lower primary patency and higher rate of anastomotic or VasQ-adjacent stenosis requiring intervention, but these differences were not statistically significant. Primary-assisted and secondary patency were similar between the grou

21. TRANSHEPATIC INSIDE-OUT RECANALIZATION FOR SALVAGE HEMODIALYSIS ACCESS IN COMPLETE CENTRAL VENOUS AND INFERIOR VENA CAVA OCCLUSION

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Kristyn Mannoia, MD (Program Director, Vascular Surgery Residency Riverside University Health System);
Christopher Bent, MD (Vice Chair Dept. of Radiology, Interventional Radiologist [RUHS])

Introduction:
Patients with severe central venous occlusive disease (CVD) and inferior vena cava (IVC) obstruction represent the most challenging subset of dialysis access. While inside-out recanalization techniques have been described for superior vena cava (SVC) occlusion, their use via transhepatic access has not been well characterized. We present a unique case combining transhepatic access with inside-out recanalization for placement of a super Hemodialysis reliable outflow (HeRO) graft.

Case Description:
A 39-year-old male with end-stage renal disease (ESRD) and multiple failed vascular access including bilateral HeRO grafts, and lower extremity arteriovenous grafting presented with loss of dialysis access following dislodgement of his 55cm left femoral tunneled catheter, which was previously placed across his IVC occlusion into the right atrium. Imaging demonstrated chronic SVC occlusion, bilateral innominate vein obstruction, right external iliac vein occlusion, and infrahepatic IVC occlusion.

After failing multiple attempts to replace this catheter it was decided that patient would need an alternative durable access. Given absence of viable neck or femoral vein access routes, a transhepatic venous approach was attempted with assistance from interventional radiology. From this access, an inside-out recanalization technique was performed to cross the occluded SVC and left brachiocephalic vein, enabling through-and-through wire access via a left supraclavicular neck exploration. After serial dilation of the tract , we were able to reestablish central outflow for placement of the super HeRO outflow component. The left axillary artery was then used for inflow for creation of a looped super HeRO graft along the chest wall.

Discussion:

This case represents an extreme example of end-stage vascular access in a young dialysis-dependent patient. The transhepatic route provided stable central venous entry in the absence of usable femoral or jugular pathways. This hybrid strategy effectively converted a “no-option” anatomy into a reconstructible one.

As dialysis populations age and long-term catheter exposure increases, complex central venous occlusion will become more common. Surgeons must therefore be familiar with nontraditional access routes and be open to multidisciplinary approaches to access for advanced recanalization strategies to avoid permanent catheter dependence.

Conclusions:

Transhepatic inside-out recanalization represents a novel salvage strategy for patients with simultaneous SVC and IVC occlusion. This hybrid approach expands the armamentarium for managing “no-option” dialysis access patients.

22. MANAGEMENT OF PENETRATING INJURIES TO THE POPLITEAL FOSSA IN WARTIME GAZA

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Osama Shohaiber, MD, Gaza Health Ministry, Gaza Strip, Palestine
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Objectives:
To assess surgical outcomes following penetrating popliteal fossa injuries in a conflict zone, with emphasis on limb preservation and the unique challenges of operating under severe resource constraints in Gaza.

Methods:
We conducted a prospective review of all patients presenting with penetrating vascular injuries to the popliteal fossa at a tertiary hospital in Gaza during May 2024. Patient demographics, mechanisms of injury, associated trauma, operative strategies, and postoperative outcomes were analyzed.

Results:
Fifteen patients sustained penetrating vascular injuries to the popliteal fossa, most from gunshot wounds and the remainder from shrapnel. Nearly all had concomitant orthopedic trauma. Vascular repair was performed using either primary end-to-end anastomosis or autologous saphenous vein interposition bypass. Despite timely intervention, limb salvage was achieved in only 30% of cases. The predominant cause of limb loss was postoperative wound infection, exacerbated by limited access to antibiotics, sterile supplies, and comprehensive postoperative care.

Conclusions:
Vascular trauma in wartime Gaza presents extraordinary challenges. Even with appropriate surgical techniques, limb preservation is hindered by infection, malnutrition, and restricted access to essential perioperative resources. Efforts to improve infection control, optimize nutritional support, and strengthen perioperative protocols are vital to improving outcomes. These findings underscore the resilience of local surgical teams while highlighting the urgent need for global medical support and infrastructure in conflict zones.

23. AMPUTATION-FREE SURVIVAL FOLLOWING POST-MARKET LIMFLOW® DEEP VENOUS ARTERIALIZATION: THE ROLE OF AGGRESSIVE MULTIDISCIPLINARY LIMB PRESERVATION IN NO-OPTION CLTI

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Introduction:
In patients presenting with chronic limb threatening ischemia (CLTI), revascularization is often necessary to achieve wound healing. However, in about 20% of these patients, there are no options for endovascular or surgical revascularization. Deep venous arterialization (DVA) has been utilized as a surgical technique to provide a final option for wound healing and limb preservation. The PROMISE-I and PROMISE-II trials showed that the LimFlow® percutaneous DVA System was a safe and effective treatment option for this patient population with the intent to decrease the rate of above ankle amputations. Post-DVA wounds are difficult to manage and the use of a multidisciplinary team, including vascular surgery, podiatry, and wound care specialists can aid in the healing of these difficult wounds.
We conducted a prospective, single-group, multi-center observational study to evaluate the effect of post-market LimFlow® transcatheter DVA for CLTI patients with no remaining revascularization options. The study period was January 2024 to January 2026. The primary endpoint of the study was amputation-free survival defined as freedom from above ankle amputation. Secondary endpoints included number of debridements prior to amputation, wound healing, and time to amputation.

Results:
We performed DVA in 21 patients with CLTI with an average age of 69.7 ± 11.4. Transcatheter DVA was successfully performed in all 21 patients. There were no technical failures within the cohort. 2 (9.5%) patients died during the study period, 1 of whom died prior to any follow-up data could be obtained. Of the remaining 20 patients, 16 (80%) showed evidence of healing or had healed their wounds at time of data collection. 3 patients (15%) were able to heal their index wound and did not require amputation. 4 patients (20%) required above ankle amputations, 2 of which initially had undergone below ankle amputations but re-presented with severe infection requiring additional amputation, and 1 patient had severe pain and requested an elective proximal amputation. On average

patients underwent 3.6 debridements in clinic prior to amputation.

Conclusion:

These data suggest that post-DVA wound care managed in a multidisciplinary approach with aggressive outpatient debridements can lead to high rates of amputation-free survival and wound healing.

24. IMPACT OF COMORBID PSYCHIATRIC DISORDERS ON ENDOVASCULAR LOWER EXTREMITY REVASCULARIZATION OUTCOMES

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Objective:
A growing body of work across various surgical specialties has associated comorbid psychiatric disorders (CPD) with inferior post-operative outcomes. Yet the burden of CPD on outcomes of endovascular lower extremity revascularization (ELER) remains poorly characterized. This study examines the impact of CPD on clinical outcomes following ELER using a nationally representative, propensity-matched cohort.

Methods:
The TriNetX U.S. Collaborative Research Network was used to identify adult (≥18 years) patients who underwent ELER for rest pain, gangrene, or non-healing ulcers between 2016 and 2025. These patients were stratified into CPD and non-CPD groups based on psychiatric history before intervention. Primary outcomes were major amputation and major adverse limb events (MALE) at 30 days and 1-year post-ELER. Secondary outcomes included stroke, myocardial infarction, and infectious complications at both timepoints. A 1:1 propensity score matching was performed using age, race, sex, smoking history, diabetes, BMI, medications, and other comorbidities to achieve covariate balance (SMD < 0.1). Outcomes were compared using risk ratios (RR) with 95% confidence intervals (CI). Cox models were used to estimate hazard ratios (HR) and 95% CI for mortality 5 years post-intervention. Time-to-event analyses were assessed using Kaplan-Meier survival curves, with inter-cohort comparisons performed using the log-rank test. Statistical significance was set at $\alpha = 0.05$ (two-sided). All analyses were conducted within the TriNetX Analytics platform.

Results:

Between 2016 and 2025, 34,286 patients underwent ELER, of which 19,998 (58.3%) had a history of CPD before intervention. The prevalence of psychiatric disorders in ELER patients increased substantially over the study period: psychotic disorders from 1.6% to 2.6%, mood disorders from 21% to 48%, and substance abuse disorders from 32% to 66% (all nptrend p<0.01; Figure 1A). Following PSM, each group had 9,905 patients, with excellent covariate balance (SMD < 0.1). CPD patients demonstrated significantly higher rates of major amputation at 30 days (RR, 1.20; 95% CI, 1.05-1.37; p<0.01; Figure 1B) and 1 year (RR, 1.25; 95% CI, 1.16-1.35; p<0.01) post-ELER relative to non-CPD patients. Similarly at both time points, CPD was associated with increased post-operative risk of both MALE (30 day: RR, 1.16; 95% CI, 1.02-1.32; p=0.03; 1 year: RR, 1.28; 95% CI, 1.19-1.38; p<0.01), and stroke (30 day: RR, 1.31; 95% CI, 1.14-1.52; p<0.01; 1 year: RR, 1.33; 95% CI, 1.23-1.44; p<0.01). Lastly, CPD patients had a significantly higher 5-year mortality risk, with a 3.4% absolute survival difference (58.5% vs. 61.8%; HR = 1.08; 95% CI: 1.01-1.17; p=0.03; Figure 2), compared to non-CPD patients after ELER.

Conclusions:

In patients undergoing ELER, the presence of CPD was associated with an increased 5-year mortality risk and risk of major limb amputations, MALE, and stroke events at 30 days and 1 year post-intervention.

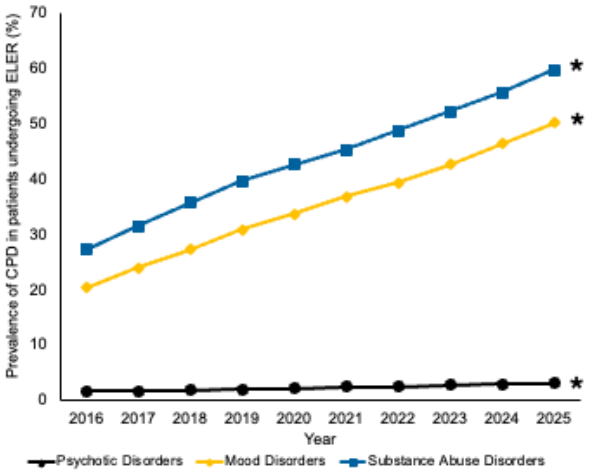


Figure 1A. Prevalence of Comorbid Psychiatric Disorders Among Patients Undergoing Endovascular Lower Extremity Revascularization (ELER) from 2016-2025. Line graphs represent temporal trends in the prevalence of psychotic (black line), mood (yellow line), and substance use (blue line) psychiatric disorders among patients undergoing endovascular lower extremity revascularization over the study period. * indicates significant temporal trend (Nptrend p<0.05).

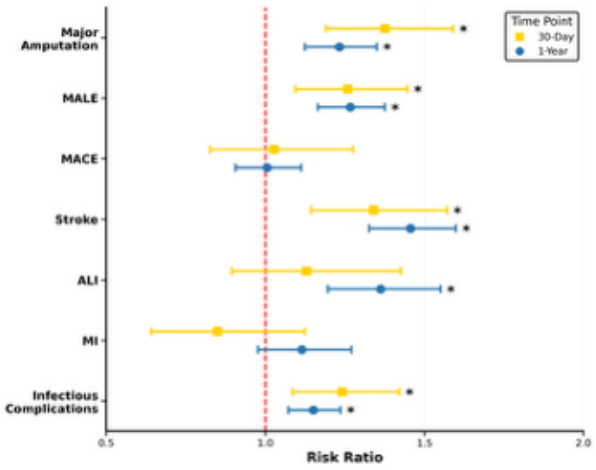


Figure 1B. Impact of CPD on Clinical Outcomes at 30 Days and 1 Year Following Endovascular Lower Extremity Revascularization. CPD; Comorbid psychiatric disorders, MALE; Major adverse limb events, MACE; major adverse cardiac events, MI; myocardial infarction, and DVT; deep vein thrombosis. * represents statistically significance (p<0.05).

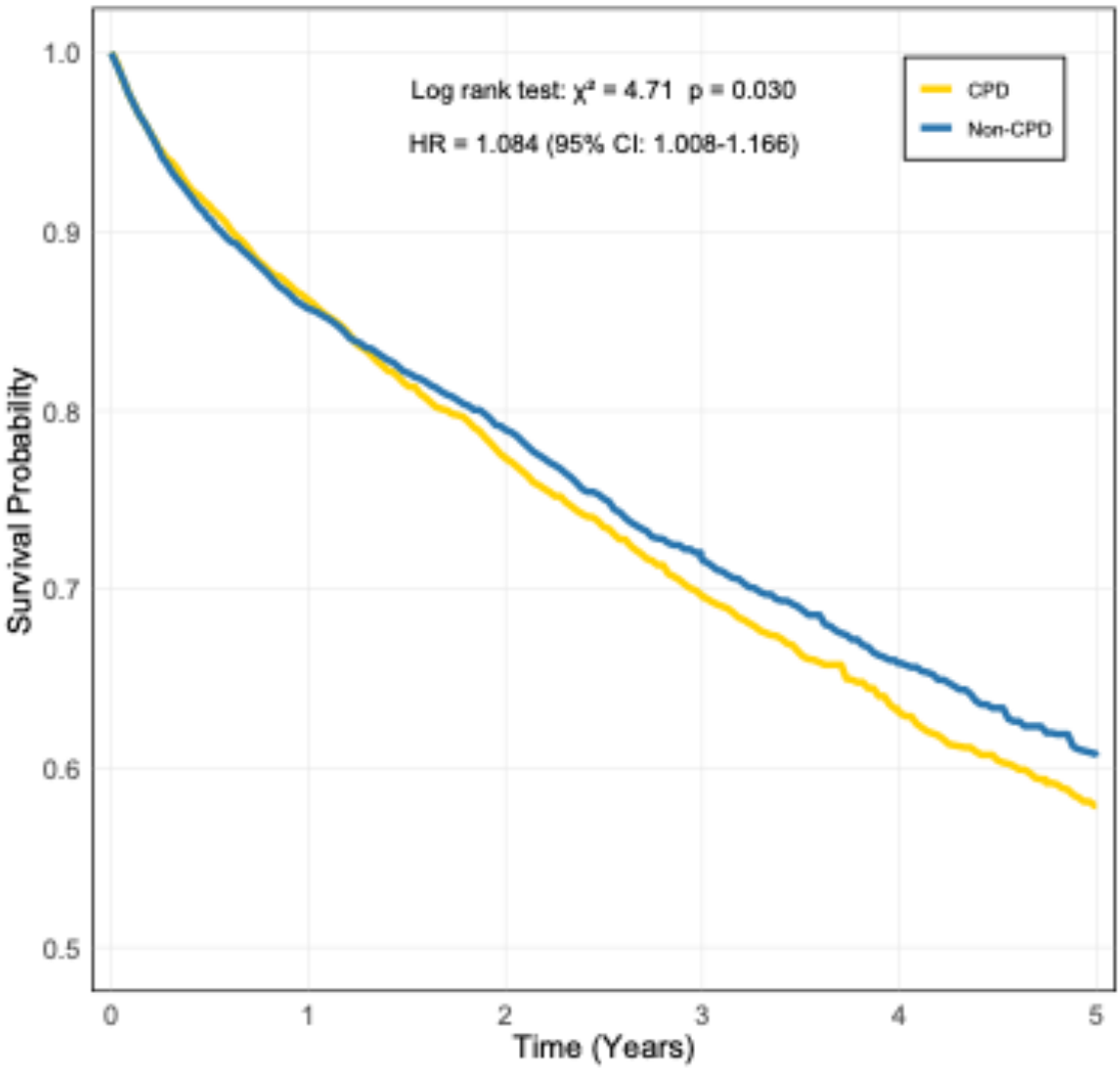


Figure 2. Kaplan-Meier survival and Cox regression analyses illustrate that CPD is associated with a significantly increased mortality risk at 5 years following endovascular lower extremity revascularization.

25. INDEPENDENT ASSOCIATION BETWEEN SAFETY-NET HOSPITAL CARE AND MAJOR AMPUTATION IN CHRONIC LIMB-THREATENING ISCHEMIA

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Background:
Chronic limb-threatening ischemia (CLTI) outcomes may be influenced by patient comorbidity, socioeconomic factors, and structural differences in care delivery. Whether treatment at safety-net hospitals independently affects limb salvage remains incompletely understood.

Methods:
We performed a retrospective cohort study of patients undergoing index revascularization for CLTI at two tertiary centers: a safety-net hospital (SNH) and a referral academic center (RAC). The primary outcome was major amputation. Secondary outcomes included minor amputation and time to revascularization. Multivariable logistic regression adjusted for ethnicity, diabetes, and chronic kidney disease (CKD).

Results:
A total of 789 patients met criteria with an average age of 65.2 years (SD 11.2) and 67.1% were male. Compared with RAC patients, those treated at SNH were younger (62.8 ± 10.7 vs 70.1 ± 10.6 years, $p<0.001$) and more frequently identified as Mexican ethnicity (57.4% vs 0%, $p<0.001$). SNH patients had higher rates of Medicaid insurance (69.8% vs 6.0%, $p<0.001$), Spanish language preference (67.9% vs 29.3%, $p<0.001$), psychiatric illness (9.1% vs 0.5%, $p<0.001$), and smoking (22.6% vs 11.6%, $p<0.001$). Patients treated at SNH had higher rates of documented primary care visits (47.9% vs 39.1%, $p= 0.028$) and lower rates of podiatry visits (19.4% vs 34.7%, $p< 0.001$) in the year preceding CLTI diagnosis. Following revascularization, major amputation occurred more frequently at SNH compared with RAC (19.5% vs 14.3%, $p=0.021$).

In multivariable analysis adjusting for ethnicity, diabetes, and CKD, treatment at the SNH remained independently associated with increased odds of major amputation (OR 2.29, 95% CI 1.20–4.42, $p=0.013$). Diabetes was also independently associated with major amputation (OR 2.05, 95% CI 1.10–4.05, $p=0.029$). Language preference, time to revascularization, and ethnicity were not independently associated with limb loss.

Conclusions:

Treatment at a safety-net hospital was independently associated with more than double the odds of major amputation following CLTI revascularization, even after adjustment for key clinical comorbidities. Differences in procedural timing did not explain this disparity. These findings suggest that center-level or structural factors beyond measured disease burden contribute to variation in limb salvage outcomes and warrant targeted system-level intervention.

Table 1: Demographic information by hospital type

	Overall (n= 789)	Safety-Net Hospital (n= 495)	Referral Academic Center (n= 294)	p-Value
Age	65.2 ± 11.2	62.8 ± 10.7	70.1 ± 10.6	<0.001
Male	67.1% (436)	68.1% (307)	64.8% (129)	0.4168
Ethnicity				<0.001
Mexican	39.8% (259)	57.4% (259)	0% (0)	
White	19.1% (124)	4.9% (22)	51.3% (102)	
African American	9.1% (59)	10.0% (45)	7.0% (14)	
Asian	2.9% (19)	2.0% (9)	5.0% (10)	
Language Preference				<0.001
English	40.3% (262)	29% (130)	66.7% (132)	
Spanish	55.8% (363)	67.9% (305)	29.3% (58)	
Insurance				<0.001
Commercial	8.8% (57)	2.0% (9)	24.1% (48)	
Medicare	17.9% (116)	10.8% (48)	34.1% (68)	
Medicaid	49.5% (322)	69.8% (310)	6% (12)	
Comorbidities				
Hypertension	84.2% (547)	81.6% (368)	89.9% (179)	0.0072
Diabetes	78.2% (508)	81.2% (366)	71.4% (142)	0.346
Chronic Kidney Disease	29.7% (193)	29.5% (133)	30.2% (60)	0.926
Coronary Artery Disease	29.7% (193)	26.6% (120)	36.7% (73)	0.0118
Chronic Obstructive Pulmonary Disease	5.7% (37)	4.4% (20)	8.5% (17)	0.0437
Psychiatric Illness	6.5% (42)	9.1% (41)	0.5% (1)	<0.001

Table 2: Demographic information by amputation type

	Major Amputation (n= 140)	Minor Amputation (n= 223)	No Amputation (n= 426)	p-Value
Age	62.8 (SD10.7)	63.5 (SD 10.8)	66.9 (SD 11.4)	<0.001
Male Gender	67.9% (95)	74.4% (166)	61.5% (262)	0.004
Ethnicity				0.008
White	17.1% (24)	19.3% (43)	25.6% (109)	
Mexican	44.3% (62)	43.9% (98)	28.9% (123)	
African American	8.6% (12)	7.6% (17)	8.9% (38)	
Language				0.002
English	26.4% (37)	32.3% (72)	38.3% (163)	
Spanish	60.0% (84)	57.8% (129)	43.4% (185)	
Comorbidities				
Hypertension	85.7% (120)	83.4% (186)	85.0% (362)	0.810
Hyperlipidemia	59.5% (72)	53.1% (111)	56.8% (208)	0.495
Diabetes	87.1% (122)	86.8% (211)	69.7% (283)	<0.001
Atrial Fibrillation	8.3% (10)	7.7% (16)	9.4% (34)	0.771
Coronary Artery Disease	30.0% (42)	27.8% (62)	30.3% (129)	0.798
Myocardial Infection	14.6% (18)	7.7% (16)	13.9% (51)	0.059
Congestive Heart Failure	18.6% (26)	16.1% (36)	18.8% (80)	0.695
Stroke	9.9% (12)	6.2% (13)	9.0% (33)	0.398
Chronic Kidney Disease	27.3% (33)	36.8% (77)	27.0% (99)	0.037
COVID	7.4% (9)	2.9% (6)	2.2% (8)	0.029
Insurance Type				0.195
Commercial	2.9% (4)	8.1% (18)	8.5% (36)	
Medicare	17.2% (24)	13.4% (30)	15.7% (66)	
Medicaid	44.3% (62)	47.1% (105)	44.8% (191)	
None/Self Pay	4.3% (6)	6.7% (15)	3.5% (15)	
Location				0.021
Referral Academic Center	14.3% (42)	25.5% (75)	60.2% (177)	
Safety Net Hospital	19.8% (98)	29.9% (148)	50.3% (249)	
Time to Revascularization	73.9 (SD 241)	69.8 (SD 300)	60.7 (SD 162)	0.011

26. MANAGEMENT OF DIGITAL GANGRENE PRESENTING AS A RARE VARIANT OF CALCIPHYLAXIS

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Frances Cole, Kaiser Permanente Bernard J. Tyson School of Medicine
Jasmine Lam, Arrowhead Regional Medical Center
Sean Hormozian, Arrowhead Regional Medical Center

Introduction and Objectives:
Calciphylaxis, also known as calcific uremic arteriolopathy, is a highly morbid disease process closely associated with end-stage renal failure. Calciphylaxis typically presents as painful violaceous and necrotic lesions at adipose tissue sites such as the lower extremities or trunk. Its vascular pathophysiology is attributed to microvascular calcification with subsequent thrombosis, leading to tissue necrosis. Management is focused on wound care, pain control, and medical management. We present a unique variation of calciphylaxis specifically observed in patients undergoing peritoneal dialysis and who present with gangrenous changes of the digits and toes. We present the findings of three such patients and our success in managing their disease.

Methods:
A retrospective review was performed for three patients at a single institution. The patients underwent peritoneal dialysis for management of their end-stage renal disease with associated development of typical calciphylaxis lesions as well as gangrene of the digits and toes.

Results:
There was a high degree of clinical suspicion for calciphylaxisprimarily due to the extensive calcific vasculopathy seen during peripheral angiograms, though only one patient had a confirmatory biopsy proving calciphylaxis. Once identified, aggressive multidisciplinary management from teams including Vascular Surgery, Medicine, Nephrology, Podiatry, Orthopedic Surgery, and Dermatology helped guide therapy. Medical treatment included transition from peritoneal dialysis to hemodialysis, administration of sodium thiosulfate, and evaluation for secondary hyperparathyroidism. Surgical treatment included peripheral angiograms, permanent access for hemodialysis, amputation of affected tissues, and subtotal parathyroidectomy if indicated. Following these treatment strategies, all three patients had excellent outcomes, with healed amputation sites, thus demonstrating the success of prompt recognition and treatment of this rare entity.

Conclusions:
We present digital calciphylaxis as a unique manifestation of patients undergoing peritoneal dialysis. Identification of this disease process is critical, as early targeted treatment allows for wound healing and successful patient outcomes.

27. PERCUTANEOUS TRANSMURAL ARTERIAL BYPASS AFTER MULTIPLE FAILED OPEN LOWER EXTREMITY BYPASSES: A NEW ERA IN LIMB SALVAGE SURGERY

Brianna-Marie Riu, Justin Rodriguez, Ashley Wang, Eric Robinson, Aldin Malkoc, Mehnaaz Mohammed, Elias Wassel, Samuel Schwartz

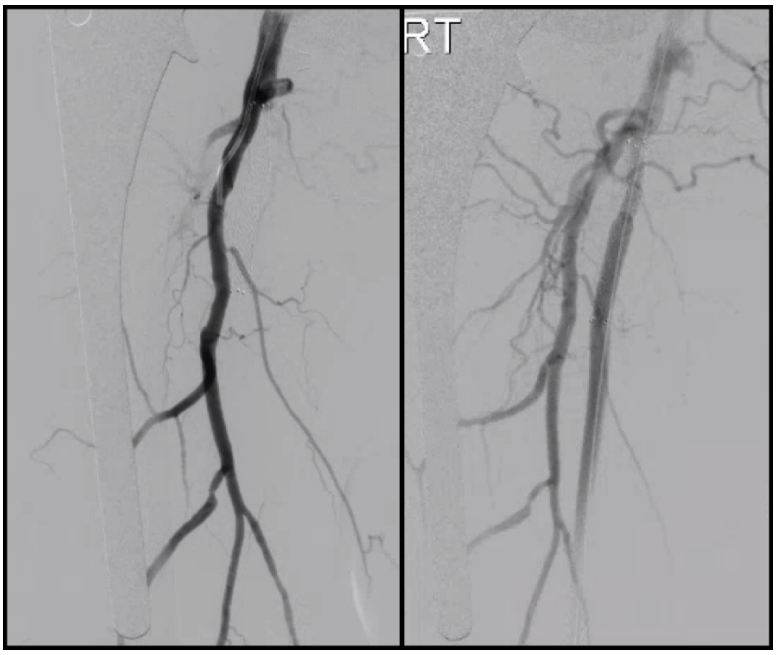
The Division of Vascular Surgery, Department of Surgery, Arrowhead Regional Medical Center, 400 N Pepper Ave, Colton, CA

Background:
A 79-year-old male with extensive right leg mixed arterial and venous wounds presented after multiple failed right lower extremity bypasses (composite vein, PTFE, and cadaveric saphenous vein) for TASC D SFA disease. He had no conduit options and was offered a major amputation.

Methods:
Percutaneous transmural arterial bypass (PTAB) was performed in the right lower extremity using the DETOUR system by Endologix. The procedure was technically difficult due to the presence of right hip and knee replacements as well as re-operative target arterial vessels. The Endocross device was unable to cross distally (popliteal vein into popliteal artery) due to extensive calcification. Tibial access was performed to create a popliteal artery to popliteal vein anastomosis; once venous access was obtained, a snare was used to establish a through-and-through wire. TORUS self-expanding covered stents were then deployed to complete the PTAB.

Results:
After six weeks, the patient's medial and lateral malleolar wounds had healed. The patient had no active complaints and was pain-free. Twelve months after the PTAB procedure, the patient has had arterial duplex surveillance with stable peak systolic velocities.

Conclusions:
Here we report on the successful use of a fully endovascular bypass in a patient who has had multiple prior failed open bypasses. When autogenous vein conduit is no longer available, PTAB should be considered for long-segment femoropopliteal occlusive disease for limb salvage.


RT



28. IMPACT OF IMPELLA IN THE SETTING OF LIMFLOW REVASCULARIZATION

Ashley Wang (ARMC), Sachin Reddi (CUSM), Aldin Malkoc (ARMC), Briana Riu (ARMC), Justin Rodriguez (ARMC), Samuel Schwartz (ARMC)

Background:
LimFlow is a percutaneous deep vein arterialization (pDVA) system shown to have overall good outcomes in the treatment of peripheral arterial disease, particularly in no-option patients with chronic limb-threatening ischemia (CTLI). The Impella device is a flow pump designed to provide temporary mechanical circulatory support by drawing blood from the Left Ventricle and expelling it into the aorta. There are currently no documented cases in the medical literature of Impella device use in patients who have undergone LimFlow pDVA procedures. We present a unique case reporting a patient who underwent both LimFlow and Impella procedure during the same admission with discussion regarding the physiological changes and efficacy in use in this clinical context.

Methods:
This case report was performed through retrospective review. IRB approval and patient consent was obtained.

Results:
A 65-year-old male with an implanted cardiac loop recorder presented to the Emergency Department with a chief complaint of a right great toe wound. The wound was refractory to initial conservative treatment with antibiotics, and examination revealed non-palpable pulses with monophasic signals. MRI showed was remarkable for osteomyelitis of the first metatarsal head. Angiogram demonstrated severe tibioperoneal trunk disease, anterior tibial (AT) and posterior tibial (PT) occlusion with single vessel runoff from the peroneal artery, as seen in image 1. Angioplasty of the PT was performed with improvement of flow through the vessel down to the foot. LimFlow was performed in PT, with palpable dorsal PTV and an excellent signal in the dorsal vein thereafter.

The patient's hospital course was complicated by acute heart failure, with an echocardiogram showing reduced ejection fraction of 15%. After a multidisciplinary discussion and care, a high risk Impella-guided left heart catheterization showing 3 vessel disease. Two drug eluting stents placed, with one in the left anterior descending artery and another in the obtuse marginal artery.

After multiple rounds of further antibiotics, patient underwent a guillotine right transmetatarsal amputation. Angioplasty was performed at the popliteal artery and TPT with extension into the LimFlow system and angiogram showed improvement with great filling of the Limflow system, as seen in image 2.

Conclusions:

LimFlow is used in patients with “no-option” CTLI. Severe arterial disease is typically contraindicated for Impella placement due to poor access, However, the successful use of Impella in our patient suggests that LimFlow can provide adequate vascular flow to reduce the risk of severe complications to an acceptable level.



29. A NOVEL USE OF SHOCKWAVE INTRAVASCULAR LITHOTRIPSY (IVL) FOR TREATMENT OF CORAL REEF AORTIC CALCIFICATIONS IN A PATIENT WITH CHRONIC LIMB THREATENING ISCHEMIA

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University of California, Irvine

Background:
A 78-year-old female with a complex medical history of hypertension, hyperlipidemia, chronic anemia, prior transient ischemic attack, prior brain hemorrhage requiring burr hole, dementia, remote 20-pack-year smoking history, and peripheral arterial disease presented to our emergency department with a 6-month history of gangrene to the left third and fifth toes. CTA of the aorta revealed a near-occlusive heavy aortic coral reef calcification of the descending aorta. Her initial ABIs were measured at 0.44 on the right and 0.52 on the left. Due to the patient's comorbidities, dementia, and advanced age, she was not considered an open operative candidate, the general treatment for coral reef calcifications of the aorta. The patient's small aorta and concerns regarding graft deployment within the small and nearly occluded aorta without appropriate vessel preparation limited conventional endovascular techniques. Shockwave IVL was chosen for vessel preparation prior to a reversed iliac limb graft deployment.

Methods:
The patient was taken to the hybrid operating room where she underwent an aortogram via a right common femoral artery access. A 10 mm x 30 mm Shockwave IVL balloon was deployed to 3 atmospheres within the descending aorta and multiple cycles of lithotripsy were performed. A 16 mm x 20 mm Gore Excluder limb was then modified on the back table. The device was detached from the delivery catheter while maintaining the device constraint. The device was then flipped and loaded into a 12 mm Gore DrySeal sheath. Using the inner dilator for the 12 Fr sheath, the sheath was then delivered into the distal aorta, and the constraining string was pulled, deploying the device within the sheath. The device was then deployed by withdrawing the sheath over the dilator. The device was then post-dilated with a 12 x 80 mm Ultraverse balloon. Using an iliac limb preserved the native aortic bifurcation for future endovascular surgery. The patient recovered well from this surgery and underwent a staged lower extremity angiogram with angioplasty of the left anterior tibial artery and left peroneal artery from a right femoral artery access and distal third toe amputation.

Results:

Post-procedure ABI's normalized to 1.0 on the right and 0.97 on the left with the patient regaining palpable pulses. At the 6-month mark, the patient's left lower extremity wounds had completely healed.

Conclusion:

This case demonstrates a successful use of IVL for treatment of severe aortic calcific disease in an elderly patient. This patient's favorable outcome highlights the benefits of an endovascular technique in patients without open surgical treatment options.

30. COMPARABLE STROKE AND SURVIVAL RATES AFTER CAROTID ENDARTERECTOMY AND CAROTID ARTERY STENTING IN SYMPTOMATIC PATIENTS WITH CHRONIC KIDNEY DISEASE

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Background:
Carotid endarterectomy (CEA) and carotid artery stenting (CAS) are commonly utilized revascularization strategies for carotid artery stenosis; however, comparative real-world data evaluating their effectiveness and long-term outcomes in patients with chronic kidney disease (CKD) are limited. CKD is prevalent among patients with atherosclerotic disease and is associated with increased cardio- and cerebrovascular risk, raising concerns about perioperative morbidity and mortality. This study aims to compare perioperative and long-term outcomes of CEA and CAS in symptomatic patients with CKD using the TriNetX Network, a multi-institutional electronic health record platform providing continuously updated, aggregated real-world data from healthcare organizations worldwide.

Method:
Using the TriNetX US Collaborative Network, adult patients with symptomatic carotid artery disease and CKD who underwent CEA or CAS between January 2005 and January 2025 were identified. An unmatched cohort analysis and a 1:1 propensity score match (PSM) that balanced demographics, comorbidities, and relevant medications were performed. Primary outcomes included stroke, mortality, and the composite outcome of stroke or death at 30 days, 1 year, 3 years, and 5 years.

Results:
A total of 13,013 symptomatic patients were included in the analysis, comprising 7,787 undergoing CEA (826 with CKD) and 5,226 undergoing CAS (636 with CKD). In the unmatched CKD cohort, CEA was associated with significantly lower mortality at 30 days (1.5% vs. 3.2%, $p=0.028$), 1 year (7.6% vs. 13.2%, $p<0.001$), 3 years (16.5% vs. 22.3%, $p=0.005$), and 5 years (20.9% vs. 27.5%, $p=0.003$) compared to CAS (Table I). While stroke rates were comparable between groups, the composite outcome of stroke and death was significantly lower for CEA starting at 1 year (33.5% vs. 40.1%, $p=0.010$) through 5 years (45.9% vs. 51.6%, $p=0.031$).

PSM yielded 594 matched patients with balanced baseline characteristics (Table II). CEA demonstrated lower 1-year mortality compared to CAS (8.4% vs. 12.8%, p=0.014). Stroke rates and composite outcomes showed no significant differences between procedures at all time points. When comparing CKD versus non-CKD patients within each revascularization strategy after matching, the presence of CKD was not associated with increased stroke or mortality at any evaluated time point (p>0.05).

Conclusion:

In a large, real-world analysis of symptomatic patients with CKD, CEA is associated with improved early survival compared to CAS, particularly driven by lower 1-year mortality. After propensity score-matching, long-term stroke and composite stroke and death outcomes were comparable between procedures. When comorbidities are balanced, CKD alone does not independently worsen stroke or mortality outcomes following either CEA or CAS.

Table I. Initial unmatched comparison of carotid endarterectomy (CEA) and carotid artery stenting (CAS) outcomes in symptomatic patients with chronic kidney disease

	CEA (n=826)	**CAS (n=636)**	**P-value**
Stroke			
30 days	169 (20.5%)	138 (21.7%)	0.565
1 year	239 (28.9%)	199 (31.3%)	0.330
3 years	258 (31.2%)	212 (33.3%)	0.394
5 years	269 (32.5%)	214 (33.6%)	0.663
Death			
30 days	12 (1.5%)	20 (3.2%)	0.028
1 year	63 (7.6%)	84 (13.2%)	<0.001
3 years	136 (16.5%)	142 (22.3%)	0.005
5 years	173 (20.9%)	175 (27.5%)	0.003
Stroke/Death			
30 days	178 (21.6%)	148 (23.3%)	0.433
1 year	277 (33.5%)	255 (40.1%)	0.010
3 years	349 (42.3%)	305 (48.0%)	0.030
5 years	379 (45.9%)	328 (51.6%)	0.031

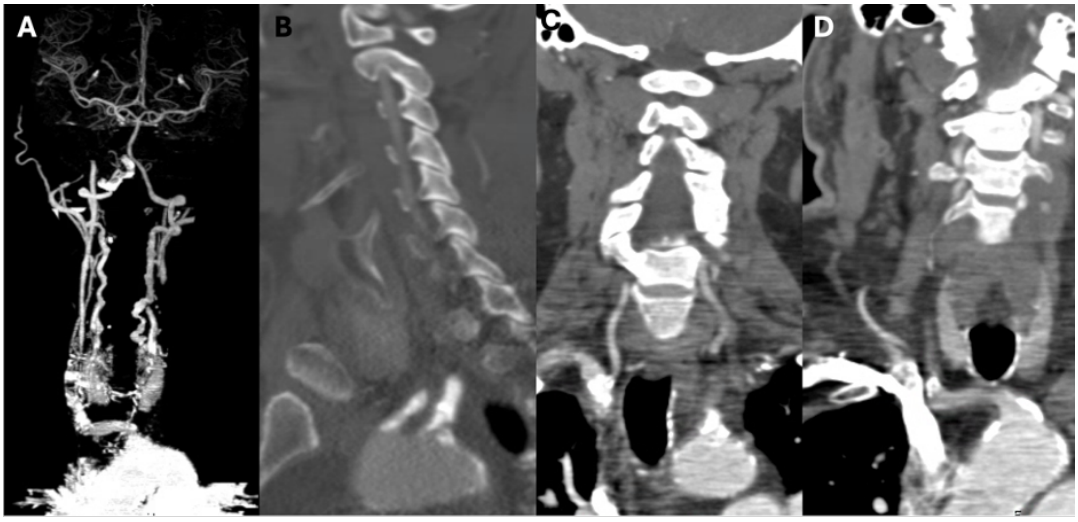
Table II. Propensity score-matched comparison of carotid endarterectomy (CEA) and carotid artery stenting (CAS) outcomes in symptomatic patients with chronic kidney disease

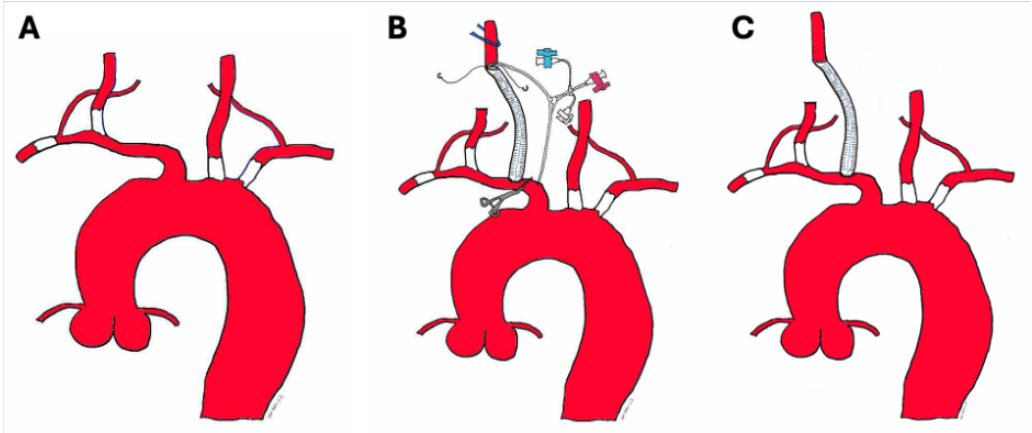
	CEA (n=594)	CAS (n=594)	P-value
Stroke			
30 days	125 (21.0%)	132 (22.2%)	0.622
1 year	176 (29.6%)	188 (31.7%)	0.450
3 years	191 (32.2%)	201 (33.8%)	0.537
5 years	201 (33.8%)	203 (34.2%)	0.903
Death			
30 days	11 (1.9%)	17 (2.9%)	0.251
1 year	50 (8.4%)	76 (12.8%)	0.014
3 years	110 (18.5%)	128 (21.5%)	0.192
5 years	138 (23.2%)	161 (27.1%)	0.124
Stroke/Death			
30 days	133 (22.4%)	139 (23.4%)	0.679
1 year	205 (34.5%)	234 (39.9%)	0.055
3 years	262 (44.1%)	284 (47.8%)	0.200
5 years	285 (48.0%)	307 (51.7%)	0.202

31. TRANSTHORACIC INNOMINATE-TO-RIGHT COMMON CAROTID ARTERY BYPASS WITH SHUNT PLACEMENT TO TREAT SUPRA-AORTIC TRUNK STENO-OCCULSIVE DISEASE CAUSING CEREBRAL HYPOPERFUSION

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This report details a unique technique to maintain cerebral perfusion in a patient with extensive supra-aortic trunk (SAT) occlusive disease. A 50-year-old male presented with symptomatic cerebral hypoperfusion due to occlusion of the proximal right common carotid artery (CCA), left CCA, and left subclavian artery (SCA). Endovascular recanalization of his occluded right CCA and L CCA was attempted via antegrade and retrograde approaches but proved unsuccessful. Given his sole dependence on right vertebral artery for antegrade cerebral perfusion, the patient underwent successful innominate-to-right CCA bypass with shunt placement. Postoperatively, he experienced complete resolution of symptoms.





32. TREATMENT OF EARLY SEVERE RESTENOSIS AFTER CAROTID ENDARTERECTOMY WITH DRUG-COATED BALLOON ANGIOPLASTY PRIOR TO TCAR

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Background:
Rates of restenosis after a carotid endarterectomy (CEA) have been reported between 6 to 36%. Early restenosis after CEA is thought to result from neointimal hyperplasia. Standard surgical management options include redo CEA, transfemoral carotid stenting, or transcarotid artery revascularization (TCAR). Drug-coated balloons (DCBs) impregnated with anti-proliferative agents such as paclitaxel have been effective in combating neointimal hyperplasia. We present a case combining DCB angioplasty with TCAR to treat early restenosis after CEA.

Methods (Case):
The patient is a 73-year-old female with a past medical history of chronic obstructive pulmonary disease, heart failure and bilateral carotid artery disease. She underwent right CEA with patch angioplasty for asymptomatic severe internal carotid artery stenosis. On routine 6-month ultrasound surveillance, severe right internal carotid artery stenosis was found. A CTA of the neck was subsequently performed, demonstrating stenosis involving a 2 cm segment of the proximal right internal carotid artery with narrowing greater than 80% (Figure 1). Recurrent disease was thought to be secondary to intimal hyperplasia, as no calcified plaque was seen at the previous endarterectomy site. Revascularization was indicated for the right internal carotid artery. The patient was scheduled for TCAR to avoid the reoperative field. Given the quick onset of intimal hyperplasia formation seen in this patient, DCB was planned to predilate the lesion.

Results (Technique):
Angioplasty of the lesion was performed using a 5 mm x 40 mm INPACT Medtronic DCB to nominal pressure for two 1-minute inflations. Following angioplasty, a Silk Road 8 mm x 40 mm stent was deployed. We post-dilated with a 6 x 40 mm balloon. After 2 minutes of flow reversal, the post-stenting angiogram revealed successful stenting of the right carotid lesion without any evidence of residual stenosis (Figure 2).

The patient was discharged on aspirin, Plavix, and a statin. At the two-week follow-up visit, she denied any TIA or stroke-like symptoms. A carotid duplex was performed at 1 and 3 months, demonstrating stent patency with the most recent study showing flow velocity between 86-90cm/s through the treated ICA.

Conclusion:

This case demonstrates the successful management of carotid artery restenosis with DCB and TCAR. When intimal hyperplasia is suspected to be the cause of ICA restenosis, this combination represents a potent strategy for managing this biological challenge.



Figure 1: Pre-operative CTA neck demonstrating severe right internal carotid artery stenosis.



Figure 2: Intra-operative angiogram status-post DCB and TCAR treatment.

33. STAGED SUBCLAVIAN–CAROTID TRANSPOSITION FOLLOWED BY ROBOTIC RESECTION OF AN ABERRANT RIGHT SUBCLAVIAN ARTERY FOR DYSPHAGIA LUSORIA: A CASE REPORT

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Beatriz Leong, MD (RUHS Vascular Surgery)
Raquel Wolfe, MD (RUHS PGY-2 Vascular Surgery)
Afshin Molkara MD (RUHS Vascular Surgery)

Background:
Aberrant right subclavian artery (ARSA) is the most common congenital aortic arch anomaly and is usually asymptomatic. When symptomatic, retroesophageal compression can cause dysphagia lusoria. Operative management is uncommon and treatment increasingly incorporates minimally invasive and hybrid strategies.

Method:
We report a 47-year-old woman with two years of dysphagia to solids and liquids and intermittent hoarseness. CT demonstrated retroesophageal ARSA with focal esophageal compression at T3. She underwent staged management: (1) supraclavicular right subclavian–carotid transposition with division of the ARSA, followed by (2) delayed robotic resection of the residual aortic-origin ARSA stump after persistent dysphagia and confirmatory endoscopic/angiographic evaluation. The second stage included prophylactic endoaortic balloon positioning, intraesophageal lighted bougie guidance, robotic circumferential dissection, and division at the aortic origin, followed by completion angiography and intraoperative EGD.

Results:
Stage 1 restored right upper extremity perfusion without neurologic deficit, but dysphagia persisted. Stage 2 robotic stump resection was completed without vascular or esophageal injury; completion angiography showed no extravasation and EGD confirmed resolution of luminal narrowing. The postoperative course was uncomplicated, and the patient was discharged on postoperative day three. Dysphagia resolved completely at follow-up.

Conclusion:
In symptomatic nonaneurysmal ARSA cervical revascularization alone may be insufficient when a retroesophageal stump persists. Staged robotic resection of the aortic-origin remnant with meticulous periesophageal mobilization can be performed safely and provides definitive symptom relief.

34. TRANSCAROTID ARTERY REVASCULARIZATION (TCAR) WITH INTRAOPERATIVE INTRAVASCULAR ULTRASOUND FOR MANAGEMENT OF ASYMPTOMATIC CAROTID WEB

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Anthony Chau MD, University of California, Irvine

Introduction:
Carotid web is an uncommon diagnosis that is increasingly recognized as a cause of cryptogenic stroke. Many studies have highlighted the high recurrence rates of stroke in symptomatic carotid web favoring intervention in these cases, but there is no high-quality evidence regarding the management of asymptomatic carotid web. Additionally, diagnosis of carotid web may not be straightforward. There is variability in diagnostic sensitivity and specificity of carotid web by duplex ultrasonography, which is often operator-dependent, and by cross-sectional imaging with computed tomography (CT). Intravascular ultrasound (IVUS) has been proposed as an adjunct in cases of unclear diagnosis, but its utility is not well studied.

Case description:
The patient is a 65-year-old asymptomatic female who had previous imaging demonstrating left internal carotid artery (ICA) non-calcific plaque causing 50% stenosis. She underwent duplex carotid ultrasound (US) in June 2025 with elevated velocities in the proximal ICA to 341 cm/s suggestive of greater than 70% stenosis. Subsequent CT angiogram head and neck demonstrated moderate 50-69% stenosis of the proximal left ICA with a possible web. Given the suspicion for a carotid web, management options including medical management, carotid endarterectomy, TCAR, and transfemoral were discussed. With shared decision-making, the patient ultimately elected to pursue carotid artery stenting via TCAR approach. During the operation, arteriogram and IVUS confirmed a carotid web and the patient underwent successful TCAR with no postoperative complications.

Conclusion:
In patients with unclear diagnosis of carotid web, carotid arteriogram and IVUS can be useful adjuncts in confirmation of diagnosis. Additionally, TCAR is a safe and feasible management option for asymptomatic carotid web.

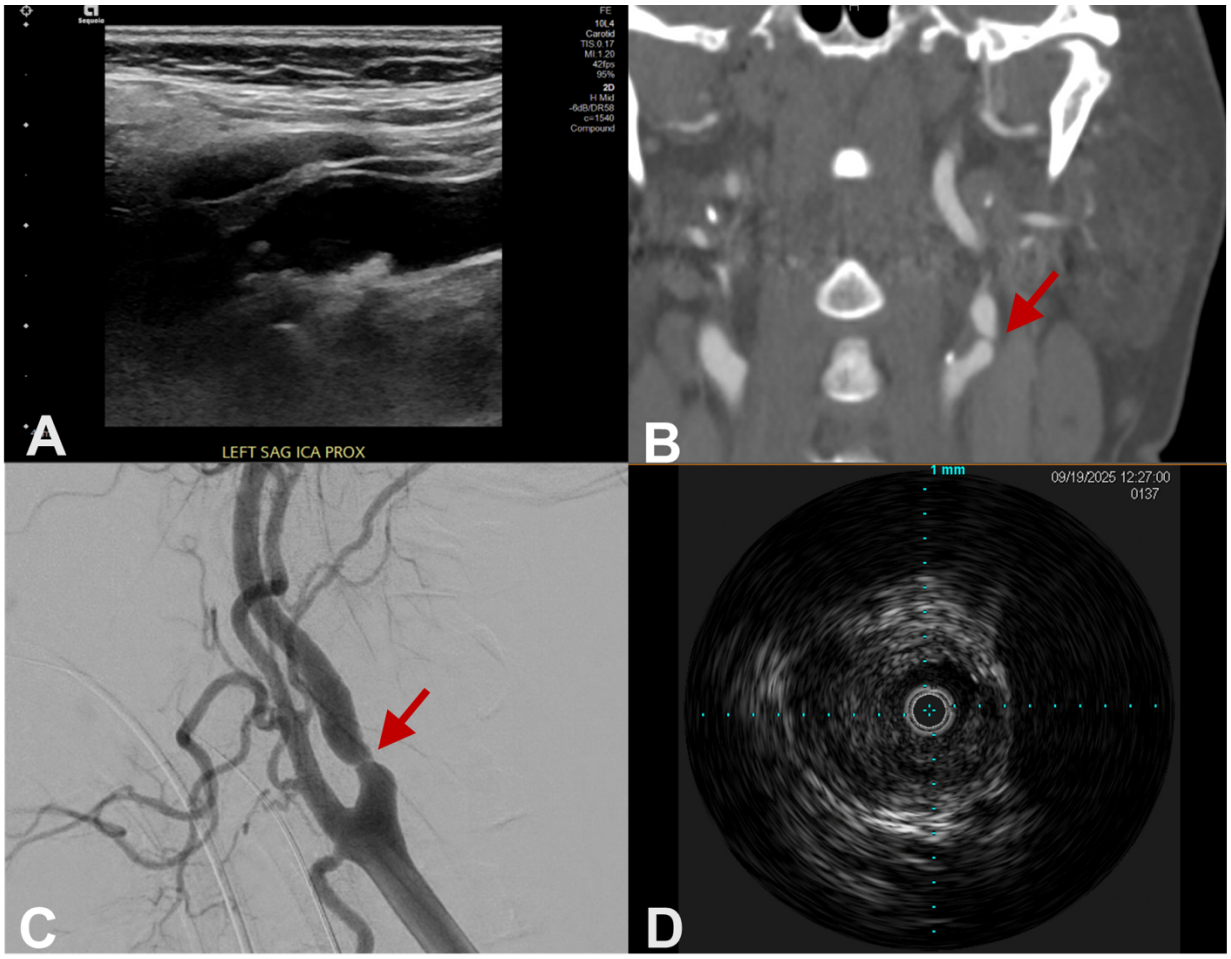


Figure 1. Different imaging modalities' visualization of carotid web. Duplex ultrasonography in B-mode (A) with no clear visualization of web. Computed tomography angiogram (B) with possible carotid web. Carotid arteriogram (C) with similar findings as computed tomography. Intravascular ultrasound (D) with hyperechoic focus at suspected carotid web.

35. TWO SUCCESSFUL OUTCOMES AFTER STAGED APPROACH FOR EXCISION AND REPAIR OF INFECTED ILIAC ARTERY/GRAFTS VIA EXTRA-ANATOMIC BYPASS WITH AUTOLOGOUS GREAT SAPHENOUS VEIN

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Annie Lo, MD, UCSD Health
Ann Gaffey, MD, UCSD Health

Background:
Infected iliac artery/bypass grafts are relatively infrequent (incidence 0.5-6%) but associated with high morbidity and mortality. We present two cases of infected iliac bypass grafts treated with staged extra-anatomic bypass with autologous great saphenous vein with graft exclusion and subsequent graft excision.

Case:
Patient A is a 50-year-old woman, Jehovah's witness, with a past medical history of diverticulitis and subsequent exploratory laparotomy in Mexico complicated by left common iliac artery injury resulting in left common iliac to left common femoral bypass graft. She presented to our hospital for diverticulitis complicated by a colovesical fistula. She underwent a washout and diverting ileostomy with gross spillage of stool onto the iliofemoral bypass graft.

Patient A first underwent iliofemoral graft exclusion with a 12mm Amplatzer plug with right to left femoral-femoral bypass using a great saphenous vein graft with ligation of the left distal external iliac artery. Subsequently, three months after the index operation, she underwent left iliac artery graft explanation with concurrent partial colon resection. She recovered appropriately and was discharged on a prolonged course of intravenous (IV) antibiotics (4-6 weeks).

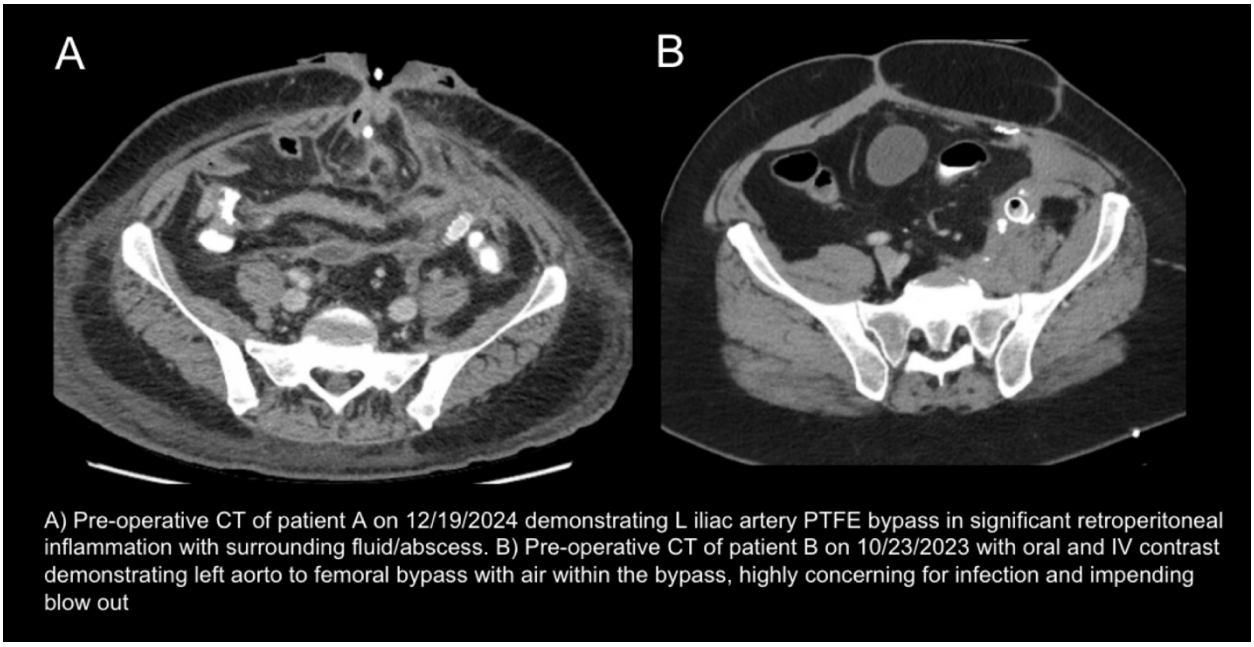
Patient B is a 38-year-old man with a past medical history of desmoid tumor resection requiring left common iliac to external iliac artery reconstruction with cryovein. The cryovein reconstruction was complicated by infection, and he subsequently required resection of the left common to left external iliac bypass, creation of left aorta-external iliac artery bypass with Rifampin soaked Dacron graft. Two years later, the patient presented with an infection of the left aorta-femoral artery bypass.

Patient B underwent a left common-to-external iliac graft exclusion with 16 mm and 18 mm Amplatzer plugs and a right-to-left femoral-femoral bypass with great saphenous vein

graft with ligation of the left distal external iliac artery. He was discharged on IV ertapenem and will need definitive surgical excision of his left aorta to external iliac bypass graft once he recovers from the first stage operation.

Discussion:

Infected iliac artery/bypass grafts are associated with high morbidity and mortality. The infection often violates the retroperitoneum, thus making the surgical excision and repair of the iliac artery challenging. We describe and present two cases utilizing a staged approach for iliac artery occlusion with implantation of non-covered endotrash (Amplatzer plug) with the use of autologous great saphenous vein graft for an extra-anatomic femoral to femoral bypass. The distal external iliac artery must be ligated at the first stage operation to prevent retrograde flow.



A) Pre-operative CT of patient A on 12/19/2024 demonstrating L iliac artery PTFE bypass in significant retroperitoneal inflammation with surrounding fluid/abscess. B) Pre-operative CT of patient B on 10/23/2023 with oral and IV contrast demonstrating left aorto to femoral bypass with air within the bypass, highly concerning for infection and impending blow out

36. CHRONIC COXIELLA BURNETTI INFECTION RESULTING IN A RUPTURED ABDOMINAL AORTIC ANEURYSM AND BILATERAL PSOAS MUSCLE ABSCESSES

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Background:
Mycotic abdominal aortic aneurysms (MAAAs) are rare and are associated with high rates of rupture and mortality. Chronic Coxiella burnetii infection (Q fever) is an exceptionally uncommon cause of vascular infection and presents significant diagnostic challenges due to its indolent course and frequent culture negativity. We report a rare case of ruptured infrarenal mycotic abdominal aortic aneurysm associated with chronic Q fever, complicated by bilateral psoas muscle abscesses and vertebral osteomyelitis.

Methods:
A 60-year-old immunocompromised male with systemic lupus erythematous and end-stage renal disease presented with three months of progressive back and abdominal pain. Computed tomography demonstrated a ruptured infrarenal abdominal aortic aneurysm with retroperitoneal hemorrhage. Emergent endovascular aneurysm repair (EVAR) was performed with successful exclusion of the aneurysm. Figure 1 shows the rupture and EVAR placement. Postoperative imaging revealed bilateral psoas masses with osseous invasion of the L3–L4 vertebral bodies.

Results:
Chronic Q fever associated mycotic aneurysms are exceedingly rare and frequently underdiagnosed due to minimal systemic inflammation and negative cultures. Extensive diagnostic evaluation was performed including blood cultures, tissue biopsies, molecular testing, and transesophageal echocardiography and was repeatedly negative. Given persistent culture negativity and indolent progression, serologic testing was pursued and revealed markedly elevated Coxiella burnetii phase I and II IgG titers consistent with chronic Q fever. Long-term doxycycline and hydroxychloroquine therapy was initiated, with consideration for delayed graft explantation and aortic reconstruction.This case highlights the diagnostic pitfalls posed by atypical presentations, including contiguous paraspinal and psoas involvement. Serologic testing remains the diagnostic cornerstone, as molecular assays often lack sensitivity in chronic infection. From a vascular standpoint, EVAR can serve as a lifesaving bridge for rupture but does not eradicate infection,

necessitating prolonged antimicrobial therapy and subsequent graft explantation.

Conclusion:

Chronic Coxiella burnetii infection should be considered in culture-negative mycotic aneurysms, particularly in immunocompromised patients. Early serologic testing, multidisciplinary management, and combined medical surgical strategies are essential to optimize outcomes in this high-risk population.

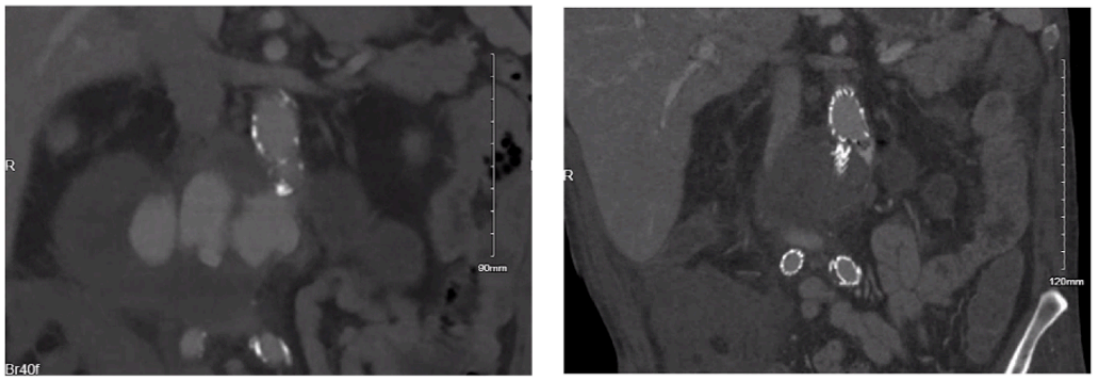


Figure 1: Contrast-enhanced coronal CT imaging showing ruptured infrarenal abdominal aortic aneurysm with retroperitoneal hematoma (left) and post-procedural endovascular aortic aneurysm repair demonstrating successful aneurysm exclusion (right).

37. CMV-ASSOCIATED ILIOENTERIC FISTULA AFTER PANCREAS TRANSPLANTATION: A CASE REPORT

Marvin Lu, MD, Mohyee Ayouty, MD, Dina Obed, MD, Cassra Arbabi, MD, Ali Azizz adeh, MD, Donna Bahroloomi, MD, NavYash Gupta, MD

Cedars-Sinai Medical Center

Background:
Ilioenteric fistulae are exceedingly uncommon and particularly rare after pancreas transplantation, where iliac inflow reconstructions lie adjacent to enteric drainage. When they occur, they are most often attributed to bacterial infection, anastomotic degeneration, or pseudoaneurysm. In immunosuppressed recipients, however, opportunistic pathogens must also be considered. Cytomegalovirus (CMV) has tropism for endothelium and can cause ulcerative gastrointestinal disease and vasculopathy with transmural inflammation and necrosis. Progression to a large-caliber arterial–enteric fistula is extraordinarily rare, and reports implicating CMV as the primary driver are exceptionally limited. We describe an exceedingly rare case of ilioenteric fistula managed definitively by open resection and reconstruction, with tissue pathology supporting CMV-mediated injury as the unique cause.

Case Presentation:
A 45-year-old male with history of type 1 diabetes complicatedby end-stage renal disease, prior simultaneous pancreas-kidney transplant complicated by failure with graft pancreatectomy, and two subsequent kidney transplants presented with hematochezia. The patient experienced similar symptoms one week prior and underwent upper endoscopy, colonoscopy, capsule endoscopy, and double balloon endoscopy, all of which were unrevealing. Computed tomography (CT) angiography revealed a right common iliac artery (CIA) pseudoaneurysm with fistulization to the jejunum. The patient progressed to hemorrhagic shock and underwent emergent angiography and right CIA stenting as a temporizing measure. Vascular surgery was consulted at this point, and in conjunction with transplant surgery, the patient underwent an exploratory laparotomy with resection of arterio-enteric fistula involving the jejunum, small bowel resection with primary anastomosis, segmental resection of the right common iliac artery, and reconstruction with an 8-mm rifampin-soaked Dacron interposition graft. Postoperatively, the patient developed an ileus but otherwise had an uneventful recovery. Post-procedure, the fistula tract demonstrated CMV inclusions for which Valganciclovir was initiated in addition to a prolonged course of broad-spectrum antibiotics. One month follow up CT scan revealed a

patent iliac artery interposition graft with no evidence of infection or abscess.

Conclusion:
Ilioenteric fistula after pancreas transplantation is rare and typically bacterial in origin. CMV positive pathology in this case supports an exceedingly uncommon viral etiology. Definitive management required open resection with vascular reconstruction in a contaminated field and antiviral therapy. CMV should be considered in transplant recipients with sentinel gastrointestinal bleeding near prior iliac inflow reconstructions.

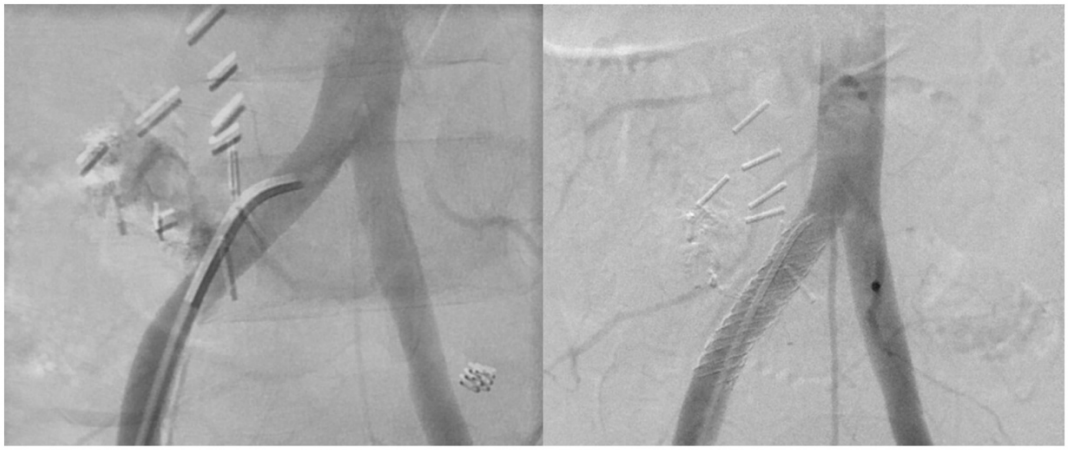


Figure 1. Right common iliac artery pseudoaneurysm with fistulization to bowel before and after stenting with 8mm x 39mm GORE VIABAHN VBX Balloon Expandable stent graft

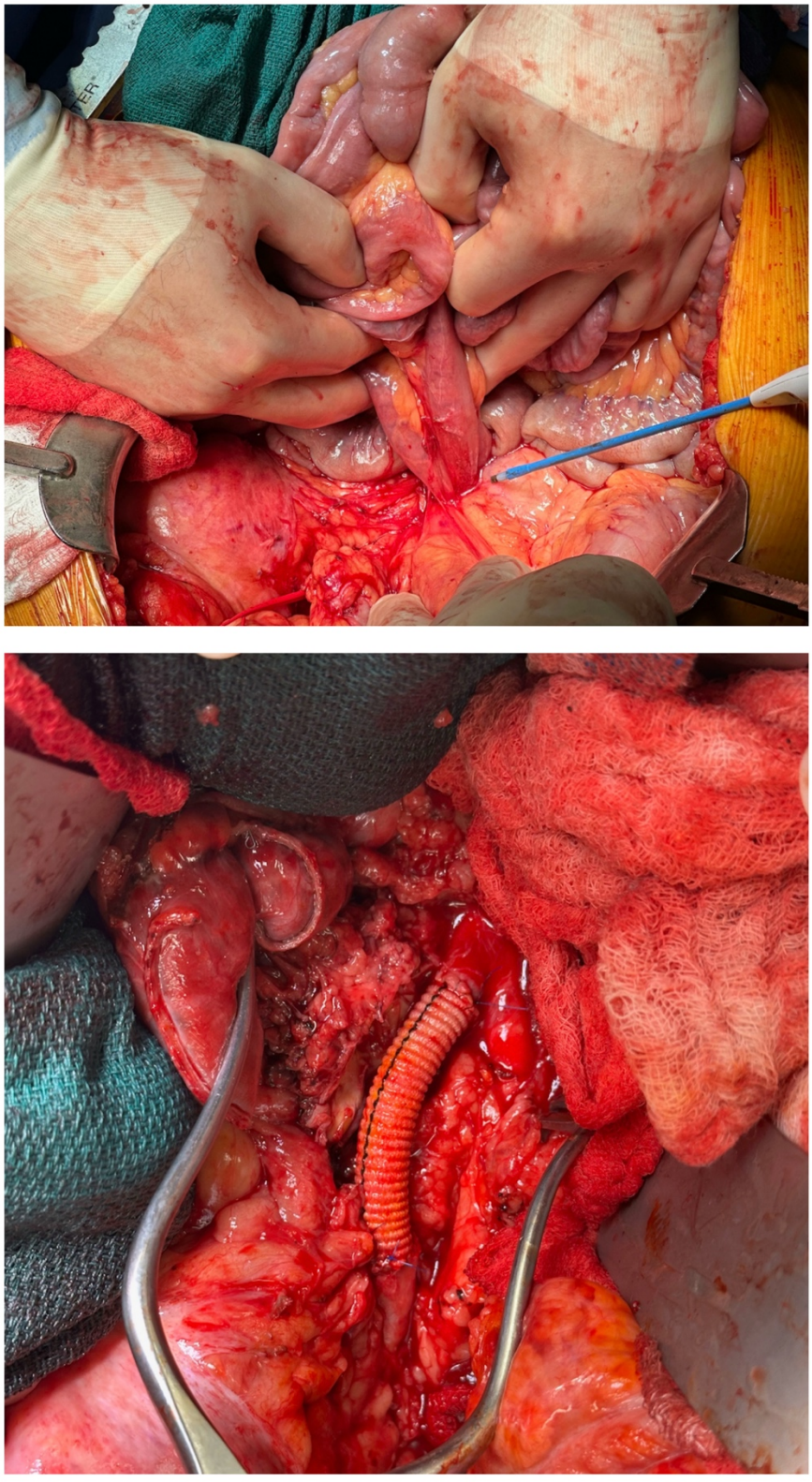


Figure 2. Right common iliac artery-jejunal fistula and after repair with 8 mm rifampin-soaked Dacron interposition graft

38. COMPLETE RESOLUTION OF STAGE III BILATERAL CHRONIC LYMPHEDEMA FOLLOWING REDO LEFT HIP HEMIARTHROPLASTY: A CASE REPORT

Samuel Simister, Mennatalla Hegazi, Taylor Orton, Isabella J. Kuo, Samuel L. Chen, Anthony H. Chau, Roy M. Fujitani, Nii-Kabu Kabutey

Introduction and Objectives:
An 81-year-old man with multiple comorbidities and development of bilateral lower extremity swelling in 2003. He first presented to vascular clinic in 2013 for worsening swelling and management of his now stage III chronic lymphedema. Duplex ultrasonography of the bilateral lower extremities demonstrated reflux only in the left greater saphenous vein, without evidence of DVT. Conservative treatment modalities included leg elevation, pneumatic compression pumps, and compression garments, as he refused venous ablation. The patient remained refractory to medical management, with multiple hospitalizations for recurrent ulceration and cellulitis. In May of 2020 the patient sustained a mechanical ground level fall (GLF) fracturing his left hip and underwent left hip hemiarthroplasty. The patient recovered from the surgery well and continued to suWer from bilateral stage III chronic lymphedema (Fig1A).

Methods:
In December of 2023 the patient had another mechanical GLF and sustained a periprosthetic left femur fracture. The patient underwent open reduction and internal fixation of the fracture, with intraoperative periprosthetic fluid cultures sent for analysis. Gram stain showed 4+ red blood cells, few WBCs, and no organisms. The patient was discharged home. Post-operative day 11 the intraoperative cultures grew cutibacterium acnes.

Results:
He was started on long term cephalexin 500 mg BID for treatment of the positive cultures. He returned to vascular clinic January 2024, where he was found to have complete resolution of his bilateral lower extremity lymphedema (Fig1B). Three month follow up demonstrated no evidence of recurrence.

Conclusions:
This case highlights the potential role of prosthetic infection in the management of refractory lymphedema and underscores the importance of considering alternative etiologies in patients with persistent lower extremity swelling.


A
B

39. ARTIFICIAL INTELLIGENCE CAN STREAMLINE SURGICAL DOCUMENTATION AND EASE CLERICAL BURDEN

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Background:
Artificial Intelligence (AI) is a burgeoning field that is rapidly transforming industry and daily life, with increasingly broad applications across many fields. In surgery, generative AI is used to summarize, organize, and transcribe clinical conversations for more efficient documentation. This study aimed to determine if an AI tool could help surgeons save time and reduce administrative burden.

Methods:
Beginning April 2024, an AI clinical documentation tool was made available to physicians of Southern California Kaiser Permanente using Abridge, a leading company in generative ambient AI technology. In June 2024, surveys were sent to Abridge users to gather data on their early experience. Questions examined ease of integration into practice, extent of usage, administrative impact, and emotional effects.

Results:
75 respondents from surgical services returned surveys. Abridge setup was found to be very easy with an average score of 9.2 out of 10. Integration into practice and ease of use were also highly rated at 8.1 and 8.8, respectively. Surgeons used Abridge for 46% of patient encounters, and was felt most useful for new consultations or patients with multiple issues. 65% of surgeons reported a reduction in documentation time, and 39% saved time outside of clinic hours. Time focused on the patient during an encounter improved from 62% to 82%. 55% of surgeons reported a decrease in administrative burden, and 64% felt it would reduce future feelings of burnout. Surgeons were predominantly enthusiastic about Abridge (7.2/10) and very likely to recommend the technology to their colleagues (7.8/10).

Conclusion:
Generative ambient AI is an emerging technology that can assist with surgical clinic documentation. This so-called AI scribe was reported to save time, shift visit focus to the patient, and reduce clerical burden, potentially reducing surgeon burnout.

40. GLUCAGON-LIKE PEPTIDE-1 RECEPTOR AGONISTS (GLP1) ARE ASSOCIATED WITH FEWER VENOUS THROMBOEMBOLIC EVENTS AND LIMB COMPLICATIONS IN PATIENTS WITH CHRONIC VENOUS INSUFFICIENCY

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4. Keck School of Medicine of the University of Southern California, Los Angeles, CA.

Objective:
Despite the well-documented impact of GLP1 use on the management of obesity and diabetes, two major risk factors for chronic venous insufficiency (CVI), the relationship between GLP1 use and venous disease outcomes remains unexplored. This study aims to assess the association between GLP1 use and the risk of deep vein thrombosis (DVT), pulmonary embolism (PE), venous leg ulcers, soft-tissue infections, and all-cause mortality in patients with CVI at 1 year and 3 years following diagnosis.

Methods:
We conducted a retrospective multicenter cohort study using the TriNetX US Collaborative Network to identify adult patients (≥40 years) with a CVI diagnosis between 2016 and 2025. Among these patients, those started on GLP1 therapy were matched 1:1 to a non-GLP1 cohort using propensity score matching (PSM) accounting for age, race, sex, smoking history, diabetes, BMI, medications, and other comorbidities. Patients with a history of DVT and PE prior to a diagnosis of CVI were excluded from the study. The primary outcome was DVT risk at 1-year and 3-year following a diagnosis of CVI. Secondary outcomes included the risk of PE, venous ulcers, soft-tissue infections, and all-cause mortality at both time points. Cox models were used to estimate hazard ratios (HR) and 95% confidence intervals (CI) for our outcomes. Time-to-event analyses were assessed using Kaplan-Meier survival curves, with intercohort comparisons performed using the log-rank test. Statistical significance was set at a two-sided α of 0.05. All analyses were conducted within the TriNetX Analytics platform.

Results:

Of 227,653 CVI patients, 10,997 (4.8%) were treated with GLP1. Compared to the non-GLP1 group, patients in the GLP1 group were younger (60.9 ± 10.5 years vs. 65.0 ± 12.1 years, p<0.001), had higher rates of peripheral vascular disease (14.7% vs. 8.0%, p<0.001), and had a higher proportion of patients with BMI ≥40 kg/m^2 (49.4% vs. 14.0%, p<0.001). After matching, each cohort consisted of 10,997 patients. Following PSM, GLP1 therapy was associated with a decreased risk of DVT (HR, 0.63; 95% CI, 0.47-0.84; p=0.002), PE (HR, 0.56; 95% CI, 0.36-0.87; p=0.009), venous ulcers (HR, 0.32; 95% CI, 0.22-0.48; p<0.001), and soft-tissue infections (HR, 0.59; 95% CI, 0.50-0.70; p<0.001) at 1 year in CVI patients. The association between GLP1 therapy and reduced risk of DVT, venous ulcers, and soft-tissue infections was sustained at the 3-year follow-up (Figure 1). At both 1- and 3-years follow-up, the GLP1 group demonstrated a 4% (99.0% vs. 94.6%, p<0.001; Figure 2A) and 8% (95.0% vs. 87.0%, p<0.001; Figure 2B) absolute survival benefit, respectively, compared to their non-GLP1 counterparts.

Conclusion:

In patients with CVI, GLP1 therapy was associated with reduced risk of venous thromboembolic events, venous ulcers, and soft-tissue infections, as well as improved long-term survival.

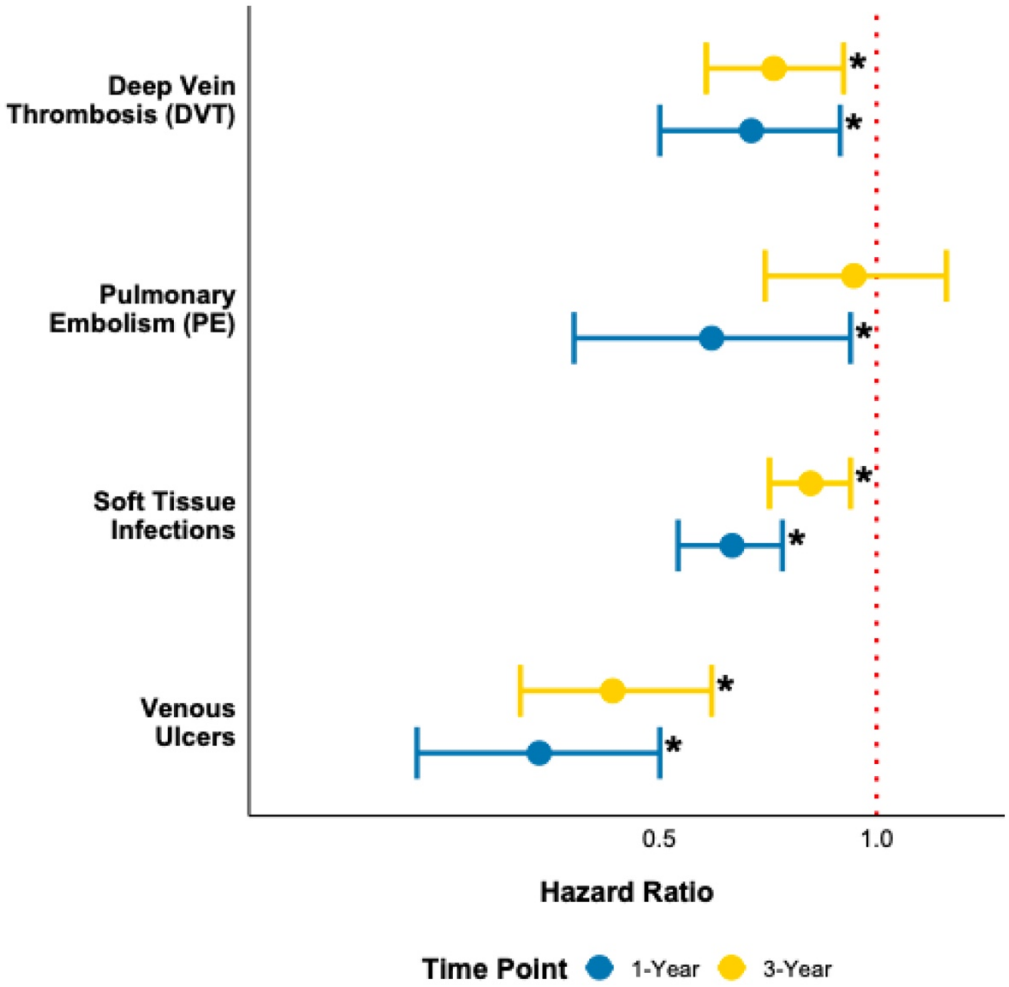


Figure 1. Cox regression analysis shows that glucagon-like peptide-1 receptor agonists (GLP1) are associated with a significant reduction in the risk of DVT, PE, venous ulcers, and soft tissue infections at 1 year and 5 years after a chronic venous insufficiency (CVI) diagnosis. * indicates statistical significance (p<0.05).

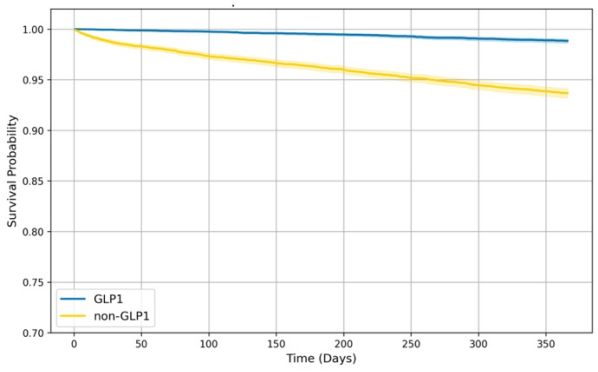


Figure 2A. 1-year survival following chronic venous insufficiency diagnosis (HR: 0.22; 95% CI, 0.18-0.27; Log-rank test: $\chi^2 = 235.6$, $p < 0.001$).

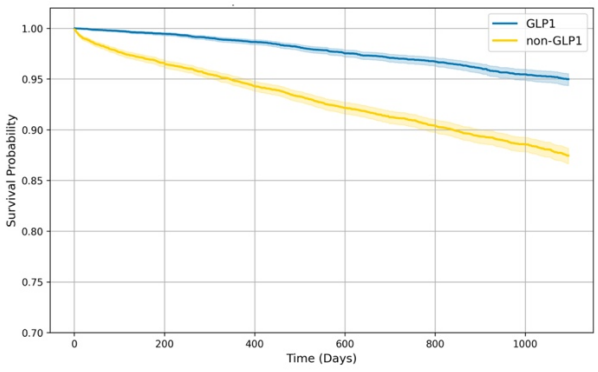


Figure 2B. 3-year survival following chronic venous insufficiency diagnosis (HR: 0.34; 95% CI: 0.30-0.38; Log-rank test: $\chi^2 = 310.8$, $p < 0.001$).

41. The Intersection of Hypermobile Ehlers-Danlos Syndrome and Thoracic Outlet Syndrome

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Lara Sak, BS - UCLA
Jesus Ulloa, MD - UCLA
Hugh Gelabert, MD - UCLA

Introduction

Hypermobile Ehlers-Danlos Syndrome (hEDS) is a rare disorder resulting in joint hypermobility. Thoracic Outlet Syndrome (TOS) is an uncommon compressive disorder affecting neurovascular structures of the upper limb. The observed coincidence of these syndromes may affect prognosis of interventions for TOS. Our goal is to characterize the presentation, evaluation, and surgical outcomes in patients with hEDS and TOS.

Methods

A retrospective review of clinical encounters from January 2024 to January 2026 was conducted identifying patients with both hEDS and TOS. Medical records were reviewed for demographics, co-morbid conditions, medications, allergies, clinical presentation, clinical testing, and surgical outcomes.

Results

Approximately 1400 encounters occurred for TOS during the study period. Of these 28 subjects with hEDS were identified. Two with venous TOS (VTOS) and 26 with neurogenic TOS (NTOS). Average age at presentation was 35.5 (12 - 64) years. Patients were mainly women, 22 (78%). Etiology included spontaneous onset 12 (42.9%), 8 repetitive motion injury (28.6%), 5 accident (17.9%), and 3 sports (10.7%).

The average number of problems listed was 15.8 (range 0- 36), medical diagnosis 11.5 (range 0-43), medications 12.4 (range 0-41), allergies 3.46 (range 0-25), and surgeries 6.75 (range 0-35). Patients underwent on average 4.6 (range 1-18) upper extremity orthopedic procedures. Incidence of orthopedic upper extremity surgery, POTS, MCAS, rheumatologic problems and anxiety/depression are displayed in Figure 1.

Sixteen patients underwent TOS surgical decompression. VTOS required 2 operations. Of 14 NTOS patients, all (14) underwent first rib resection (FRR), 2 required bilateral FRR, 3 required scalene resections, and 12 pectoralis minor tenotomies.

Outcomes were rated as resolved (18.75%), improved (62.5%), unchanged (6.25%) worsened (6.25%), or venous restenosis (6.25%). The combined endpoint of resolved/improved accounted for 81.25%. Standardized metrics (Quick DASH score) are presented in Figure 2.

Conclusion:

Patients with hEDS and TOS have a high incidence of significant comorbidities which may affect presentation of upper extremity symptoms, and adversely affect the outcome of surgery for TOS. Despite the presence of multiple comorbidities, surgical intervention for TOS shows statistically significant improvement in outcomes based on standardized metrics.

FIGURE 1

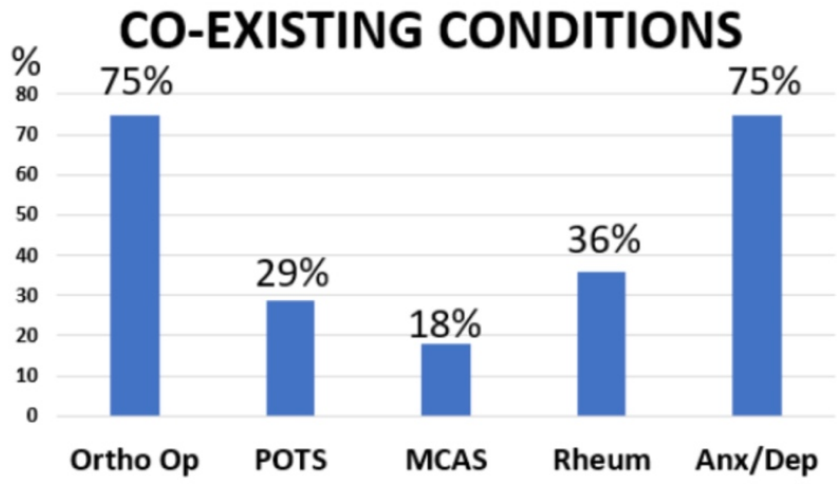
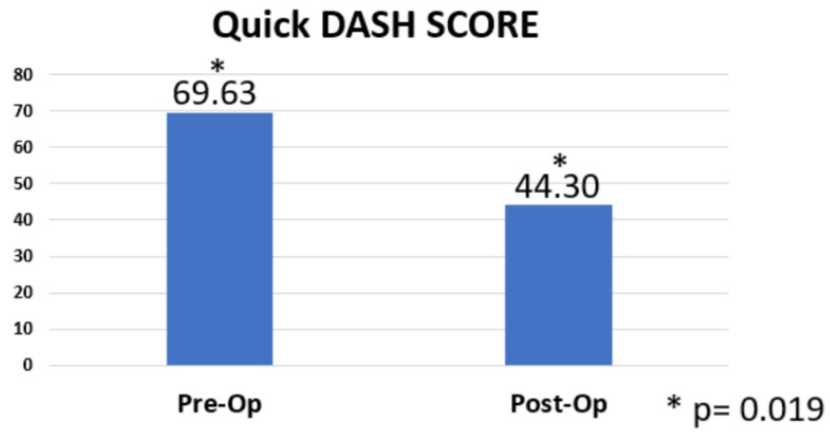


FIGURE 2

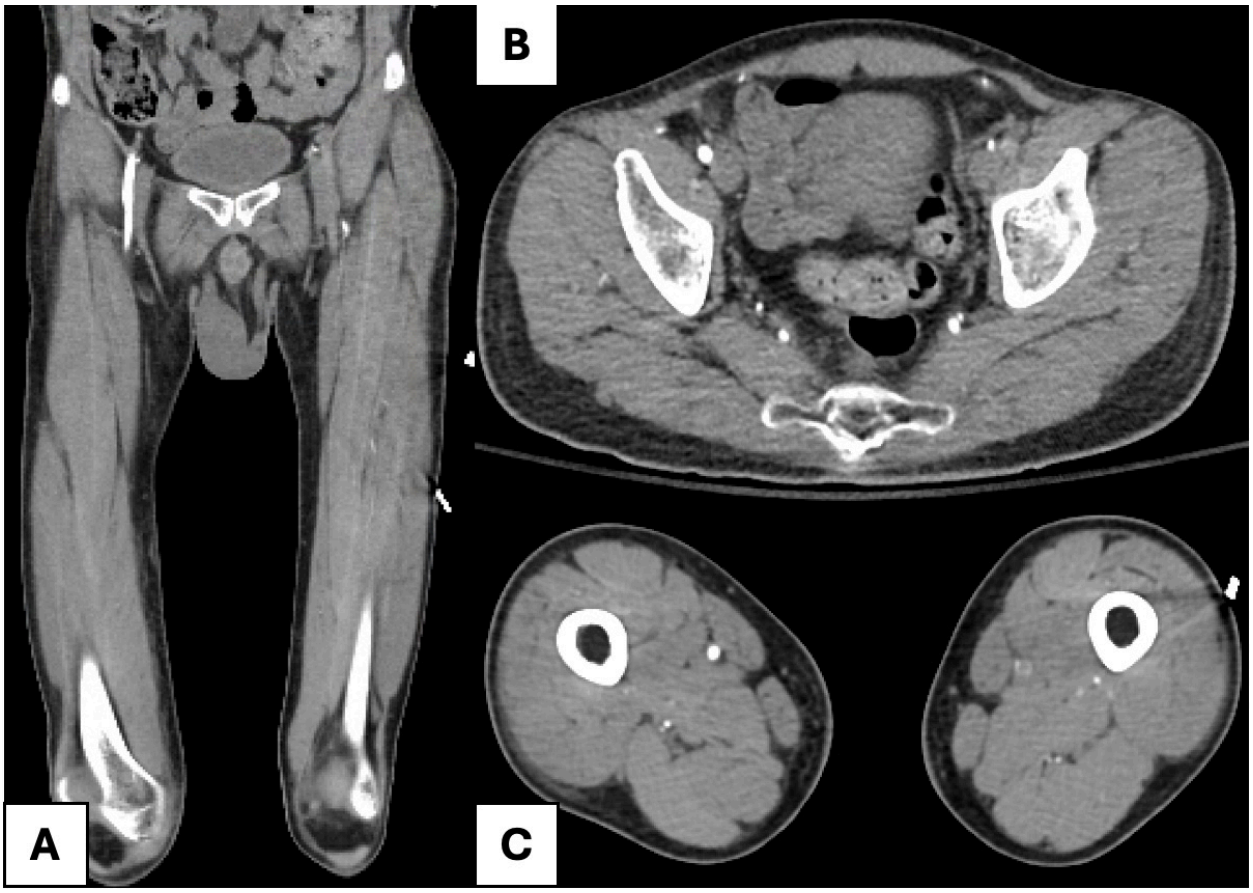


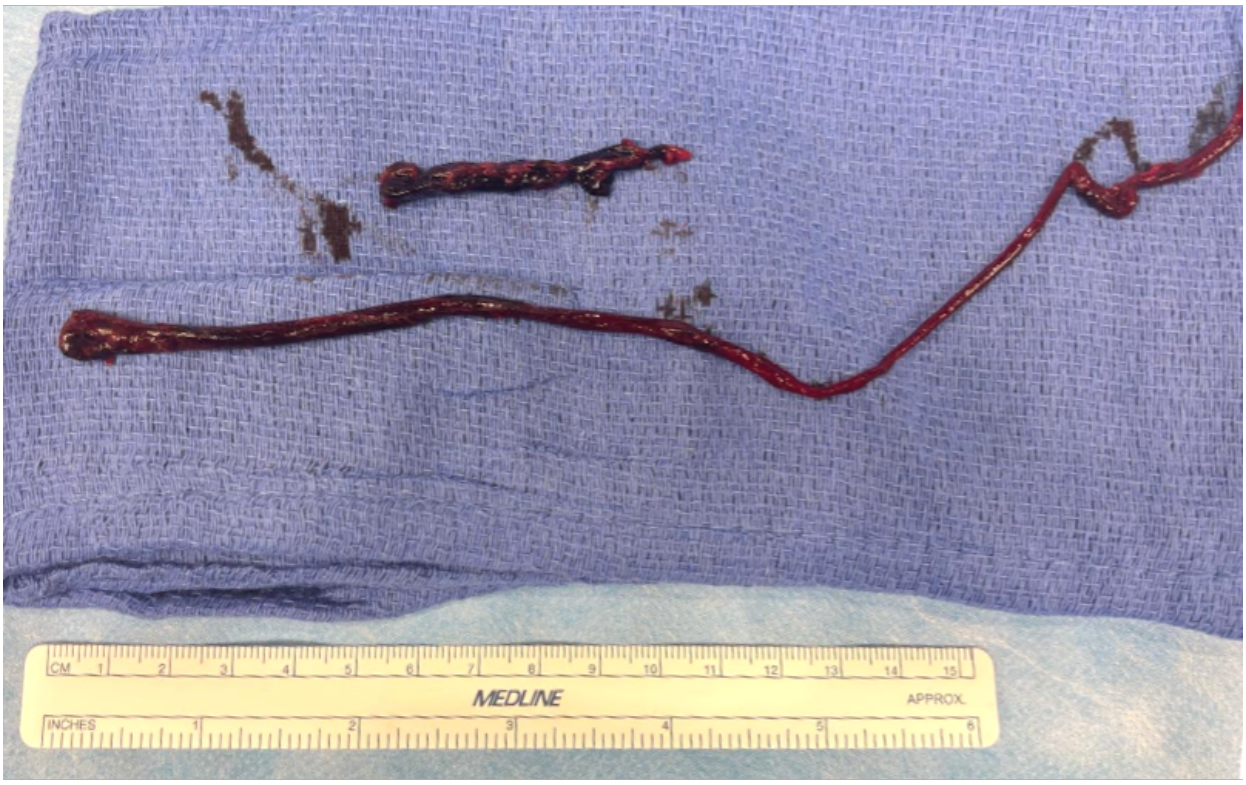
42. ACUTE LIMB ISCHEMIA IN A PATIENT WITH MITOCHONDRIAL ENCEPHALOMYOPATHY WITH LACTIC ACIDOSIS AND STROKE-LIKE EPISODES

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Mitochondrial encephalomyopathy with lactic acidosis and stroke-like episodes (MELAS) is a mitochondrial disorder that results in neurologic, cardiac, and endocrinologic abnormalities. Microvascular ischemic events, or stroke-like episodes, commonly occur in MELAS due to increased vasoconstriction and abnormal mitochondrial deposition within small arteries. Large-vessel vasculopathy is uncommon in patients with MELAS. Here, we report a 37-year-old male with MELAS syndrome who presented to our hospital with complaints of acute leg pain and diabetic ketoacidosis. Computed tomography angiography demonstrated complete occlusion of his left external iliac artery, common femoral artery, superficial femoral artery, and popliteal artery. The patient was successfully revascularized for acute limb ischemia. This report highlights the importance of recognizing large-vessel vasculopathy in patients with MELAS.




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43. MESENTERIC REVASCULARIZATION ASSOCIATED WITH IMPROVED TYPE 2 DIABETES GLYCEMIC CONTROL

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Abstract:
Chronic mesenteric ischemia (CMI) is a condition involving the narrowing or occlusion of two major splanchnic arteries, resulting in the inability of the blood supply to meet the metabolic demands of visceral organs. The most common etiology of CMI is atherosclerosis of the mesenteric vessels. Accordingly, the major risk factors for CMI mirror those of systemic atherosclerosis including hyperlipidemia, obesity, smoking, hypertension, and diabetes. (1) CMI classically presents with the triad of post-prandial abdominal pain, weight loss, and fear of eating. Current clinical practice guidelines recommend endovascular revascularization as the first-line therapy for patients with CMI who are appropriate candidates for stenting, with the superior mesenteric artery (SMA) serving as the primary target for intervention. (1) We present a case of a 77-year-old woman with type II diabetes mellitus who presented with acute on chronic abdominal pain for the past 6 months who on further evaluation, was diagnosed with CMI due to celiac artery stenosis and superior mesenteric artery occlusion. The patient was treated with stenting of the celiac artery. Interestingly, the patient was able to wean from insulin and nearly all her medications for diabetes for nearly a year with continued control of her Hba1c. To our knowledge, this represents the first reported case of improved glycemic control in patients post stenting of the celiac artery for CMI.

Citation: 1. Huber TS, Björck M, Chandra A, et al. Chronic mesenteric ischemia: Clinical practice guidelines from the Society for Vascular Surgery. J Vasc Surg. 2021;73(1S):87S-115S. doi:10.1016/j.jvs.2020.10.029

44. STAGED RECONSTRUCTION OF A COMPLEX UPPER EXTREMITY WOUND WITH EXPOSED BRACHIAL ARTERY AND ARTERIOVENOUS GRAFT USING NOVOSORB® BIODEGRADABLE TEMPORIZING MATRIX

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Background:
Synthetic dermal substitutes, including Novosorb biodegradable temporizing matrix (BTM), are increasingly used in the management of complex wounds. These materials have demonstrated success in wounds with exposed tendon and bone. However, their application for coverage of exposed native arteries and arteriovenous grafts (AVG) remains limited in the literature. This case report describes the use of Novosorb BTM for coverage of an exposed brachial artery and AVG in a medically complex patient with a large upper extremity wound after injury to the brachial artery during dialysis.

Methods:
A 58-year-old female with end-stage renal disease on hemodialysis presented with right upper extremity swelling with concern for compartment syndrome following dialysis via a brachio-axillary AVG. Imaging demonstrated a large brachial artery pseudoaneurysm. The patient underwent emergent brachial artery repair and forearm fasciotomy. Due to significant soft tissue loss and inability to achieve tension-free closure, a staged reconstructive approach was pursued. Novosorb BTM was placed over the exposed distal brachial artery and AVG following washout and debridement, with adjunctive negative pressure wound therapy. Definitive reconstruction with split-thickness skin grafting (STSG) was performed approximately three weeks later. After STSG was healed the AVG was accessed again for dialysis.

Discussion:
Management of complex upper extremity wounds with exposed vascular structures poses a significant reconstructive challenge, particularly in patients with multiple comorbidities who may not tolerate prolonged operative times required for free tissue transfer. Dermal substitutes such as Novosorb BTM offer a synthetic scaffold that facilitates neovascularization and neodermis formation while minimizing infection risk. Although commonly used for coverage of tendon and bone, their use over exposed native arteries and prosthetic grafts is less well described. In this case, Novosorb BTM provided stable

coverage of both exposed brachial artery and AVG material and successfully prepared the wound bed for delayed split-thickness skin grafting. This approach allowed for staged reconstruction and avoided the need for complex flap reconstruction while preserving function of the AVG. Figure 1 shows the patients healing process over the course of three months and hemodialysis ultrasound showing appropriate flow through the AVG.

Conclusion:

Novosorb BTM can be an option for temporary coverage of exposed native arteries and arteriovenous grafts in complex upper extremity wounds, facilitating staged reconstruction and successful definitive skin grafting in high-risk patients.



45. DELAYED REBLEEDING FOLLOWING SELECTIVE DISTAL SPLENIC ARTERY EMBOLIZATION FOR BLUNT SPLENIC TRAUMA

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Beatriz Leong, MD; Division of Vascular Surgery, Department of Surgery, Riverside University Health System Medical Center, Riverside, CA, USA"

Background:
Blunt splenic injury is one of the most common solid organ injuries in abdominal trauma. Current practices prioritizes splenic preservation, with nonoperative management in hemodynamically stable patients. Splenic artery embolization (SAE) is increasingly utilized for high grade injuries (AAST grade III–V) with contrast extravasation or pseudoaneurysms, improving splenic salvage rates. Despite high technical success, failure of selective embolization due to collateral reperfusion or persistent vascular injury remains a rare but potentially life threatening complication.

Methods:
We report a 21 year old male who presented following a rollover motor vehicle collision. Initial CT imaging demonstrated a grade III splenic injury and grade I liver injury without active extravasation. He remained hemodynamically stable and was admitted to the surgical ICU for observation. Per protocol, the patient received a follow up CT angiography which demonstrated progression of the injury to a grade IV splenic injury with associated 0.8 cm pseudoaneurysm. The patient underwent selective distal SAE targeting the inferior pole. His post procedural course was uncomplicated, and he was discharged on post operative day 2.

One month later, he returned with worsening diffuse abdominal pain, hypotension and tachycardia. CT imaging revealed significant hemoperitoneum. Emergent splenic angiography demonstrated active extravasation from short gastric vessels and splenic parenchyma. He underwent diagnostic laparoscopy with evacuation of approximately 1 L of hemoperitoneum, laparoscopic splenectomy, and drain placement.

Results:
Selective distal SAE achieved initial hemostasis without immediate complication. At delayed presentation, angiography confirmed hemorrhage from short gastric vessels and diffuse splenic parenchymal bleeding, consistent with failure of selective embolization. Laparoscopic splenectomy with wash out and drain placement was completed without

intraoperative complication. Postoperatively, patient developed acute blood loss anemia requiring transfusion of 1 unit of packed red blood cells. He remained hemodynamically stable and was discharged. At 1 month follow up the drain was removed and he demonstrated complete recovery without additional complications.

Conclusion:
Although SAE improves splenic salvage in high grade blunt splenic injury, delayed hemorrhage weeks after a technically successful selective SAE is rare, as most failures occur early following intervention. This case illustrates a late onset hemorrhage at 1 month from short gastric vessels. It underscores the importance of close follow up for recurrent abdominal pain, and hemodynamic changes after embolization. A low threshold for repeat imaging and angiographic evaluation is warranted in symptomatic patients. When late hemorrhage is suspected, particularly with instability, prompt definitive surgical management, with splenectomy, should be strongly considered.

46. ENDOVASCULAR MANAGEMENT OF A GIANT HEPATIC ARTERY ANEURYSM

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Community Memorial Hospital

Introduction:

Visceral artery aneurysms are rare, with an estimated incidence of 0.01–0.2%. Hepatic artery aneurysms (HAAs) are the second most common type, accounting for approximately 20% of cases. Repair is recommended for symptomatic lesions, those larger than 2 cm, or with rapid growth exceeding 0.5 cm per year. Giant HAAs, defined as >5 cm, carry a particularly high risk of rupture, with mortality reported between 40–70%. Traditionally, open repair was the mainstay of management, but endovascular therapy has emerged as the preferred first-line approach when anatomy allows. Treatment decisions depend on aneurysm size, location, collateral hepatic blood supply, and patient comorbidities. This case highlights successful endovascular exclusion of a giant 8 cm HAA under local anesthesia, demonstrating the feasibility of VBX balloon-expandable stent-grafts in short landing zones.

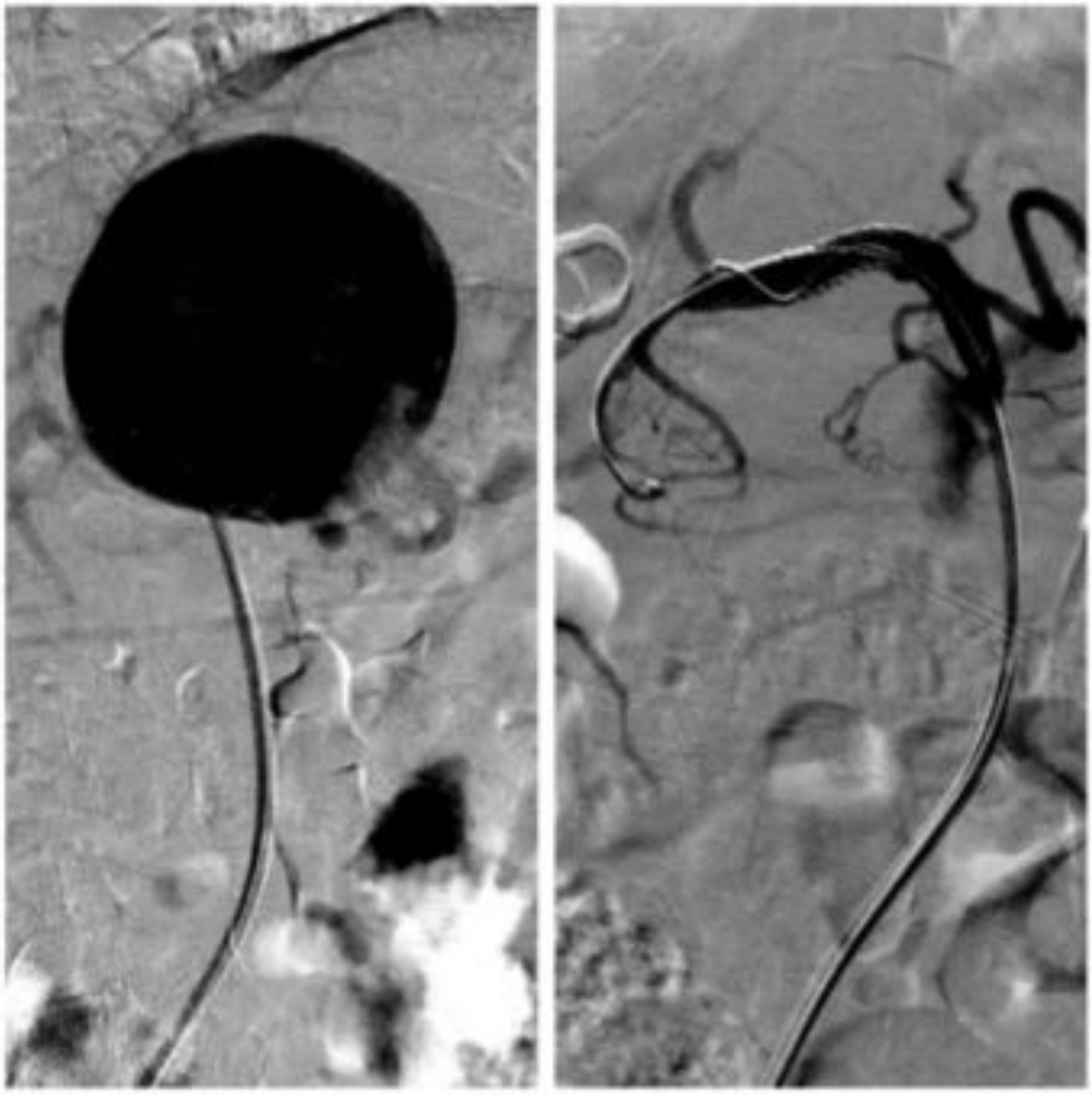
Case Report:

A 71-year-old female with hypertension and diabetes was evaluated for a pulsatile abdominal mass. She had reported back pain one month prior, when duplex ultrasound identified a 7.0 cm vascular structure adjacent to the left hepatic lobe. CTA confirmed an 8 cm HAA, and the patient was referred for repair.

Endovascular repair was performed via right common femoral artery access under local anesthesia with moderate intravenous sedation. A steerable sheath facilitated celiac cannulation and selective angiography, which revealed a giant HAA arising from the hepatic artery with short proximal and distal landing zones (<6.5 mm). Intravascular ultrasound (IVUS) was used to size the vessel and optimize stent placement. A 7 × 29 mm Gore VBX stent-graft was first deployed, followed by a second 7 × 39 mm VBX with 2 cm overlap. Completion angiography confirmed aneurysm exclusion with preserved flow to the hepatic bifurcation, splenic, gastroduodenal, and gastric arteries, and no residual endoleak.

Conclusion:

This case demonstrates successful endovascular management of a giant HAA under local anesthesia using VBX stent-grafts. Despite the technical challenges of short landing zones, aneurysm exclusion was achieved with preservation of hepatic perfusion. VBX stent-grafts represent a viable option in anatomically constrained visceral aneurysms, expanding the feasibility of minimally invasive repair in high-risk patients.



47. RECURRENT HEMATOCHEZIA AS A RARE PRESENTATION OF INFERIOR VENA CAVA OCCLUSION

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University of Southern California

Background:
Inferior vena cava (IVC) occlusion is a rare but clinically significant condition that may arise from congenital abnormalities or acquired causes such as trauma, malignancy, Budd–Chiari syndrome, or iatrogenic injury from indwelling catheters, IVC filters, or surgical complications. The clinical presentation varies with acuity, degree of obstruction, and collateral development. While acute occlusion may cause hypotension and lower extremity edema, chronic venous hypertension can manifest as pelvic congestion or gastrointestinal bleeding. We present a rare case of IVC occlusion manifesting as recurrent hematochezia.

Case Description:
A 56-year-old woman with a history of right renal transplant and multiple comorbidities presented with eight days of hematochezia, anemia (Hgb 5.5 g/dL), and fatigue. Prior hospitalizations for similar symptoms included negative EGD and colonoscopy aside from hemorrhoids and a small sigmoid adenoma. CT angiography revealed prominent pelvic venous structures and IVC occlusion, prompting transfer for further evaluation. Repeat endoscopy and capsule enteroscopy again showed no luminal source. Pelvic venography demonstrated complete IVC occlusion at the iliocaval confluence. Initial attempts at recanalization were unsuccessful using standard techniques. Therefore, a radiofrequency (RF) guidewire was utilized to allow intraluminal crossing. Only able to safely cross the right side after confirmation using on table cone-beam CT we treated the occlusion with dedicated venous stents. Final venography showed brisk flow, elimination of venous collaterals, and no extravasation. Hematochezia ceased immediately, hemoglobin stabilized, and the patient was discharged on dual antiplatelet therapy. She remains asymptomatic at 15-month follow-up.

Discussion:
This case highlights hematochezia as an unusual presentation of chronic IVC occlusion, likely driven by venous hypertension and diversion through hemorrhoidal plexus collaterals. Prior reports similarly document resolution of gastrointestinal bleeding after caval revascularization. Endovascular stenting offers high technical success and symptom improvement with favorable long-term patency.

Conclusion:

IVC occlusion should be considered in patients with persistent hematochezia and negative endoscopic evaluation. Endovascular recanalization effectively restores venous outflow, resolves venous hypertension–related bleeding, and represents a durable therapeutic option.

Figure 1: Initial venogram showing IVC occlusion at the level of the joining common iliac veins.



Figure 2: Completion venogram showing widely patent IVC with stents in place.

