# L E I P Z I G I N T E R V E N T I O N A L C O U R S E 2 O 2 3

6 – 9 June 2023

Trade Fair Leipzig, Hall 2 Messe-Allee 1 Leipzig, Germany and virtual

# GUIDE TO LIVE CASE TRANSMISSIONS

# Guide to live case transmissions

During the Leipzig Interventional Course 2023 more than 55 interventional and surgical live cases are scheduled to be performed and transmitted to the auditorium. The aim of this booklet is to give you an overview about the live case schedule and to provide a practical guide through the procedures.

We hope for your understanding that with respect to the clinical needs of the patients changes of the schedule may occur. Furthermore, the anticipated procedural steps are just an outline of the procedure. Depending on the discretion of the operator the procedural strategy and/or the choice of material may vary.



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> Tuesday, 6 June 2023

LINC

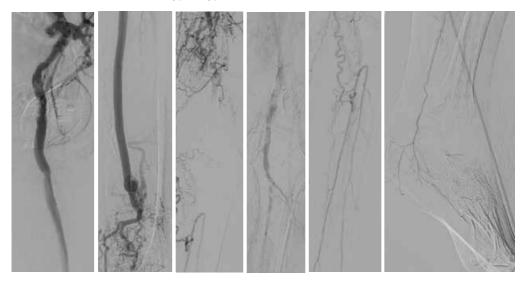
Case 01 – Leipzig 01: Male, 70 years (D-Z)

# **CLTI – Complex popliteal and BTK CTO**

Operators: Andrej Schmidt and Axel Fischer

Clinical data: Gangrene dig 3 left, severe claudication left 100 meters, Rutherford class 5 Recurrent bybass-occlusion left 2/2022 and 3/2023, right 2/2022 Femoropopliteal bypass bilateral 2016, PTA / Supera-Stent right popliteal artery 5/2023 EVAR 2019, CAD, CABG 2017, NYHA II

**Risk factors:** ABI left 0.32, right 0.76 Diabetes mellitus type 2, hypertension, HLP, Former smoker



Procedural steps:

#### **1. Antegrade left femoral access** ■ 7Fr. 45cm sheath (COOK)

2. Guidewire-passage

- Command 18 300cm Guidewire (ABBOTT Vascular)
- Connect 250 T 0.018" 300cm Guidewire (ABBOTT Vascular)

#### 3. Potentially additional retrograde access via peroneal or posterior tibial artery

- 21 Gauge 4cm needle (COOK)
- Command 18 300cm Guidewire (ABBOTT Vascular)
- 0.018" QuickCross Support-Catheter (PHILIPS)

#### 4. Vessel-preparation (atherectomy and balloon-PTA)

- CSI Orbital Atherectomy for the tibioperoneal trunk lesion (ABBOTT Vascular)
- Armada 18 for the popliteal artery (ABBOTT Vascular)
- Armada 14 for the posterior tibial artery (ABBOTT Vascular)

#### 5. Stenting of the popliteal artery

Supera Interwoven Nitinol-Stent (ABBOTT Vascular)

#### 6. Stenting of the posterior tibial artery on indication

Xience Prime DES (ABBOTT Vascular)

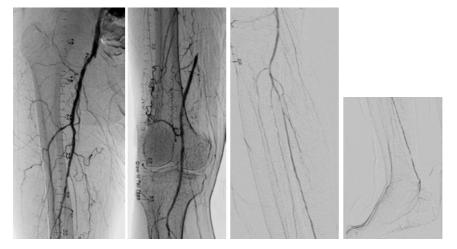
Tuesday, 09:15 – 09:45 Live case transmission from Tokyo

Case 02 - Tokyo 01: Male, 76 years (KM)

# **Right SFA long CTO (with proximal stump)**

- **Operators:** Dr. Tatsuya Nakama (1st operator) Dr. Yuta Azumi, Dr. Kazuhiro Asano, Dr. Tetsuya Kobayashi, and Dr. Atsumi Fujii (Assistants)
- Clinical data: Claudication: Max walking capacity: 60m (Rutherford 3) Cre/eGFR: 2.2 / 23 ABI: Right 0.64, Left 0.57

**Risk factors:** Hypertension, CKD, DM, Post CABG



#### Procedural 1. Puncture left CFA

steps:

2. Crossover approach from left CFA 6Fr 45cm, CROSSROAD (NIPRO)

#### 3. Antegrade approach with

CROSSLEAD 0.035-inch GW (ASAHI INTECC) with a back-up suppor of 4Fr diagnostic catheter Vertebral Tempo (CORDIS)

4. V18-control 0.018-inch GW (BOSTON SCIENTIFIC) Astato XS 9-12 0.014-inch GW (ASAHI INTECC) if required

## 5. If required, retrograde approach from distal SFA or anterolateral popliteal artery with

- V18-control 0.018-inch GW (BOSTON SCIENTIFIC) or
- Gladius MG 18 0.018-inch GW (ASAHI INTECC) with a back up suppor of
- Carnelian Support 90cm Microcatheter (TOKAY MEDICAL PRODUCTS)

Reverse CART with 5.0x100mm MUSTANG (BOSTON SCIENTIFIC)

7. IVUS Opticross18 (BOSTON SCIENTIFIC)

8. POBA with 5.0 or 6.0mm JADE 18 (ORBUSNEICH) or MUSTANG (BOSTON SCIENTIFIC)

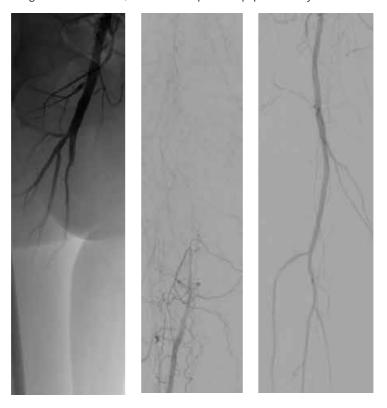
9. DCB Application Ranger (BOSTON SCIENTIFIC) or DES deployment, Eluvia (BOSTON SCIENTIFIC)

10. Final angiography and IVUS Opticross18 (BOSTON SCIENTIFIC)

Case 03 – Leipzig 02: Male, 60 years, (S-M)

# Sirolimus-eluting Stents for a long SFA-CTO

- Operators: Andrej Schmidt and Sandra Düsing
- **Clinical data:** Severe claudication right calf, walking capacity 150 meters, Rutherford class 3 CAD, PTCA 2023, Paroxysmal atrial fibrillation, Embolic, minor stroke 2022
- **Risk factors:** Former smoker, Diabetes mellitus, type 2, ABI right 0.53; left 0.82 Angiographiy during PTA right common iliac artery: Long CTO of the left SFA, distal SFA and proximal popliteal artery stenotic



#### Procedural steps:

**1. Left retrograde and cross-over access access** 6Fr 40cm cross-over steath (COOK)

#### 2. Guidewire-passage of the right SFA-CTO:

Command 18 300cm Guidewire (ABBOTT Vascular) In case of failure: BeBack Crossing-Catheter (BENTLEY)

#### 3. PTA for vessel-preparation

- Sterling 18 Balloon-Catheter (BOSTON SCIENTIFIC)
- 4. Primary stenting of the CTO, PTA of the distal SFA / proximal popliteal artery
- Nitides Polymere-free Amphilimus eluting stent (ALVIMEDICA)
- Magic Touch Sirolimus-coated balloon (CONCEPT Medical)

Case 04 - Tokyo 02: Male, 66 years (KM)

# **Right SFA long CTO (flush occlusion)**

- **Operators:** Dr. Tatsuya Nakama (1st operator) Dr. Yuta Azumi, Dr. Kazuhiro Asano, Dr. Tetsuya Kobayashi, and Dr. Atsumi Fujii (Assistants)
- Clinical data: Claudication: Max walking capacity: 100m (Rutherford 3) Cre/eGFR : 1.15/ 67 ABI: Right 0.80, Left 0.97
- *Risk factors:* Dydlipidemia, COPD, Ex-smoker



1. Puncture left CFA



#### Procedural steps:

- 2. Crossover approach from left CFA 
  6Fr 45cm, CROSSROAD (NIPRO)
- 3. Antegrade approach with V18-control 0.035-inch GW (ASAHI INTECC) with a back-up suppor of 4-Fr Diagnostic catheter Vertebral Tempo (CORDIS)
- Antegrade approach with an
   Astato XS 9-12, 0.014-inch GW (ASAHI INTECC) if required
- 5. If required, retrograde approach from distal SFA or anterolateral popliteal artery with
- V18-control 0.018-inch GW (BOSTON SCIENTIFIC) with a back up suppor of
   Carnelian Support 90cm Microcatheter (TOKAY MEDICAL PRODUCTS)
- 6. Reverse CART with 5.0x100mm MUSTANG (BOSTON SCIENTIFIC)
- 7. IVUS Opticross18 (BOSTON SCIENTIFIC)
- 8. POBA with 5.0 or 6.0mm MUSTANG (BOSTON SCIENTIFIC)
- **9. DCB application** Ranger (BOSTON SCIENTIFIC) or **DES deployment** Eluvia (BOSTON SCIENTIFIC)

TUESDAY

10. Final angiography and IVUS Opticross18 (BOSTON SCIENTIFIC)

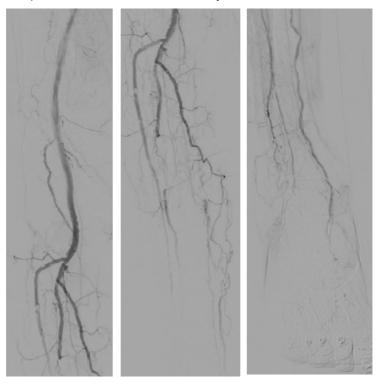
Case 05 – Leipzig 03: Male, 73 years (B-H)

# **Bioresorbable Scaffold for BTK-Lesions in a CLTI-Patient**

Operators: Andrej Schmidt and Sandra Düsing

Clinical data: CLTI with gangrene dig V right, restpain, Rutherford class 5 Complex recanalization of a ATA-stenosis right with DES-implantation 5/2023 Failure to recanalize the posterio tibial artery CAD, PTCA 2012 Minor stroke 2018

**Risk factors:** ABI right 0.44; left > 1.3 Angiography during PTA-attempt 5/2023: Severely calcified BTK-arteries with proximal CTO of the PTA and PA, severely diseased foot-arteries



Procedural steps:

**1. Right antegrade access:** ■ 6Fr-45cm Sheath (COOK)

2. Andegrade and potentially retrograde guidewire-passage of the peroneal and posterior tibial artery CTOs:

- 0.014" Command ES 300cm Guidewire (ABBOTT Vascular)
- 0.014" Winn 200 T 300cm Guidewire (ABBOTT Vascular)
- Armada XT OTW-Balloon (ABBOTT Vascular)

#### 3. Predilatation and Implantation of bioresorbable scaffold

Motiv Bioresorbable Sirolimus-Eluting Scaffold 3.5/60mm (REVA Medical)

Case 06 - Leipzig 04: Male, 68 years, (F-E)

# Long total CTO BTK, CLTI

**Operators:** Andrej Schmidt and Renaldo Myrselaj

- Clinical data: Interdigital ulcerations dig 2/3 and 3/4, Rutherford 5 Diffuse PAOD, PTA / stenting SFA right 3/2023 CAD, COPD GOLD 2, Diabetes mellitus type 2
- **Risk factors:** Former smoker, hypertension, HLP, ABI right 0.22 Angiography during PTA of the SFA right showing long CTOs ot the ATA and PTA reaching below the malleolus









Procedural steps:

#### 1. Right antegrad access

6Fr 45cm Destination-Sheath (TERUMO)

#### 2. Guidewire-passage

PT2 0.014" Guidewire 300cm (BOSTON SCIENTIFIC)

#### 3. In case of failure, retrograde approach via the medial plantar artery

- 4cm 21 Gaueg needle (COOK)
- Command 14 ES 300cm Guidewire (ABBOTT Vascular)
- QuickCross Support-Catheter 0.018" 90cm (PHILIPS)

#### 4. PTA for vessel-preparation

Oceanus 14 Pro Balloon (iVascular)

#### 5. PTA with Drug-Coated Balloons

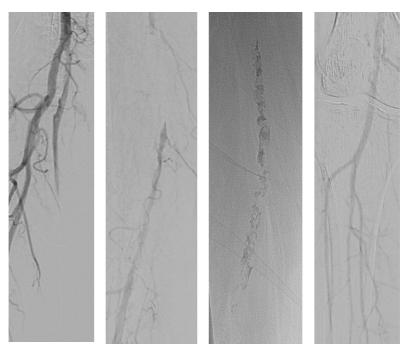
Litos 0.014" or Tulip 0.018" Drug-Coated Balloon (ACOTEC)

Case 07 – Leipzig 05: Male, 72 years (M-G)

# **Reocclusion right SFA**

**Operators:** Andrej Schmidt and Manuela Konert

- **Clinical data:** Severe claudication right leg, walking capacity 200 meters, Rutherford class 3, Reocclusion after atherectomy + DCB 2020, PTA / DCB left SFA 4/2023, CAD, PTCA 1996 and 1997, Diabetes mellitus type 2
- **Risk factors:** ABI right 0.64; left 0.78 Angiography during PTA left SFA: severely calcified 10cm long CTO right



#### Procedural

steps:

1. Left groin and cross-over access

7Fr 40 cm cross-over sheath (COOK)

#### 2. Guidewire-passage

- Command 18 300cm Guidewire (ABBOTT Vascular)
- Connect 250 T 300cm Guidewire (ABBOTT Vascular)
- 4Fr Berenstein-Catheter (CORDIS)
- 3. In case of failure to pas the CTO:
- BeBack Crossing Catheter (BENTLEY)

#### 4. Vessel-preparation before stenting:

Ultrascore Focused Force PTA-Balloon (BD)

#### 5. DCB-Treatment and stenting

- Luminor 18 Drug-Coated Balloon (iVascular)
- Supera Interwoven Nitinol-Stent (ABBOTT Vascular)

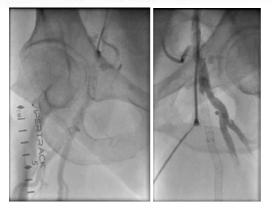
Case 08 - New York 02: Female, 60 years

Tuesday, 17:00 – 17:30

# Multi-level Calcified right SFA CTO

Operators:Prakash Krishnan, Raman Sharma, Vishal KapurClinical data:HPI: 60 year old F p/w Rutherford category 3 which has progressed<br/>to rest pain over the past month<br/>PMHx: CAD s/p Multiple PCIs with prior STEMI, HFpEF, HTN, COPD<br/>PAD Hx: Stenting of the left lower ext in 2015 at OSH.<br/>Medications: Ezetimibe, Amlodipine, Losartan, HCTZ, Pioglitazone, Metformin,<br/>Metoprolol, Plavix, and ASA<br/>Social hx: Current smoker<br/>ABI:<br/>R: 0.41<br/>L: 0.62

	Right		Left	
	Velocity (cm/s)	Waveform	Velocity (cm/s)	Waveform
External Iliac Artery	138	Biphasic	114	Biphasic
Common Femoral Artery	141	Biphasic	119	Biphasic
Deep Femoral Artery	93	Biphasie	46	Biphasic
Superficial Femoral Artery (Prox)	++	Occluded		Occluded
Superficial Femoral Artery (Mid)	-	Occluded		Occluded
Superficial Femoral Artery (Distal)		Occluded	-	Occluded
Poplitcal Artery	**	Occluded	31	Monophasic
Tibio-peroneal Artery		Oceluded	-	Occluded
Posterior Tibial Artery (Distal)		Occluded	4	Occluded
Anterior Tibial Artery (Distal)	23	Monophasic	68	Biphasic



Procedural steps:

- 1. Left femoral artery access
- 2. 7fr sheath up and over
- 3. EVUS to enter proximal
- 4. Pedal access to help crossing
- 5. IVUS
- 6. Shockwave IVL
- 7. Likely proceed with stent

Case 09 - Galway 01: Male, 19 years

## IVC - what to do??

**Operators:** Gerard J. O'Sullivan

- **Clinical data:** No prior history- first presentation of abdominal pain and bilateral leg swelling early May 2023. Treated by thrombolysis and balloon PTA IVC to 16mm. Represented just this week with recurrent DVT calves to IVC bilaterally.
- **Risk factors:** No recent durgery travel illness etc. CTV shows enlarged azygous veins and atrophic infra-renal IVC; with acute DVT common iliac veins to popliteal veins bilaterally.

CTV – Acute occlusive thrombus in the IVC, and bilateral common and external iliac veins



Procedural	
steps:	

1. Prone 2. GA

- 3. US guided popliuteal vein access
- 4. Initial venography
- 5. Placement EKOS catheters for US accelerated thrombolysis (BOSTON SCIENTIFIC)
- 6. Repeat venography at 48h
- 7. Cross into supra-renal IVC Triforce (COOK)
- 8. IVUS (BOSTON SCIENTIFIC)
- 9. Bard Atlas PTA 16mm CFV to renal veins kissing (BD)

10. Stents: Gore Viafort trial or Bentley Beyond/Medtronic ABRE/BD Venovo

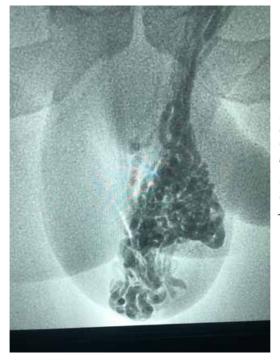
11. Repeat balloon PTA to 16mm to 20atm (BD Atlas) Repeat IVUS (BOSTON SCIENTIFIC) Life long anticoagulation US day 1 CTV at 6/52 Case 10 - Galway 02: Male, 39 years, (R-W)

# Varicocele Embolisation

Operators: Gerard J. O'Sullivan

**Clinical data:** Grade 3 left sided varicocele. Symptomatic with pain. Colour Doppler ultraound reveals large left sided varicocele, 4-5mm in diameter, showing intense enchancment following valsalva.

Risk factors: No specific issues. No fertility issues.



Representative image from a left sided varicocoele embolisation on another patient

Catheter at inguinal ring; about to deploy coils and then foam sclerotherapy.

Procedural

steps:

- US guided access Right common femoral vein
   Stiff Glide wire MERIT 180cm 0.035"

  - 3. 6F 45 Terumo Destination Sheath
  - 4. 5F C2 MERIT catheter to access left gonadal vein
  - 5. 180 cm Regular Glide wire MERIT
  - 6. Back up Progreat Microcatheter system (TERUMO)
  - 7. Catheter to inguinal ring

#### 8. Embolisation with coils

■ (COOK Nestor 10mm diameter 14cm long) and Foam Sclerotherapy (Sclerovein 1% diluted 2:1- coils

9. HourGlass Emba Medical (Fort Lauderdale, FL, USA) to treat top end

Case 11 – Arnsberg 01: Female, 52 years

# IVUS guided revasularisation of left iliofemoral veins with IVUS guided stent implantation

- **Operators:** Michael Lichtenberg and Stefan Stahlhoff
- Patient data:
   52 y female patient with recurrent left sided DVT in the past.

   Persistent occlusion of EIV and CVF. Venous claudication and persistent swelling.

   Anticoagulation with Rivaroxaban 20mg.
- Clinical data: VCSS score 10 // CEAP III
- *Risk factors:* Duplex: Occlusion of EIV and CVF.

## pictures will follow soon

Procedural steps:

- 1. Transfemoral US guided access
- 2. Crossing CTO with TERUMO Stiff Glidewire and support catheter
- 3. IVUS analysis and predilatation
- 4. Dedicated venous stent implantation IVUS guided

Case 12 - Arnsberg 02: Female, 22 years

# IVC and both sided iliofemoral vein recanalisation

Operators:	Michael Lichtenberg and Stefan Stahlhoff
	22 y old female patient with IVC and both sided thrombosis in 2021. PTS with persistant venous claudication and mild swelling on low level exercise.
	Ascending and descending iliofemoral DVT with involvement of distal IVC. Right side persistent venous claudication on low level exercise
Risk factors:	May-Thurner Syndrome with ascending and descending both sided iliofemoral DVT in the past. Duplex distal IVC thrombosis. PTS obstruction right and left iliofemoral veins.

pictures will follow soon

steps:

- esia
- 2. Both sided transfemoral venous acces US guided
- 3. Crossing both sided CVO with TERUMO Glidewire and support catheters
- 4. IVUS analysis of IVC and iliofemoral vein
- 5. Predilatation (kissing balloon technique)
- 6. IVUS analysis of IVC and iliofemoral vein

7. IVUS guided stent implantation with dedicated venous stents. Discussion about stent technique and technology

- 8. Postdilatation
- 9. IVUS analyis (final)

Case 13 – Galway 03: Female, 43 years, AOC

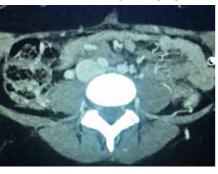
# Pelvic Vein Embolisation + Left common iliac vein assessment – potentially for a stent

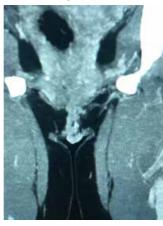
**Operators:** Gerard J. O'Sullivan

- **Clinical data:** Pressure; dyspareunia, frequency of micturition, denies the felling of vulvar varices; but imaging suggests otherwise. Varicose veins running down the posterior aspect of the left thigh.
- **Risk factors:** CT performed outside hospital. pelvic, specifically parametrial & para vaginal varices, ? Filling off the left internal iliac vein. Varices in left labia which communicate with the posteromedial thigh vein, coarsing down back of left leg.

#### Pelvic varices

CT shows dilated left and right gonadal veins, as well as left labial varicosities. ?? L CIV stenosis







#### Procedural steps:

1. Right Internal Jugular Vein Access

#### 2.10F 23cm sheath

- 3. Access to left gonadal vein using a
- MERIT 5F 65 cm C2 catheter
- 4. Selective access to distal gonadal vein using
   4F Glide Angled Tip catheter (TERUMO)

5. Ideally perform "loop the loop" to catheterise right gonadal vein across parametrial varices from the left gonadal vein

- 6. Coils (COOK Nestor 10/14/035) and foam sclerotherapy
- 7. IVUS (PHILIPS Volcano) to assess Left Common Ilac Vein
- 8. If required Balloon
- Atlas 14mm (BD) and Stent (COOK Zilver Vena)

Case 14 – Arnsberg 04: N/A

# live case info will follow soon

Case 15 – Münster 01: Female, 81 years (E-M)

# Asymptomatic high grade left ICA stenosis treated with dual layer stent

- **Operators:** Arne Schwindt and Anne Sohr
- Clinical data: Surgical carotid TEA right ICA 2022
- *Risk factors:* CVRF hyperlipidemia, hypertension, high grade ICA/CCA stenosis in CTA





#### Procedural steps:

1. Right radial access
 Micropuncture set (COOK)

#### 2. Cannulation left CCA with

- Berenstein catheter and stiff 0,035 wire (CORDIS/TERUMO)
- 3. Change for 6F 90cm Neuron sheath (PENUMBRA)
- 4. Placement Epifilter Filter to ICA (BOSTON SCIENTIFIC)
- 5. Stenting with C-Guard dual layer EPS stent (INSPIRE md)

#### 6. Post dilation

Sterling RX balloon (BOSTON SCIENTIFIC)

#### 7. Access site management with

TR-compression band (TERUMO)

Case 16 – Leipzig 06: Male, 62 years (U-R)

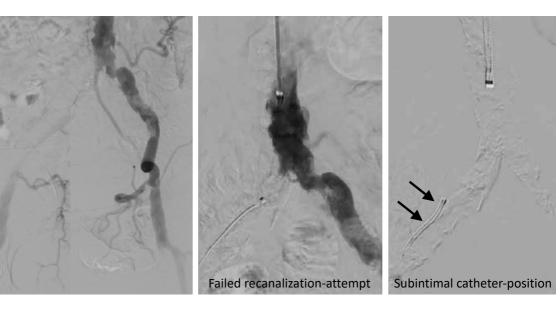
# Chronic total occlusion right common iliac artery

- Operators: Andrej Schmidt and Axel Fischer
- Clinical data:
   Severe claudcation bilateral (re >li)

   TEA of the common femoral artery bilateral 3/2023

   latrogenic perforation of the CFA right 3/2023 during a recanalization-attempt

   of the CIA right, CAD, PTCA RCA 2021, COPD GOLD IIb
- Risk factors: ABI right 0.31; left 0.62 CT-angiography: Moderate stenosis of the infrarenal aorta, total occlusion right CIA, calcified CAD, PTCA RCA 2021, COPD GOLD IIb



#### Procedural steps:

#### 1. Left brachial access:

- 6Fr-90cm Check-Flo-Performer Shetah (COOK)
- 6Fr Multipurpose Guiding-Cathter 100cm (MEDTRONIC)
- 5Fr 125cm Judkins Right Diagnostic Catheter (CORDIS)
- 2. Right groin access:
- 6Fr 20cm Terumo Sheath (TERUMO)
- 3. Guidewire-passage:
- 0.035" straight stiff glidewire (TERUMO)
- 0.018" Command 18 300cm Guidewire (ABBOTT Vascular)
- Potentially using CART-technique

#### 4. PTA and Implantation of covered stents, likely in kissing-technique

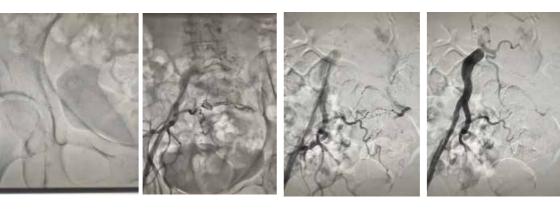
- Armada 35 Balloon (ABBOTT Vascular)
- iCover PTFE Covered Stent System (iVASCULAR)

Case 17 - New York 02: Male, 73 years

## **Complex Iliac Interventions: CERAB**

Operators:	Prakash Krishnan, Ajit Rao, Karthik Gujja				
Clinical data:	HTN, HLD, known PAD presented with bilateral buttock and thigh claudication (L>R). Has been on maximally tolerated medical therapy over 6 weeks with persistent symptoms. Brought to cath lab today for CERAB. Rutherford Category 3.				
Exam:	DP/PT doppler bilaterally				
Medications:	Cilostazol 100 mg BID, Aspirin 81 mg QD, Plavix 75 mg QD, Metoprolol XL 25 mg QD, Lipitor 20 mg QHS				
CT Measurements:	Aorta level of Renals: 16-17mm Distal Aorta: 14X12mm Distal Aorta at level of stenosis: 8X6mm RCI: 8.5-9.5mm, LCI: 7.5-8mm CFA Bilateral: 7mm ABI: Right: 0.54, Left: 0.31				





Procedural 1. Bilateral femoral access, left radial access

2. Pigtail 4F in aorta

steps:

3. Use support catheter (4f) Aqua-Temp (CORDIS) catheter to cross left iliac CTO.

4. Multiple wire choices: Command 18 (ABBOTT), V18, Connect 250 (ABBOTT), 0.014 confienza and if needed 0.035 stiff glide wire.

- 5. IVUS after cross the CTO to verify CT findings
- 6. Proceed with CERAB

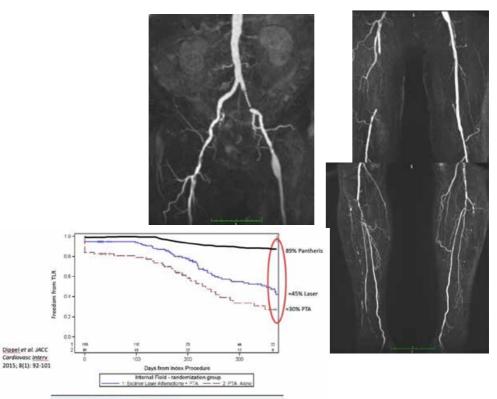
Case 18 – Münster 02: Male, 90 years (T-E)

# TOSAKA 3 ISR treated with OCT-guided atherectomy and DCB

**Operators:** Arne Schwindt and Anne Sohr

Clinical data: Bilateral SFA stenting 2009 & 2011 Treatment of ISR left SFA by directional atherectomy and DCB 2015 PI Fem.pop. Dacron Bypass left leg 2020 Femoral TEA right 3/2023 Currently Rutherford IV right leg, Tosaka III ISR right SFA, painfree WD 30m ABI right 0,26

Risk factors: CVRF: IDDM Type II, renal insufficiency, being 90 yrs old





Procedural steps: 1. Duplex guided puncture of left CFA

2. Change to 7F40 cm sheath (Destination, TERUMO), recanalization of CTO with 0,035 Quickcross (PHILIPS) and 0,018 Commandwire (ABBOTT) placement of 6mm Filter in PII segment (Spider, MEDTRONIC)

- 3. In case of subintimal wire passage reentry with 4F BeBack catheter (BENTLEY)
- 4. OCT-guided directional atherectomy of TOSAKA 3 ISR with 7F Pantheris XL (AVINGER)
- 5. DCB-PTA with 6x150/6x200 Stellarex DCB (PHILIPS)

L E I P Z I G I N T E R V E N T I O N A L C O U R S E 2 0 2 3

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Wednesday, 7 June 2023 Case 19 – Beijing 01: Male, 67 years

# **Chronic Occlusion of the right SFA**

Operators:Sheng Wang, Liao Yang, and Shuo LiuClinical data:Intermittent Claudication of Bilateral<br/>lower limbs for 1 year with the claudication<br/>distance of 100 meters<br/>Rutherford 3<br/>ABI right 0.29 left 0.33

Comorbidity: Hypertention; CAD; Sinus Bradycardia

Medical History: left SFA stent implantation; PCI

Imaging: Duplex&CTA: occlusion of Right proximal and middle SFA; moderate stenosis of the right popliteal artery; occlusion of right posterior tibial artery of proximal segment and right anterior tibial artery;

Procedural steps:  Left femoral access (6F), cross over sheath (TERUMO 6F 45cm)

2. Antegrade lesion crossing:

0.018" V-18 300 cm (BOSTON SCIENTIFIC)
 0.018" Treasure 12

0.018" Astato 30, 0.018" Gladius (ASAHI)

0.035"/0.018"/0.014"

Rubicon support catheter

(BOSTON SCIENTIFIC)

Pacific Plus 3×120 (MEDTRONIC)

# 3. Retrograde puncture at distal segment of SFA if necessary:

- Micro puncture needle (COOK 21G)
- 0.018" V-18 300 cm (BOSTON SCIENTIFIC)
- Pacific Plus 3×120 (MEDTRONIC)

#### 4. Predilation:

Pacific Plus 3×120 (MEDTRONIC)

5. Chocolate Balloon: 5×120 (MEDTRONIC)

- 6. DCB:
- IN.PACT Admiral DCB: 5×150 (MEDTRONIC)

7. Bailout stenting if necessary:

EverFlex (MEDTRONIC)



steps:

Case 20- Münster 03: Male, 80 years (K-P)

## Directed rotational atheterectomy for popliteal calcified CTO & postdilation with DCB, -IVUScontrolled measuring and decision making

**Operators:** Arne Schwindt and C. Köhler

Clinical data: Claudication left leg, 20m WD, restpain at night CSI atherectomy DCB left SFA/POP DCB 2019 Aortic valve replacement 2010, CAD, CABG 2014

**Risk factors:** CVRF:hypertension, hyperlipidemia

1. Duplex guided puncture of right CFA Procedural (TERUMO)

> 2. Change to 7F 45cm Destination sheath (TERUMO)

3. Recanalisation of CTO with 5F Quickcross and 0,018 Command wire (PHILIPS/ABBOTT)

4. If neccessary retrograde puncture ofperonealartery with micropuncture set (COOK)

5. IVUS evaluation of CTO with Visions PV .018 IVUS catheter (PHILIPS)

6.Directed rotational atherectomy with Phoenix2.2 catheter (PHILIPS)

7. Dilatation with IVUS sized Stellarex DEB (PHILIPS)

8. IVUS evauation of reconstruction and provisional stenting with Supera stent (ABBOTT) or TACK repair of relevant dissection (PHILIPS)

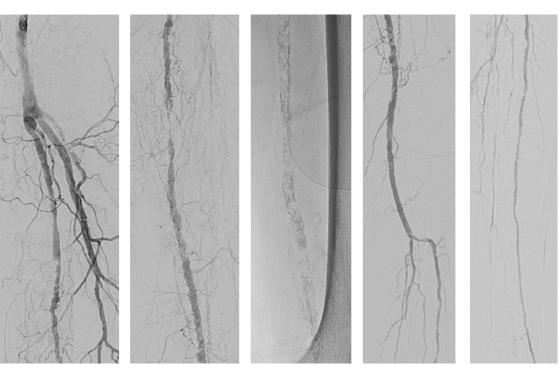
9. Ultrasound guided access closure with angiosel 6F



Case 21 – Leipzig 07: Male, 81 years, (P-G)

# Lithotripsy of severely calcified SFA-and BTK-stenosis

- **Operators:** Andrej Schmidt and Manuela Konert
- **Clinical data:** Severe claudication left, walking capacity 10 meters, restpain during night Rutherford class 4
- **Risk factors:** CAD, aortic valve stenosis 1.3cm<sup>2</sup>, Pmean 38mmHg Minor stroke 2018, Current smoker, Hypertension



Procedural steps:

#### 1. Left antegrade access:

7Fr 10cm Sheath (TERUMO)

#### 2. Guidewire-passage:

- 0.014" PT2 300cm Guidewire (BOSTON SCIENTIFIC)
   0.018" 135cm QuickCross Support-Catheter (PHILIPS)
- 3. PTA of the SFA
- Intravascular lithotripsy with 6.0x60mm balloon (SHOCKWAVE Medical)

#### 4. PTA of the ATA

Intravascular lithotripsy with 4.0x40mm balloon (SHOCKWAVE Medical)

#### 5. PTA with Paclitaxel-coated balloons

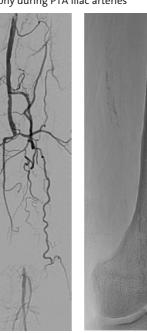
Ranger Drug-Coated Balloons (BOSTON SCIENTIFIC)

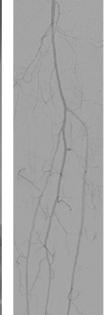
Case 22 – Leipzig 08: Male, 74 years (W-M)

# Directional Atherectomy and Antirestenosis Treatment (DAART) of a SFA-CTO

- Operators: Andrej Schmidt and Axel Fischer
- **Clinical data:** Severe claudication left calf, walking capacity 150 meters, Rutherford class 3 PTA common iliac artery bilateral 3/2023, Diabetes mellitus, type 2, Hypertension
- **Risk factors:** ABI left 0.62; right 0.92 Angiography during PTA iliac arteries









Procedural steps: 1. Left groin antegrade approach

7Fr 10cm (TERUMO)

#### 2. Antegrade guidewire-passage, preferably intraluminal

- Command 18 300cm Guidewire (ABBOTT)
- 0.018" TrailBlazer Support-Catheter 130cm (MEDTRONIC)

#### 3. Retrograde access in case of failure to pass from antegrade or subintimal passage

- 9cm 21 Gauge needle (B Braun) for distal SFA-puncture
- Command 18 300cm Guidewire (ABBOTT)
- 0.018" TrailBlazer Support-Catheter 90cm (MEDTRONIC)

#### 4. Filter-Protection and atherectomy

- Spider-Filter 7mm (MEDTRONIC)
- HawkOne LX Directional Atherectomy System (MEDTRONIC)

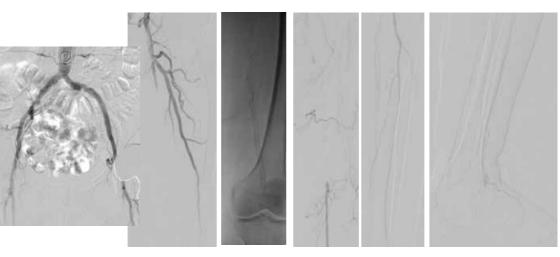
#### 5. PTA and PTA with drug-coated balloons

- Chocolate PTA Balloon Catheter (MEDTRONIC)
- In.Pact Admiral 6/250 (MEDTRONIC)

Case 23 – Leipzig 09: Female, 78 years, (S-G)

## In-stent reocclusion for atherothrombectomy

- Operators: Andrej Schmidt and Axel Fischer
- Clinical data: Severe claudication left calf, walking-capacity 150 meters, Rutherford class 3 PTA / stenting left SFA 3/2016, Paroxysmal atrial fibrillation, DOAK-therapy, COPD, GOLD 2
- **Risk factors:** TAVI, NYHA II ABI right 0.82; left 0.60 Former smoker, hypertension, HLP



## Procedural

1. Cross-over appraoch

#### steps:

- 6Fr Halo One<sup>™</sup> Thin-Walled Guiding Sheath 45CM (BD)
- 2. Guidewire-passage
- 0.018" Seeker Support-Catheter 135cm (BD)
- Command 18 300cm Guidewire (ABBOTT Vascular)
- Connect 250 T 300cm Guiedwire (ABBOTT Vascular)

#### 3. Atherethrombectomy

Rotarex 6 Fr (BD)

#### 4. PTA / continuous vessel-preparation

Ultrascore Focused Force Scoring Balloon (BD)

#### 5. DCB-treatment

- Lutonix DCB (BD)
- 6. Stening on indication
- Lifestent (BD)

Case 24 – Colorado 01: N/A

# WEDNESDAY

# live case info will follow soon

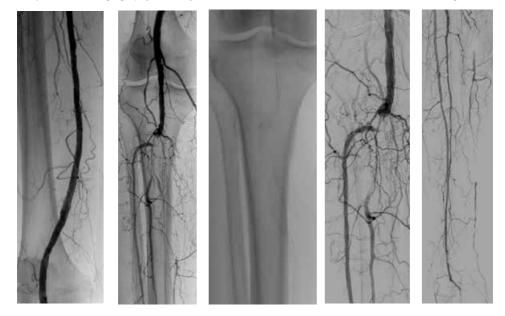
Case 25 – Leipzig 10: Male, 71 years, (W-R)

# **Complex CTO of the infrapopliteal Trifurcation**

Operators: Andrej Schmidt and Axel Fischer

Clinical data: Severe claudication right calf, paraesthesia right foot, Rutherford class 3-4 Failed recanalization-attempt elsewhere 2/2023 CAD, CABG 2017 Moderate aortic valve stenosis Diabetes mellitus type 2

Risk factors: Angiography: Severely calcified occlusion of the below-the-knee trifurcation right



#### Procedural steps:

# **1. Antegrade access right groin 6.** 6Fr 45cm Sheath (COOK)

#### OFF 43cm Sheath (COOK)

#### 2. Retrograde approach via peroneal artery

- 7cm 21 Gauge needle (COOK)
- Command 18 300cm Guidewire (ABBOTT Vascular)
- 0.018" QuickCross-Supportcatheter (PHILIPS)

#### 3. Guidewire-passage

- Win 200 T 300cm Guidewire (ABBOTT Vascular)
- Connect 250 T 300cm Guidewire (ABBOTT Vascular)

#### 4. Filter-protection (ATA) and sheath-protection (PA) and Atherectomy

- Emboshield NAV6 (ATA) (ABBOTT Vascular)
- 4 Fr Halo One Thin-Walled Guiding-Sheath (peroneal artery) (BD)
- Jetstream Atherectomy System (BOSTON SCIENTIFIC)

#### 5. PTA with DCBs

Magic Touch Sirolimus-Coated Balloon (CONCEPT Medical)

Case 26 – Paris 01: Male, 64 years

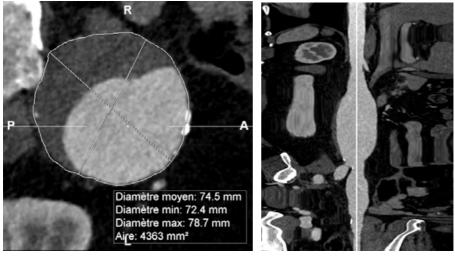
## LASER FEVAR & Right IBD – Juxta-renal aneurysm

**Operator:** Stéphan Haulon

Clinical data: Hypertension BMI: 41 kg/m<sup>2</sup> Diabetes

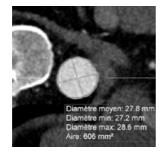


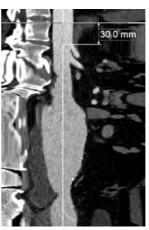
# Juxta-renal aneurysm Max diameter 78.7 mm



#### Anatomic evaluation: Proximal Landing Zone

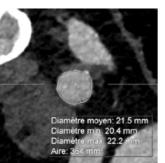
3 cm above CT Diameter: 28.6 mm



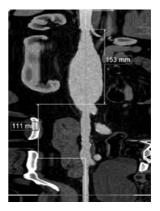


#### Anatomic evaluation: Left Distal Landing zone

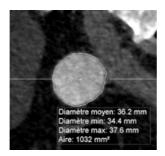
Sealing zone in LCIA Distal diameter: 22.2 mm Working position: LAO 1 CRA 15

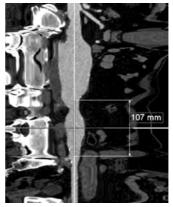






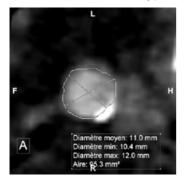
#### Anatomic evaluation: Right CIA Aneurysm Diameter: 37.6 mm



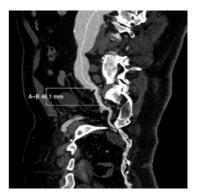


#### Anatomic evaluation: Right IIA

Diameter: 12 mm Length to 1st branch: 48 mm Working position: 33 LAO 14 CAU

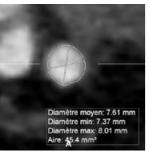


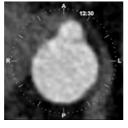




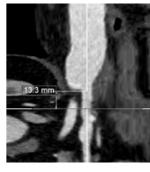
#### Anatomic evaluation: Celiac Trunk

Diameter: 8.01 mm Length to 1st branch:13.3 mm (20mm and 36mm) Clock position: 12:30 Working position: 67 LAO 1 CAU



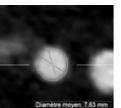




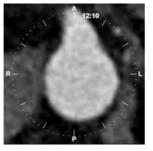


#### Anatomic evaluation: SMA

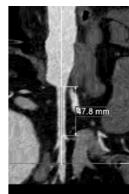
Diameter: 7.98 mm Length to 1st branch: 47.8 mm Clock position: 12:10 Working position: 58 LAO 1 CAU



Diamètre mix; 7.42 mm Diamètre mix; 7.42 mm Diamètre max; 7.98 mm Aire: 45.8 mm<sup>2</sup>

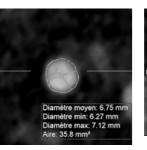






#### Anatomic evaluation: LRA

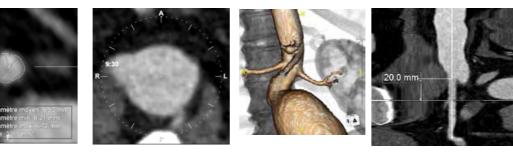
Diameter: 7.12 mm Length to 1st branch: 23.8 mm Clock position: 2:20 Working position: 24 RAO 10 CRA



#### Anatomic evaluation: RRA

RRA Diameter: 6.50 mm Length to 1st branch: 20.0 mm Clock position: 9:30

Working position: 17 RAO 16 CRA

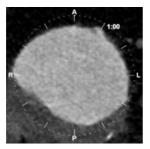


#### Anatomic evaluation: IMA

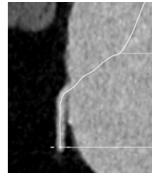
Diameter: 5.55 mm Clock position: 1:00 Working position: 50 RAO 1 CRA



Diamètre moyen: 4.93 mm Diamètre min: 4.51 mm Diamètre max: 5.55 mm Aire: 19.1 mm<sup>2</sup>

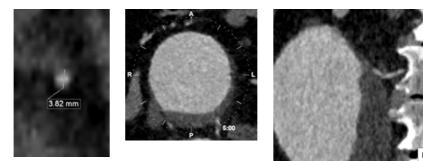




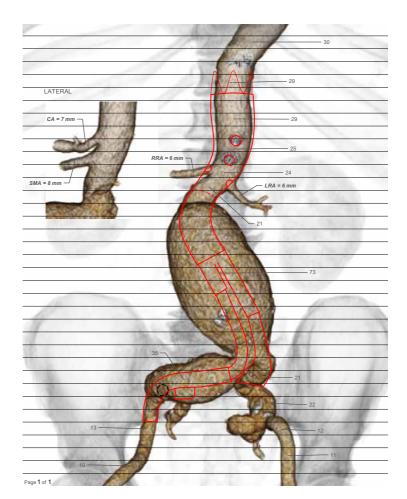


#### Anatomic evaluation: LUMBAR

Diameter: 3.82 mm Clock position: 5:00



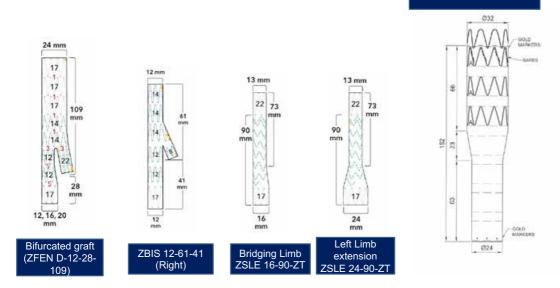
#### Anatomy sketch



THORACIC-LP-CMD-DEVICE

#### Case 26 – Paris 01: Male, 64 years – continued

#### Fenestrated Endograft



#### **Bridging Stents**

TV artery	Stent	Diameter	Length	Shaft
СТ	Be Graft	7	23	120
SMA	Be Graft	7	27	120
RRA	Be Graft	6	22/28	120
LRA	Be Graft	6	22/28	120
RIIA	Be Graft	8	37	120

Amplatzer AVP IV 6 mm for IMA Amplatzer AVP IV 5 mm for Lumbar

#### **Required accessory material**

#### Guide wires

0.035" J-tip starter guidewire (180cm) (x2)
0.035" curved Lunderquist® 260 cm extra-stiff wire (x2)
0.035" angled tip Terumo glidewire (260cm) (x2)
0.035" Rosen wire (260cm) (x1)
0.014" Balance Middle Weight wire (x1)

#### Sheaths

- 7Fr short (10cm) sheath (x2)
- 10Fr short (10cm) sheath (x2)
- 12Fr45 Flexor<sup>®</sup> sheath
- 7Fr55 Flexor<sup>®</sup> sheath
- 18Fr 33ccm DrySeal<sup>®</sup> Gore<sup>©</sup> sheath
- APTUS <sup>®</sup> 16Fr55cm (17mm tip) steerable sheath Medtronic ©

#### Catheters

- Pigtail catheter (110cm)
- KMP Beacon<sup>®</sup> catheter COOK<sup>®</sup> (100cm)

#### Balloons

- 2.5-10mm Cutting balloon Wolverine <sup>®</sup>
- 4.0-15 mm Trek<sup>®</sup> non-compliant balloon
- 9-20 mm balloon Mustang<sup>®</sup>
- 12-40mm semi-compliant balloon Mustang<sup>®</sup>
- Compliant balloon catheter CODA

#### Other

- Perclose ProStyle Abbott© (x4)
- Compliant balloon catheter CODA
- Indy Snare
- Turbo Elite laser catheter (0.9mm)

## Procedure

- $\cdot$  US guided bilateral femoral puncture: 7 Fr Sheath on both sides
- · Systemic heparinization: 100 UI/kg heparin
- · Preclosing: 2 Prostyle Proglides and bilateral 10 Fr sheaths
- $\cdot$  Fusion mask registration
- · Left: Lunderquist Dryseal 18 Fr
- Left: Aptus 16Fr / IMA catheterization using KMP and Terumo wire / selective angiography to confirm position / IMA embolization with 6mm AVP IV
- · Left: Same has above for lumbar (5mm AVP IV) and switch for Pigtail above CT
- Right: Lunderquist in ascending aorta
- · Right: Advancement of Thoracic CMD endograft
- · Left: Angiography 10mL at 30 mL/s
- · Adjustment of fusion mask
- · Deployment of endograft 3cm above CT
- · Left: Cannulation endograft lumen with KMP catheter and Terumo wire
- · Left: Advancement of Lunderquist wire
- · Left: Advancement of DrySeal 18 Fr into endograft body

# LASER FENESTRATION (Start with SMA)

- · Left: Advancement of APTUS 16Fr, and subsequently, BMW 0.014 wire & Laser catheter
- · Left: Verification of Laser probe orientation in two orthogonal fluoroscopic views with SMA fusion marker
- · Left: SMA laser fenestration creation
- · Left: Advancement of 0.014 wire
- Left: Dilatation of fenestration with 2.5mm cutting balloon and 4.0 non-compliant balloon Left: Exchange for a Rosen and advancement of bridging stent
- · Left: Flair the aortic portion of the stent with 9-20mm balloon

# Repeat the steps for the CT, the RRA & the LRA

- · Retrieval of the thoracic delivery system
- **Right:** Advance Zbis delivery system / position branch distal marker above origin of IIA / Unsheath until tip of preloaded catheter is released / Replace preloaded guidewire with a 260cm Terumo
- Left: Advance 12-45 sheath and Indi Snare / Capture the Terumo wire to obtain a "through and through" F-F acess / Advance 12F dilator tip to tip of preloaded catheter / Secure both ends of Terumo wire with clamps
- · Left: Position C-Arm, Partial deployment of the ZBIS until the side Branch is exposed
- **Right:** Advance 12Fr 45 sheath into ZBIS ( pull & push, 'nobody holds the wire') / Puncture hemostatic valve, Advance Terumo and KMP (parallel to through and through wire) through 12Fr sheath valve to catheterize the right internal iliac artery

### Procedure

- Left: Exchange Terumo for Rosen. Exchange KMP for a 7Fr 55cm sheath / Advance the bridging stent into target vessel. Remove through and through guidewire
- Right: Position ZBIS with side branch entering internal iliac
- Left: Withdraw 7Fr sheath and deploy bridging stent. Molding of the bridging stent/branch with a 12x40 balloon
- **Right:** Finish deploying ZBIS. Release trigger wires.

### Leave balloon inflated in bridging stent while removing the nose cone /inner cannula

- · Left: Deflate balloon and advance 7Fr sheath for selective angio
- · Left: Advancement of bifurcated endograft (short limb above Zbis) & deployment
- · Right: Catheterization of the contralateral limb and exchange for a Lunderquist wire
- Right: Advancement & deployment of the bridging limb
- · Left: Angiography for LCIA bifurcation location
- · Left: Advancement & deployment of the ipsilateral limb
- · Left & · Right: Molding balloon at overlapping and distal sealing zones

Completion angiography (25 mL at 15 mL/s) and CBCT

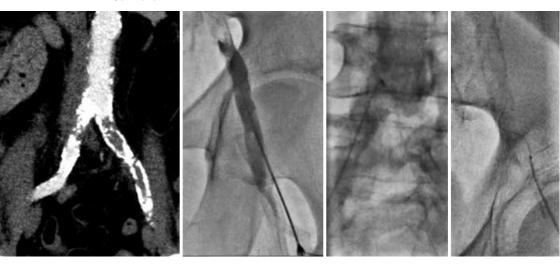
Case 27 – Leipzig 11: Male, 66 years (M-E)

# Total occlusion left iliac arteries

**Operators:** Andrej Schmidt and Manuela Konert

Clinical data: Intermittend claudication left leg (thigh and calf) < 50 meters, Total occlusion left iliac arteries, failed recanalization attempt 3/2023 Surgical repair of an abdominal aortic aneurysm 2009 CAD, PTCA 2012 Paroxysmal atrial fibrillation

**Risk factors:** ABI left 0.41; right 1.02 CT-angiography: total occlusion left common and external iliac artery, severe calcification, partially thrombotic Current smoker, hypertension, diabetes mellitus type 2 hyperlipoproteinemia



### Procedural steps:

1. Bilateral femoral access, left 10 French Terumo sheath, right 7Fr sheath

# 2. retrograde guiedewire-crossing left iliac:

- 0.018" Command 18 GW 300cm (ABBOTT Vascular)
- 4Fr Berenstein diagnostic catheter (CORDIS)
- 3. Potentially atherothrombectomy
- Rotarex 10 Fr System (BD)

# 4. Bilateral kissing-stenting aortoiliac bifurcation:

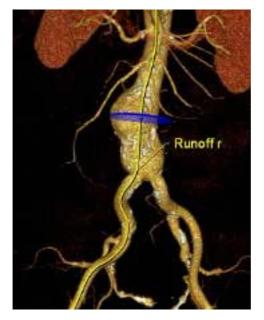
- Viabahn VBX Balloon-Expandable Endoprosthesis (GORE)
- External iliac artery: Viabahn endoprosthesis (GORE)

Case 28 – Münster 04: Male, 70 years (B-L)

# Infrarenal AAA with Endurant II

Operators: Marco V. Usai and Yousef Shehada

- Clinical data: Arterial Hypertension (CHD NYHA 2) – CKD grade I – Growing infrarenal AAA 5,5
- Risk factors: Growing hourglass 5,5, infrarenal AAA



### Procedural steps:

Percutaneus bilateral acces, preclose with Prostar XL,

angiography of the infrarenal aorta. Implantation of the main graft over the rigth side. Angiographic control of the prallaxe and deployment of the proximal hooks. Cannulation of the contrlateral limb. Completion of the left ilica with limb prolongation, completion of the deployment of the main graft. Implantation of the ipsilateral limb. Angiographic control and closure of the groins.

- Prostar XL (ABBOTT)
- Terumo Stiff 0.35 (TERUMO)
- Lunderquist 0.35 (COOK)
- 8 F Sheath (TERUMO)
- 14 F Sheath (COOK)
- Pigtail 5 F (CORDIS)
- Endurant II Bifurcated and Limb devices (MEDTRONIC)
- Reliant Balloon (MEDTRONIC)
- T-Branch, Unibody Bif. And Limbs (COOK)
- Rosen wire (COOK)
- Dry-Seal Sheath (GORE)
- C-Tag thoracic graft (GORE)

Case 29 - Paris 02: Male, 57 years

# FEVAR Type 4 Thoracoabdominal Aneurysm

- **Operator:** Stéphan Haulon
- Medical history:
   Hypertension, Ischemic cardiopathy (Multiple coronary stenting)

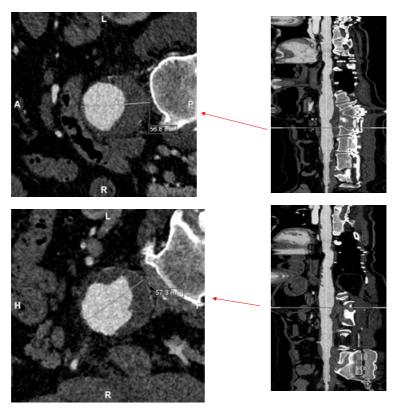
   Atrial fibrillation, Type 2 diabetes, Dyslypidemia,
   Sleep apnea, Trauma that needed laparotomy

 Pre-operative
 Dobutamine TTE: No significant cardiac ischemia

 work-up:
 TTE: LVeF 48%, no valvular disease

 DUS Supra-aortic trunks: 44% NASCET right carotid lesion and 25% left carotid lesion

# Type 4 TAAA Max diameter 57.3 mm

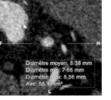




# Anatomic evaluation: Celiac Trunk

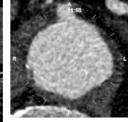
Diameter: 8.86 mm Length to 1st branch: 11.8 mm (25.3 mm) Clock position: 11:50 Working position: 77 LAO 6 CRA





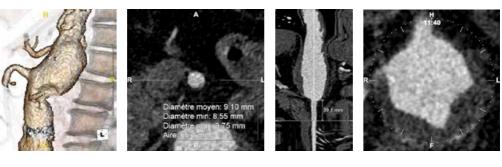






#### Anatomic evaluation: SMA

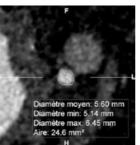
Diameter: 9.75 mm Length to 1st branch: 39.1 mm Clock position: 11:40 Working position: 90 LAO 1 CRA



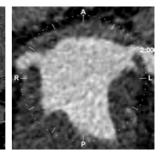
# Anatomic evaluation: LRA

Diameter: 6.45 mm Length to 1st branch: 41.4 mm Clock position: 2:00 Working position: 4 RAO 2 CRA





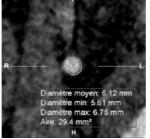




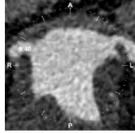
## Anatomic evaluation: RRA

Diameter: 6.75 mm Length to 1st branch: 53.5 mm Clock position: 9:40 Working position: 15 LAO 2 CRA



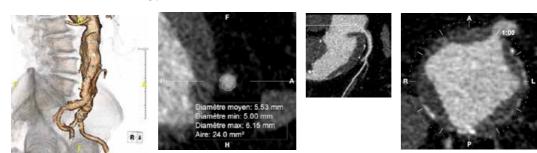






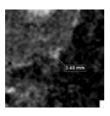
#### Anatomic evaluation: IMA

Diameter: 6.15 mm Clock position: 1:00 Working position: 62 RAO 0 CRA



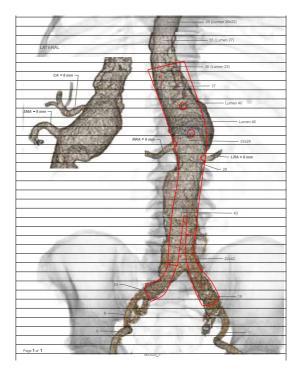
# Anatomic evaluation: Lumbar

Diameter: 3.48 mm

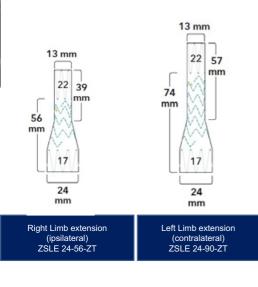


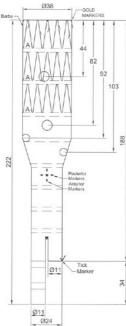


#### Anatomy sketch



## Fenestrated Endograft





#### REINFORCED LARGE FENESTRATION #I

\*\*Strut Free\*\* DIAMETER: 8mn DIST FROM PROX EDGE: 44mm CLOCK: 11:45 IVD: 37mm

# **REINFORCED LARGE FENESTRATION #2** DIAMETER: 8mm DIST FROM PROX EDGE: 82mm CLOCK: 12:00 IVD: 37mm

# REINFORCED SMALL FENESTRATION #I DIAMETER: 6mm DIST FROM PROX EDGE: 92mm CLOCK: 10:00

IVD: 37mm

# REINFORCED SMALL FENESTRATION #2 DIAMETER: 6mm DIST FROM PROX EDGE: 103mm

CLOCK: 2:00 IVD: 28n

SINGLE DIAMETER REDUCING TIES

- LOW PROFILE FABRIC .
- CONTRALATERAL LIME @ 3:00 •

Plus: Ipsilateral Leg Exte ZSLE-24-39-ZT

Contralateral Leg Extension ZSLE-24-90-ZT



# Sizing Bridging Stents

TV artery	Stent	Diameter	Length	Shaft
СТ	BeGraft	7	27	120
SMA	BeGraft	8	27	120
RRA	BeGraft	6	28	120
LRA	BeGraft	6	28	120

IMA: Amplatzer AVP IV 7 mm

# **Required accessory material**

### **Guide wires**

- 0.035" J-tip starter guidewire (180cm) (x2)
- 0.035" curved Lunderquist<sup>®</sup> 260 cm extra-stiff wire (x2)
- 0.035" angled tip Terumo glidewire (260cm) (x2)
- 0.035" Rosen wire (260cm) (x4)

### Sheaths

- 7Fr short (10cm) sheath (x2)
- 10Fr short (10cm) sheath (x2)
- 16Fr 33ccm DrySeal<sup>®</sup> Gore<sup>©</sup> sheath
- 18Fr 33ccm DrySeal<sup>®</sup> Gore<sup>©</sup> sheath
- APTUS <sup>®</sup> 7Fr55cm (17mm tip) steerable sheath Medtronic ©

### Catheters (5Fr)

- Pigtail catheter (110cm)
- KMP Beacon<sup>®</sup> catheter COOK<sup>®</sup> (100cm)
- Vanschie 3 125cm catheter
- Vanschie 4 125cm catheter

#### Other

- Perclose ProStyle Abbott© (x4)
- Compliant balloon catheter CODA
- 9-20 mm balloon Mustang<sup>®</sup>
- 10-20 balloon Mustang<sup>®</sup>
- Concerto<sup>®</sup> Coils 4 mm

### Procedure

- $\cdot$  US guided bilateral femoral puncture: 7 Fr Sheath on both sides
- · Systemic heparinization: 100 UI/kg heparin
- · Preclosing: 2 Prostyle Proglides and bilateral 10 Fr sheaths
- · Fusion mask registration
- · Left: Lunderquist DrySeal 16 Fr
- · Left: Pigtail catheter just above celiac trunk
- · Right: Lunderquist in ascending aorta

## Check fenestrated endograft orientation/markers before insertion

- · Right: Advancement of fenestrated endograft
- · Left: Angiography 10mL at 30 mL/s.
- · Adjustment of fusion mask
- · Partial Deployment of endograft

### RRA catheterization (lowest TV)

· Left: Cannulation endograft lumen with KMP and Terumo wire

## Check that the top of the guide wire is positioned inside the endograft

- · Left: Advancement of Lunderquist wire
- · Left: Advancement of DrySeal 16 Fr into endograft body
- · Left: Advancement of APTUS 7Fr
- · Left: RRA fenestration and artery catheterization with KMP & Terumo wire
- · Left: Selective RRA angiography
- · Left: Exchange Terumo with Rosen wire
- · Left: Sheath & KMP retrieval (leaving Rosen wire into the RRA)

## Repeat the steps for the LRA, the SMA & the CT After CT catheterization, the bridging stent is advanced into the TV

### Graft and bridging stent deployment

- · Right: Release diameter-reducing ties, proximal and distal attachments
- · Partial retrieval of the delivery system & Lunderquist wire
- · Left: Advancement & deployment of bridging stents (protruding 3- 4mm into the aortic lumen)
- Left: Flaring the aortic portion of the bridging stents with 9-20mm Mustang balloons for the renals, and 10-20mm balloon for the SMA and celiac artery
- · Selective angiography in each target vessel after stenting

### Maintain sheath access within bridging stents at each step

### Bifurcated endograft and iliac extensions

- · Right: Angiography of RCIA bifurcation
- · Right: Advancement & deployment of ipsilateral limb
- · Left: Catheterization of the contralateral limb and exchange for a Lunderquist wire
- · Left: Angiography of LCIA bifurcation
- · Left: Advancement & deployment of controlateral limb
- · Left: & Right: Molding balloon at overlapping and distal sealing zones

Completion angiography (25 mL at 15 mL/s) and CBCT

Case 30 – Jena 01: Female, 37 years, (K-F)

# Microwave ablation of recurrent cholangiocellular carcinoma after left-side hemihepatectomy

 Operators:
 René Aschenbach

 Clinical data:
 PSC/CU first diagnose in 2009, CCC in 2021, hemihepatectomy left in 1/22 with R0-resection, pT2L1V1Pn1 cM0, stage IIIb

 7/22 hepatic recurrence with chemotherapy GEM/CIS
 12/22 recurrence of singular metastasis with MWA (A0-Ablation)

 5/23 recurrence of singular hepatic lesion SVIII, ITB waived microwave ablation

**Risk factors:** CT confirmed singular mts of 12mm, 1cm margin to capsule, planning of intervention, planned to place the probe from median to lateral intraprocedural planned positioning not possible, new approach from distal/ventral with steep angulation to the liver dome

# pictures will follow soon

Procedural steps:	1. Preparation of general sedation	
	2. Pre-procedural CT-scan to confirm planned approach	
	3. Estimation of probe positioning and preparing entrance point (Dophi Ablation System/Vivamus Medical)	
	4. Insertion of probe an confirmation of correct position with CT-Fluoroscopy	
	5. Start of ablation with 50W, duration 3 min (2.5cm ablation zone)	
	6. After first ablation cycle replacement of probe slightly more medial and repeating the cycle with 50W for 3 minutes	
	7. Ending the ablation and remove of the probe with track ablation mode	
	8. Control scan after ablation confirmed a slight bleeding sub capsular, no hemodynamic effect	
	9. Referred to intermediate care for one night and MRI-control 24hrs after ablation	

Case 31 – Jena 02: Male, 63 years (H-J)

# Patient A – Prostate Artery Embolization (PAE) in patient with LUTS and failed medication therapy for 6 month

Operator:	Tobias Franiel
Clinical data:	Prostate Volume 78ml, PSA = 3.2ng/ml, negative mpMRl of the prostate, IPSS 18 (range 0-35), QoL 5, Qmax = 6ml/s, IIEF-5 25 (range 1-25)
Risk factors:	Patient refused TURP, CTA of the pelvic arteries will be made one day before the embolization, possible risk factors and origins of the prostate artery will explained during the intervention

# pictures will follow soon

Procedural steps:	1. Retrograd puncture of the femoral common artery & insertion of a 5F sheath 10cm (TERUMO)
	2. Cannulation of the contralateral intern iliac artery with 4F RIM 65cm (MERIT MEDICAL)
	3. Digital subtraction angiography of the intern iliac artery branches with the preprocedural identified optimal angulation of the X-ray tube
	4. Insertion of the 2.7F Progreat Microcatheter 130cm (TERUMO) and cannulation of the prostate artery orifice
	5. Advancing the microcatheter towards the prostate
	6. Control for possible collaterals to the adjacent structures and organs (e.g. accessory pudendal artery)
	7. Embolisation of the left prostate artery with Embozene microspheres 400 $\mu m$ (VARIAN)
	8. Repeat the same steps for the ipsilateral side

Case 32 – Jena 02: Male, 59 years (K-J)

# Patient B – Prostate Artery Embolization (PAE) in patient with LUTS and failed medication therapy for 6 month

**Operator:** Tobias Franiel

- *Clinical data:* Prostate Volume 60ml, PSA = 9.8ng/ml, no prostate cancer in targeted and systematic prostate biopsy, IPSS 31 (range 0-35), QoL 5, Qmax = 10.4ml/s, IIEF-5 10 (range 1-25)
- **Risk factors:** Patient refused TURP, CTA of the pelvic arteries will be made one day before the embolization, possible risk factors and origins of the prostate artery will explained during the intervention

# pictures will follow soon

Procedural<br/>steps:1. Retrograd puncture of the femoral common artery & insertion of a 5F sheath 10cm<br/>(TERUMO)2. Cannulation of the contralateral intern iliac artery with 4F RIM 65cm (MERIT MEDICAL)<br/>3. Digital subtraction angiography of the intern iliac artery branches<br/>with the preprocedural identified optimal angulation of the X-ray tube<br/>4. Insertion of the 2.7F Progreat Microcatheter 130cm (TERUMO) and cannulation of the<br/>prostate artery orifice5. Advancing the microcatheter towards the prostate<br/>6. Control for possible collaterals to the adjacent structures and organs (e.g. accessory<br/>pudendal artery)7. Embolisation of the left prostate artery with Embozene microspheres 400μm (VARIAN)<br/>8. Repeat the same steps for the ipsilateral side

Case 33 – Colorado 02: N/A

# live case info will follow soon

Case 34 – Jena 03: Male, 67 years (S-W)

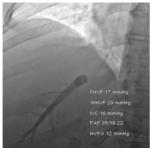
# Trans-jugulary-intrahepatic portosystemic stent shunt (TIPSS) in refractory ascites and Child B cirrhosis

Operators: Daniel Nißler, Florian Bürckenmeyer, Rene Aschenbach

*Clinical data:* Child B cirrhosis with ascites, otherwise refractory to therapy

**Risk factors:** CT confirmed cirrhosis and patency of the right hepatic vein, rule out of HCC in estimated puncture tract, no PVT, no large cysts HVPG-measurement confirmed portal hypertension with HVPG of 12mmHg







Measurement of porto-systemic-pressure gradient using Ferlitsch®-catheter

FHVP: 17mmHg PAP: 35/19 (22)mmHg WHVP: 29mmHg HVPG: 12mmHg (normal value <6mmHg)

Procedural steps:

1. Ultra-sound guided puncture of right jugulary vein

2. Insertion of Flexor Check Flo II Introducer Set 10F (COOK)

**3.** Cannulation of right hepatic vein using Turcon NB Advance Catheter (COOK) TIPS-Configuration and road-runner guide wire **0.018**" (COOK)

4. Advancing introducer-sheath into right hepatic vein using Amplatzer super stiff wire (BOSTON SCIENTIFIC)

5. ultrasound-guided puncture of intrahepatic right portal vein using Transjugulary liver access and biopsy Needle Set (COOK)

6. Advancing diagnostic catheter into portal vein using PIG-Vessel sizing catheter-20B UHF (MERIT MEDICAL) to define lenght of TIPSS-Stentgraft

7. Measurement of pressure in inferior caval vein, right hepatic vein an portal vein

8. Dilatation of liver-tract using Passeo 35-XEO 8mm (BIOTRONIK) and advancement of the transjugulary sheath into the portal vein

9. Implantation of VCX Viatorr 8-10 mm controlled expandable stentgraft (GORE) and repeating of pressure measurement, target pressure: reduction 50-60% of HVPG

L E I P Z I G I N T E R V E N T I O N A L C O U R S E 2 0 2 3

> Thursday, 8 June 2023

LINC

Case 35 – Osaka 01: Male, 89 years

# Pioneering techniques and innovations for complex BTK disease

<b>Operators:</b>	Osamu lida	
Clinical data:	CLTI Rutherford 5 (non-healing ischeamic interdigital ulcer between the right fourth and fifth toe for 4-month)	
Risk factors:	Hypertension, Dyslipidemia Skin perfusion pressure: dorsal 26mmHg, plantar 25mmHg WIFI classification: W 1, I 3, fl 0	
History:	April/2023: drug coated balloon angioplasty for right SFA stenosis stent implantation for bilateral common iliac artery	



Target: Right peroneal artery (PA) and anterior tibial artery (ATA) occlusion





Procedural steps:

Antegrade approach from rt CFA with SFr sheath

Retrograde approach from dorsalis pedis artery if antegrade approach is failed
Wire: 0.014 inch Regalia, Gladius, Suoh 03 (ASAHI INTECC)
Micro catheter: Promanet (TOKAI MEDICAL)

**Technique: Subintimal angiopasity** 

**Imaging modality** intravascular ultrasound (TERUMO)

**Treatment: Plain angioplasty** 

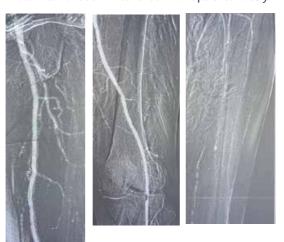
Case 36 – Abano Terme 01: Male, 77 years (G-P)

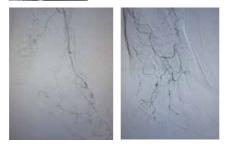
# Decision making in a long occlusion of posterior tibial and lateral plantar arteries

Operators: Marco G. Manzi and Salvatore Esposito

**Clinical data:** Former smoker, Obesity, Type 2 Diabetes mellitus, Dislipidemia, Arterial Hypertension, Coronary Artery Disease, Chronic Kidney Disease, Chronic Limb-threatening Ischemia

**Risk factors:** Very high Cardiovascular risk Moderate chronic kidney disease Apical lesion of the left IV toe (Ruherford 5, WIFI 2,2,1) Long Chronic occlusion of Posterior tibial and lateral plantar arteries Anatomical variation: Anterior dominant peroneal artery





Procedural steps:

- 1. US-guided antegrade approach of femoral artery with short 6F sheat
- 2. CO2 diagnostic angiography + Perfusion angiography of the foot

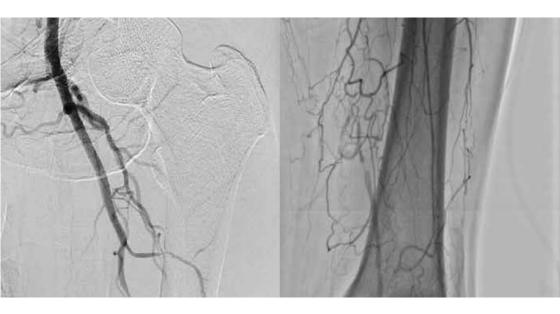
3. Antegrade endoluminal recanalization of long CTO of posterior tibial artery and lat plantar artery with 0,014" guidewire (antegrade wire escalation) supported by diagnostic 4F catheter or microcatether (0,18" or 014" platform)

- 4. When failure, retrograde.
- 5. Discussion about DCB (Lutonix DCB (BD))
- 6. Us guided closure device deployment

Case 37 – Osaka 02: Male, 71 years

# Optimizing results of peripheral artery interventions

<b>Operators:</b>	Osamu lida
Clinical data:	LEAD Rutherford 3, walking capacity 100m, ABI left 0.38
Risk factors:	Hypertension, Smoking, Dyslipidemia, Coronary artery disease
Target:	Angiography: Left SFA flush occlusion involving ostium



**Procedural** Contralateral approach from rt CFA with GFr sheath

steps:

Retrograde approach from distal SFA if antegrade approach is failed

# Wire

0.014 inch Gladius (ASAHI INTECC)
 0.035 inch Radifocus straight and baby J type wire (TERUMO)

# Support catheter

4Fr CX1 (COOK)
 Ichibanyari (KANEKA)

# Technique: Subintimal angiopaslty

**Imaging modality** Intravascular ultrasound (TERUMO)

**Treatment** Primary Eluvia DES stenting (BOSTON SCIENTIFIC)

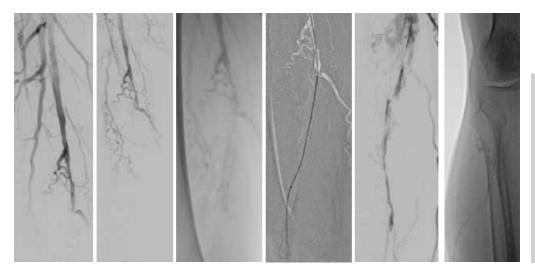
Case 38 – Leipzig 12: Male, 73 years (F-K)

# **Complex reocclusion distal SFA**

Operators: Andrej Schmidt and Manuela Konert

Clinical data:Severe claudication right calf, walking capacity 50 meters, Rutherford class 3<br/>PTA / Stent right distal SFA 2018<br/>Failed recanalization-attempt of a reocclusion elsewhere 4/202

**Risk factors:** ABI right 0.54 CAD Hypertension Current smoker



Procedural steps:

- 1. Antegrade right groin access
- 8Fr-20cm sheath (TERUMO)

# 2. retrograde access via proximal anterior tibial artery

- 7cm 21 Gauge needle (COOK)
- Micropuncture pedal access kit (COOK)
- 0.018" QuickCross Supportcatheter 90cm (PHILIPS)

# 3. Antegrade and retrograde guidewire-passage

- 0.018" Command 18 300cm Guidewire (ABBOTT Vascular)
- 0.018" Connect 250 T 300cm Guidewire (ABBOTT Vascular)

# 4. Atherectomy / Thrombectomy

Rotarex 8Fr System (BD)

# 5. PTA and PTA with Drug-Coated Balloons:

- Ultrascore Focused Force Balloon (BD)
- In.Pact Admiral Drug-Coated Balloon 6.0/250mm (MEDTRONIC)

# 6. Stenting on indication

Eluvia Drug-Eluting Stent (BOSTON SCIENTIFIC)

Case 39 – Abano Terme 02: Male, 66 years, (R-O)

# Multi Level Disease: Long occlusion of superficial femoral artery from the ostium and PTA occlusion

Operators: Marco G. Manzi and Salvatore Esposito

**Clinical data:** Smoker, Type 2 Diabetes mellitus, Dislipidemia, Arterial Hypertension, Chronic Kidney Disease, Chronic Limb-threatening Ischemia

**Risk factors:** Very High Cardiovascular risk Severe Chronic Kidney Disease Severe Ischemia of the forefoot with gangrene of the 1st, 3rd and 4th toes of right inferior limb



Procedural steps: 1. US-guided antegrade approach of femoral artery with short 6F sheat

2. CO2 diagnostic angiography + Perfusion angiography of the foot

3. Antegrade endoluminal recanalization 0,035" stiff guidewire, 4F BER 2/Terumo Navicross 35", subintimal when failure.

- 4. When re-enter failure, retrograde.
- 5. When endoluminal, DCB and when subintimal discussion for scaffolding
- Selution Sirolimus coated balloon (MEDALLIANCE/CORDIS)
- Nitides Amphilimus eluting stent (ALVIMEDICA)

6. Balloon aemosthasis and antegrade posterior tibial recanalization, 0,014, retrograde when failure.

7. US-guided closure device deployment

Case 40 – Leipzig 13: Male, 72 years (C-P)

# Complex calcified comon femoral artery disease

- Operators: Andrej Schmidt and Axel Fischer
- **Clinical data:** Severe Claudication left leg, walking capacity 50 meters, Rutherford class 3 CAD, PTCA 2019 and 2021, Ischemic cardiomyopathy, NYHA II-III Diabetes mellitus type 2
- **Risk factors:** Former smoker, Hypertension, Hyperlipoproteinemia Adipositas, BMI 32.6, ABI left 0.44; right 0.54



### 1. Right groin and cross-over access:

7Fr Cross-over sheath 45cm (COOK)

# 2. Left SFA retrograde access for embolic protection

■ 6Fr sheath 10cm (TERUMO)

- 3. Guidewire-passage, embolic protection and atherectomy
- Emboshield NAV 6 for the deep femoral artery (ABBOTT Vascular)
- JetStream atherectomy (BOSTON SCIENTIFIC)

### 4. PTA and stenting on indication

- Sterling and Mustang 6.0 8.0/40mm Balloon (BOSTON SCIENTIFIC)
- Luminor 18 Drug-Coated Balloon (iVascular)
- Supera Interwoven Nitinol-Stent (ABBOTT Vascular)

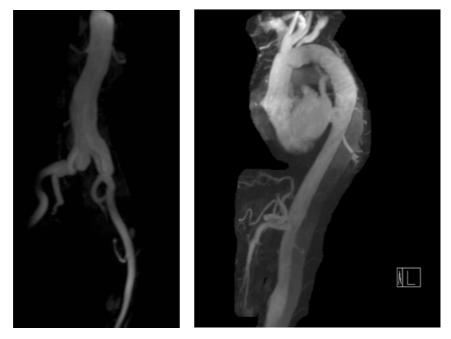
Case 41 – Münster 05: Male, 49 years (M-P)

# Extension of a frozen elefant trunk after Typ A Aortic dissection with TEVAR as first session

Operators: Marco Virgilio Usai and Yousef Shehada

*Clinical data:* After Frozen elefant trunk and aortic valve replacement 07/14

- CAD
- Arterial Hypertension (CHD NYHA 2)
- CKD grade III
- After Stroke 2014
- Sleep apnea syndrome



Procedural steps: Percutaneus rightsided acces, preclose with Prostar XL, angiography of the aorta. Introduction of the Dry-Seal Sheath. Implantation of the main graft over the rigth side. Angiographic control of the parallaxe and deployment of the graft. Angiographic control and closure of the groin.

- Prostar XL (ABBOTT)
- Terumo Stiff 0.35 (TERUMO)
- Lunderquist 0.35 (COOK)
- 8 F Terumo Sheath (TERUMO)
- 14 F Cook Sheath (COOK)
- Pigtail 5 F (CORDIS)
- Reliant Balloon (MEDTRONIC)
- C-Tag thoracic graft (GORE)
- Dry-Seal Sheath (GORE)

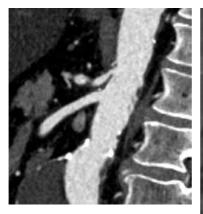
Case 42 – Hamburg 01: Male, 72 years, (L-D)

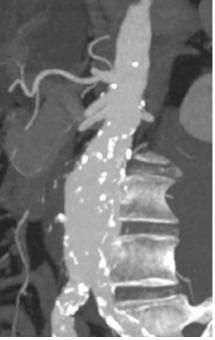
# **Fenestrated EVAR**

**Operators:** Fiona Rohlffs and Nils Zabel

Clinical data: Infrarenal aortic aneurysm (59mm in max. diameter)

- Risk factors: Art. hypertension
  - · Diabetes mellitus typ II
  - Chronic obstructive pulmonary disease (COPD)
  - Rheumatoid arthritis





Procedural steps: 1. Percutaneous access via both groins

2. Setting up the vessel Navigator

3. Inserting and placing the fenestrated main Body (COOK Medical) via the right common femoral artery (CFA)

4. Catheterrization of renovisceral vessels via the left CFA and placing 6F and 7F sheaths. Potentially for coeliac trunc: using a steerable sheath (FUSTAR, LAMED)

5. Full release of the main body and placement of the bridging stents

- Advanta V12 (GETINGE)
- iCover (iVascular)

6. Distal extension of the fenestrated main body via bifurcated graft (COOK Medical, ZFEN-D) and iliac leg (COOK Medical, ZISL)

7. Percutaneous closure of both accesses

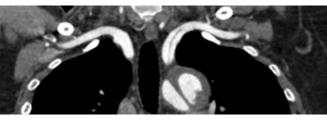
Case 43 – Hamburg 02: Male, 59 years (G-C)

# Branched TEVAR (two branches for innominate artery and left common carotid artery) + Candy-Plug

**Operators:** Fiona Rohlffs, Allegra Doering, and Nils Zabel

**Clinical data:** Residual Type A aortic dissection with thoracoabdominal false lumen aneurysm (5,5cm) after supracoronary ascending aortic tube graft repair, previous left carotid-subclavian bypass, Dissection of LSA

*Risk factors:* • art. Hypertension





Procedural1. Cut down of the right common carotid artery, establishment of transfemoral and<br/>steps:steps:left brachial access pathways, CT-Fusion Overlay (PHILIPS Vessel Navigator)

2. Catheterisation of the aortic valve an placement of a stiff wire into left the ventricle

3. Introduction of the main body (COOK Medical CMD arch branch) and deployment under Cardiac Output Reduction

4. Catheterisation of the branches and placement of bridging stentgrafts to the innominate artery and LCCA (BARD, Fluency)

- 5. TEVAR extension to Celiac Trunc
- 6. False lumen catheterisation and false lumen occlusion using the Candy-Plug Technique
- 7. Occlusion of the proximal LSA (True and False lumen)

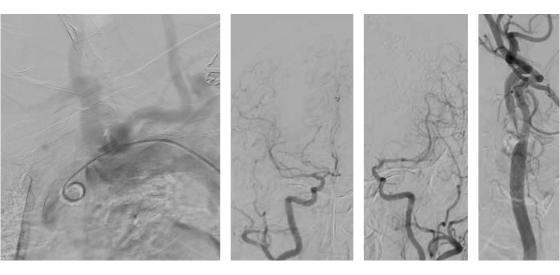
Case 44 – Leipzig 14: Male, 73 years (W-H)

# **Carotid artery stenting**

Andrej Schmidt and Axel Fischer **Operators:** 

Clinical data: Asymptomatic, progressive stenosis left ICA Maximal systolic flow-velocity 3/2022 3.4m/sec.; 3/2023 3.9m/sec CAD with MI, PTCA 2020, ischemia cardiomyopathy, EF 40%, NYHA II PAOD, PTA / stenting SFA 202

**Risk factors:** Former smoker hypertension HLP



# Procedural

# 1. Right groin access

steps:

- 5F Judkins Right diagnostic catheter (CORDIS)
- 0.035" SupraCore Guidewire 300cm (ABBOTT Vasculaar)
- 7Fr 90cm Check Flo Performer Sheath (COOK)

# 2. Cerebral protection

- Filterwire EZ (BOSTON SCIENTIFIC)
- 3. Predilatation
- Armada XT 4.0/20mm Rapid Exchange Balloon (ABBOTT Vascular)
- 4.Stent implantation
- 9/30mm CGuard Stent (InspireMD)

# 5. Postdilatation on indication

Sterling Rapid Exchange Balloon 5.0/20mm (BOSTON SCIENTIFIC)

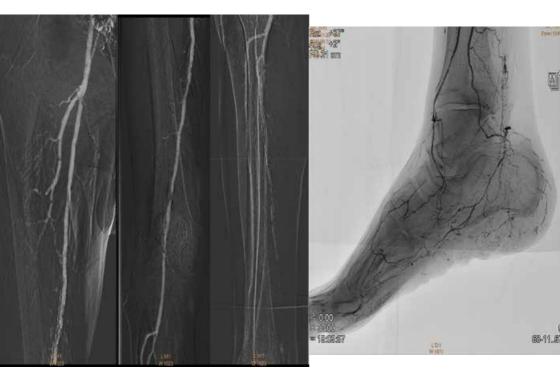
Case 45 – Abano Terme 03: Male, 92 years (G-P)

# **BTK Occlusion**

**Operators:** Marco G. Manzi and Salvatore Esposito

Clinical data: DM, HYPERTENSION WIFI : 2,3,1; TcPO2: 8 mmHg

*Risk factors:* Gangrene of V° toe



Procedural steps:

- 1. Antegrade CFA US-guided puncture, 6F, TERUMO 11 cm sheath.
  - 2. Antegrade 0,014 wire crossing, retrograde when failure
  - 3. Discussion for DCB when intraluminal (Luminor DCB (iVASCULAR))
  - 4. US-guided closure device deployment

L E I P Z I G I N T E R V E N T I O N A L C O U R S E 2 0 2 3

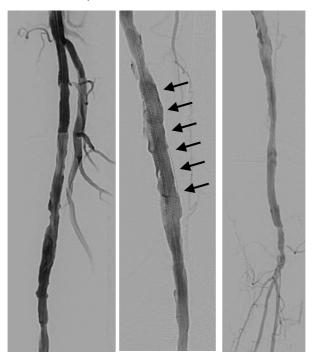
> Friday, 9 June 2023

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Case 46 – Leipzig 15: Male, 62 years, (C-M)

# Endovascular Extraction of an undersized Interwoven SFA-Stent

- Operators:Andrej Schmidt and Axel FischerClinical data:Recurrent reocclusion left SFA<br/>Endovascular thrombectomy / thrombolysis left 4/2022; 12/2022 and 4/2023<br/>Recurrent severe claudication and restpain<br/>Supera-stent-implantation and DCB-treatment 4/2020<br/>Kissin-stent aortoiliac bifurcation
- **Risk factors:** Currently triple-anticoagulation (DAPT and low-dose Rivaroxaban) Angiography during thrombectomy / thrombolysis 4/2023 shows an undersized Supera-stent mid SFA left



Procedural steps:

# 1. left antegrade access:

8 Fr. 45cm Destination-Sheath with detachable valve (TERUMO)

# 2. Snaring of the proximal struts of Supera-stent:

- BeBack Reentry-catheter (BENTLEY) or
- IMA 5Fr Diagnostic catheter (CORDIS)
- Advance 0.018" 300cm Guidewire (TERUMO) or
- Rotarex 0.018" Guidewire (BD)
- 10mm Amplatz Goose Neck Snare Kit (MEDTRONIC)

# 3. After extraction of the Supera-Stent PTA / stenting on indication

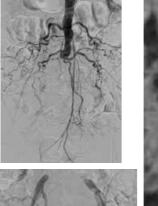
- Viabahn Endoprosthese (GORE)
- Epic-Stent (BOSTON SCIENTIFIC)

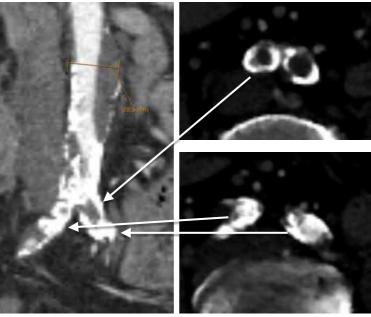
Case 47 – Leipzig 16: Male, 72 years (K-G)

# **Leriche Syndrome**

Operators: Andrej Schmidt and Manuala Konert

- Clinical data:Severe claudication, paraesthesia both legs after very short walking-distance (10-50 meters)<br/>CAD, NYHA II, Surgical treatment of an urothel carcinoma 2018,<br/>Gastric perforation, surgery 2010, Rheumatoid arthritis,<br/>Nosokomial pneumonia with resuscitation 1/2023
- **Risk factors:** ABI right 0.44; left 0.38 CT-angiography: occlusion and severe calcification of the aortoiliac bifurcation





Procedural steps:

# 1. Transbrachial and bilateral femoral access

- 7F 90cm Check-Flo Performer Sheath (COOK)
- **F** 25cm Radiofocus Introducer II (TERUMO)
- SupraCore 300cm 0.035" Guidewire (ABBOTT)

# 2. Passage of the CTO left common iliac artery –Via brachial access:

- Stiff straight 0.035" Radiofocus Guidewire 260cm (TERUMO)
- 6Fr Launcher Guiding-Catheter 100cm (MEDTRONIC)
- 5Fr 125cm Judkins Right Diagnostic Catheter (CORDIS)

# 3. Passage into the CTO left CIA from left retrograde for reversed CART-technique:

- Stiff straight 0.035" Radifocus Guidewire 260cm (TERUMO)
- 5.0/40mm Mustang Balloon (BOSTON SCIENTIFIC)

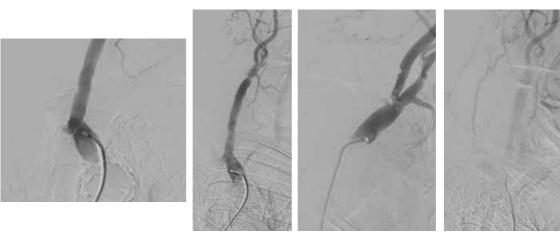
# 4. Balloon-angioplasty and stenting in kissing-technique:

- Mustang-balloons 6/40 (BOSTON SCIENTIFIC)
- Advanta V12 Balloonexpandable Covered Stents (GETINGE)

Case 48 – Leipzig 17: Male, 69 years (S-T)

# Symptomatic occlusion right subclavian artery

- Operators:Andrej Schmidt and Sandra DüsingClinical data:Pain / weekness during exercise right arm,<br/>PAOD with PTA / stenting SFA and ialiac arteries bilateral (2018 2023)<br/>CEA left carotid artery 2019<br/>CAD, NYHA II<br/>Diabetes mellitus type 2<br/>Tongue carcinoma with surgical treatment 2015
- **Risk factors:** Former heavy smoker Hypertension, HLP



#### Procedural steps:

# 1. Access:

- right groin 8F-80 cm sheath Check-Flo-Performer (COOK)
   right brachial artery 6Fr-55cm (COOK)
- 2. Guidewire-passage from antegrade and retrograde:
- Connect Flex 0.018" 300 cm Guidewire (ABBOTT Vascular)
- Connect 250 T 0.018" 300 cm Guidewire (ABBOTT Vascular)
- **3. Cerebral protection via the femoral 8F sheath** Emboshield NAV6 (ABBOTT Vascular)

# 4. PTA and stenting of the subclavian artery occlusion:

- Sterling 6/40mm Balloon (BOSTON SCIENTIFIC)
- Advanta 8/18 Covered Stent (GETINGE)

Case 49 - Münster 06: Male, 71 years (M-P)

# Crawford Typ IV TAAA

Friday, 09:00 - 13:00

Operators: Marco Virgilio Usai and Martin Austermann

- *Clinical data:* Arterial Hypertension (CHD NYHA 2)
  - Gastroesophageal reflux Disease
  - Hypothyroidism
  - Growing Type IV Crawford TAAA 7,6 cm
- Risk factors: Narrow iliac accesses



## Procedural steps:

Percutaneus bilateral acces, preclose with Prostar XL, angiography of the visceral aorta. Implantation of the T-Branch over the rigth side. Angiographic control of the aortic bifurcation and deployment of the uniboy bifurcated graft. Cannulation of the contrlateral limb. Completion of the left iliac with limb prolongation, Completion of the deployment of the main graft. Implantation of the ipsilateral limb.

Molding of the grats with Reliant ballons. Angiographic control and closure of the groins. Cut-Down of the left axillary artery, introduction of a 12 f shuttel sheath, and periscopic of a 8F 90 cm shuttel sheath. Cannulation of the branches with a Bern cath. Using a stiff terumo. Connection of the branches with VBX bridging stents. Angiographic control. Closure of the axillary incision.

Prostar XL (ABBOTT)
Stiff 0.35 (TERUMO)
Lunderquist 0.35 (COOK)
8 F Sheath (TERUMO)
14 F Sheath (COOK)
Pigtail 5 F (CORDIS)
Reliant Balloon (MEDTRONIC)
T-Branch, Unibody Bif. And Limbs (COOK)
Rosen wire (COOK)

Case 50 - Hamburg 03: Male, 68 years (H-H)

# Inner branched EVAR

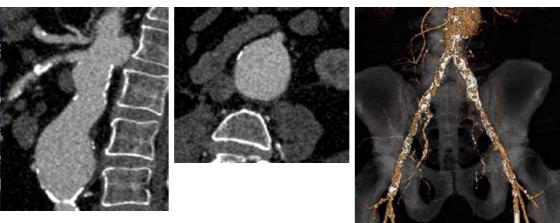
**Operators:** Fiona Rohlffs and Allegra Doering

**Clinical data:** Infrarenal aortic aneurysm (max. 53mm) + PAU, dorsal pseudoaneurysm at the level of the renoviszeral segment, stenosis of the coeliac trunk, calcified and stenotic access vessels

 Risk factors:
 1. Coronary heart disease, 4x coronary bypasses

 2. Pulmonary hypertension
 3. Pulmonary emphysema

- 4. PAOD
- 5. Atrial fibrillation
- 6. Arterial hypertension
- 5. Arterial hypertens
- 7. DM type II
- 8. Obesity



Procedural steps: 1. Establishment of transfemoral bilateral access pathways, CT-Fusion Overlay PHILIPS Vessel Navigator

# 2. Introduction of the main body

- COOK Medical CMD thoracoabdominal 4x inner-branched device 32-22-198
- 3. Introduction of the bifurcated graft
- COOK Medical 24-12/11,5- 104

4. Extension of the ipsilateral leg COOK Medical ZISL 13-77/ZISL 13-93

5. Catheterisation of the CT, SMA, RRA and LRA using a steerable sheath and implantation of bridging stent grafts

LAMED, Fustar steerable sheath

- GORE: VBX, Viabahn, BARD: Fluency,
- MEDTRONIC: Visi-Pro balloon-expandable stent
- GETINGE: Advanta
- 6. Catheterisation and extension of the contralateral leg
- COOK Medical ZISL 16-59/ZISL 16-77

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# **Congress production and organisation**



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