VASCUPEDIA

Multiple occlusions of a bare-metal stent in the popliteal artery:

step by step decision making and treatment

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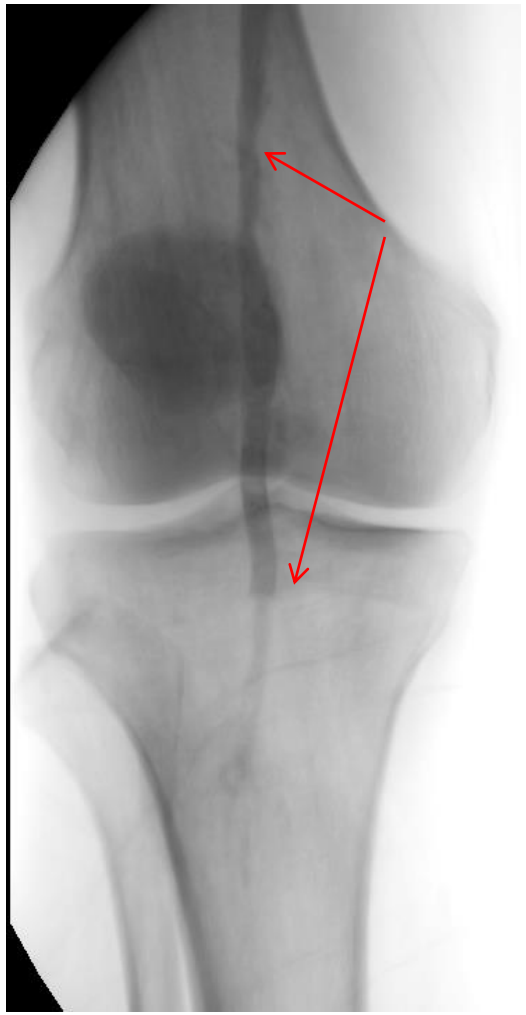
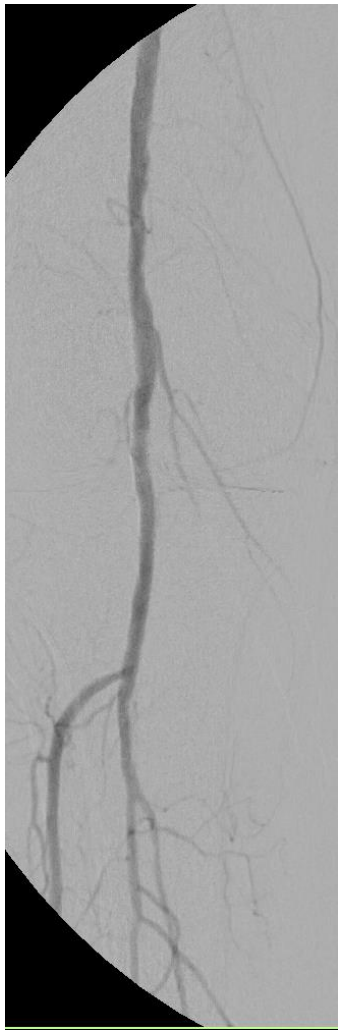
Case presentation

- Male
- 56 yrs old
- Comorbidity: Coronary artery disease, Hypercholesterolemia, arterial hypertension
- Previous operations/interventions:
  - carotid endarterectomy right ICA
  - Stenting of the popliteal artery (P1/2 - SMART) 2014
  - Extension of the stent distally (p2 - Supera) 2014

Index angiography





2014

2015

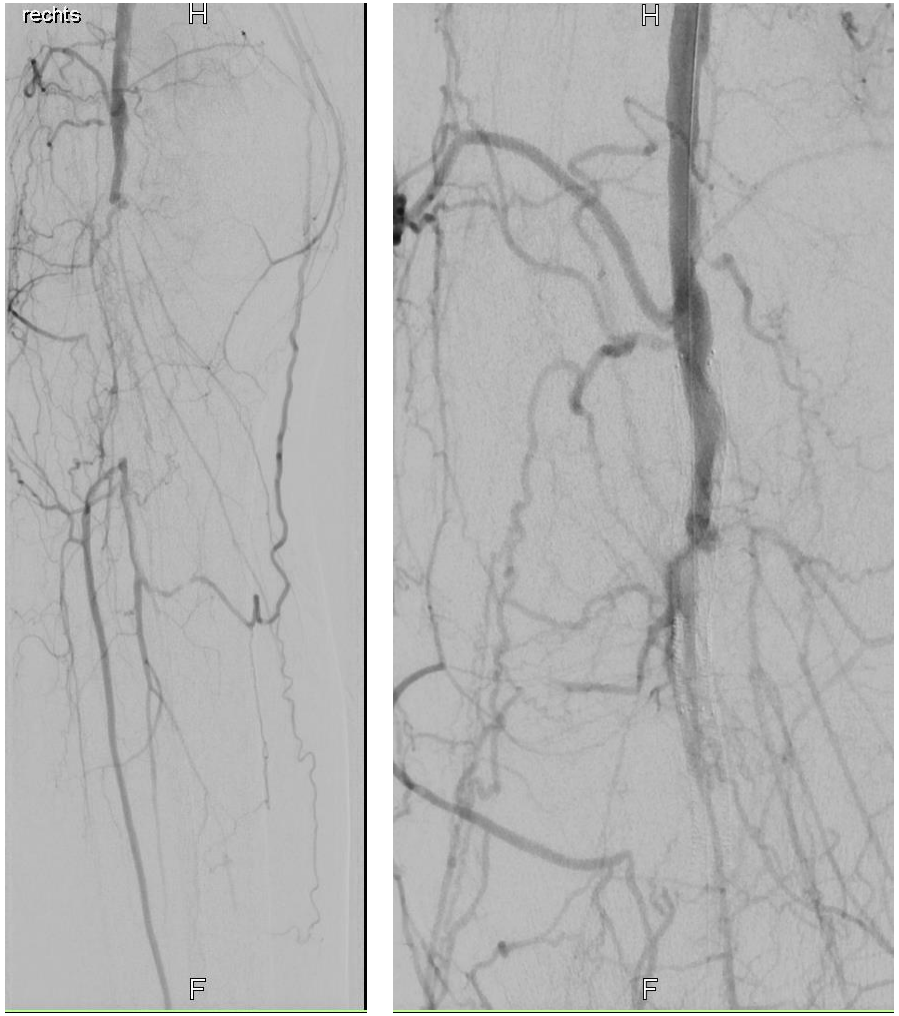
2016

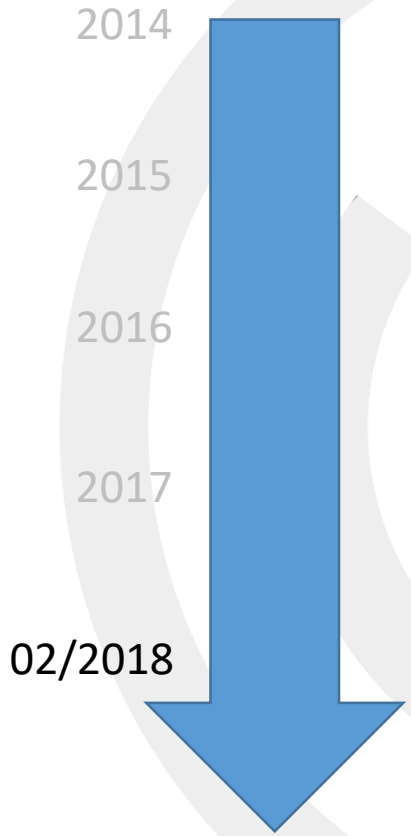
2017

2018

Follow-up:
In-stent occlusion (Tosaka III)

Symptoms: RC 4, ABI: 0.4





What would be your treatment?

The problem: This is an occluded stent at the popliteal artery. At present, there is a paucity on data regarding the best treatment strategy for in-stent stenosis.

Our available **endovascular options** were:

1. Rotational thrombectomy (RT) + DCB
2. RT+ stent-graft (e.g. Viabahn – GORE Medical)
3. Rotational atherectomy with front-cutting (e.g. JetStream) + DCB
4. OCT-guided directional atherectomy (Pantheris, Avinger) + DCB
5. POBA + DCB with distal protection device

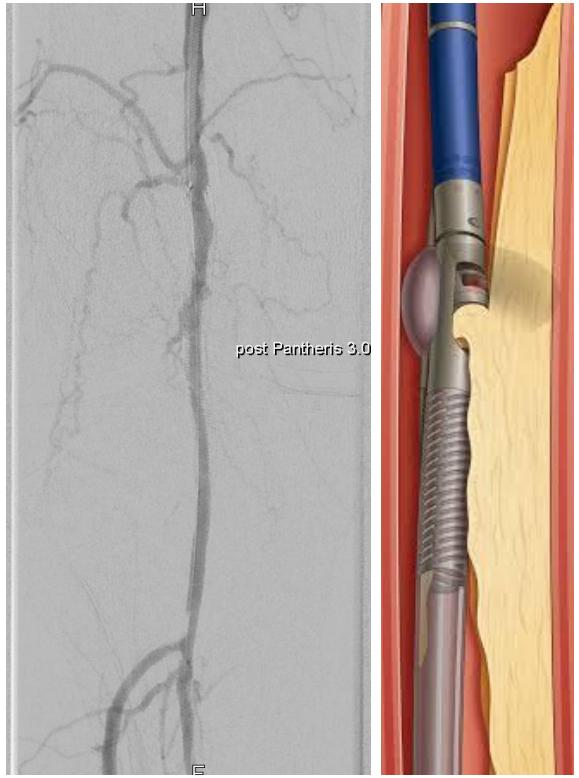
Our concept

We decided to provide a second endovascular solution before any open surgical repair. Our decision was to use an **OCT-guided directional atherectomy device + DCB** for following reasons:

- OCT-guided directional atherectomy provides the unique advantage of debulking under visualization of the wall. This would prevent any unnecessary wall injury and preserve the p3 segment for a bypass anastomosis in the future
- Any stent-graft would further reduce the diameter of the stent in the popliteal artery (5mm)
- In our experience, POBA + DCB is not an adequate treatment strategy for Tosaka III in-stent occlusion and may increase the risk of distal embolisation despite distal protection device

Treatment of in-stent occlusion

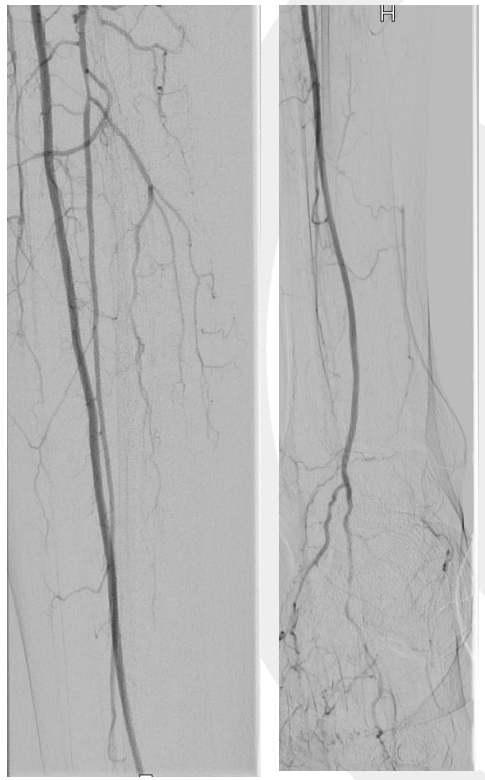
OCT-guided DAART



OCT-guided directional atherectomy
Pantheris (Avinger)

Antirestenotic therapy
InPact DCB (Medtronic)

Final result

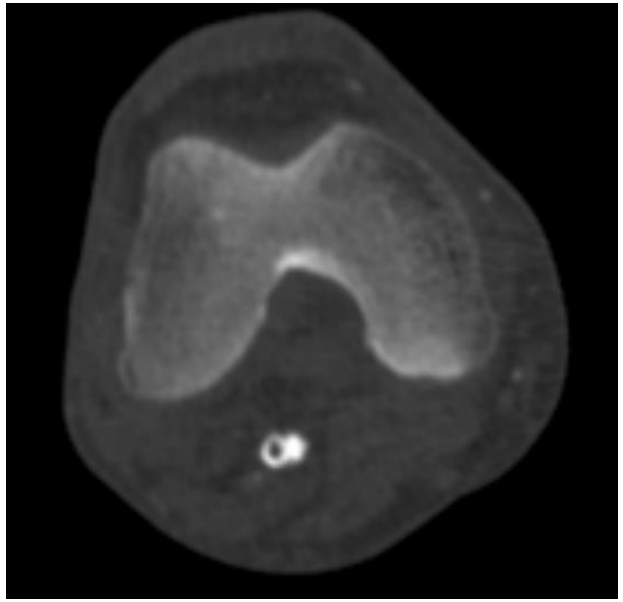


Run-off

https://demanddeborah.org/deborah-innovation/pantheris/

Follow-up:
Re-In-stent occlusion (Tosaka III)

Symptoms: RC 4



2014

2015

2016

2017

02/2018

04/2018

What would be your treatment?

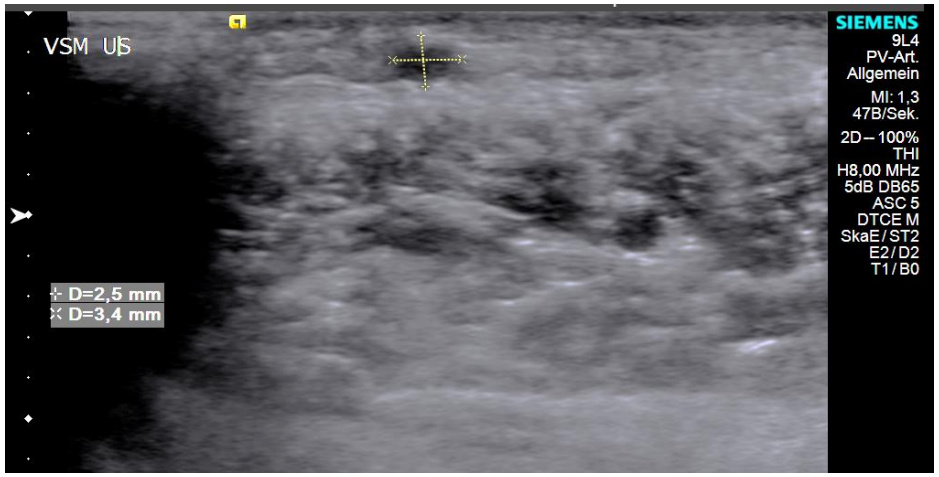
The problem: This is the second occlusion of the stent after DAART within 2 months

Our options:

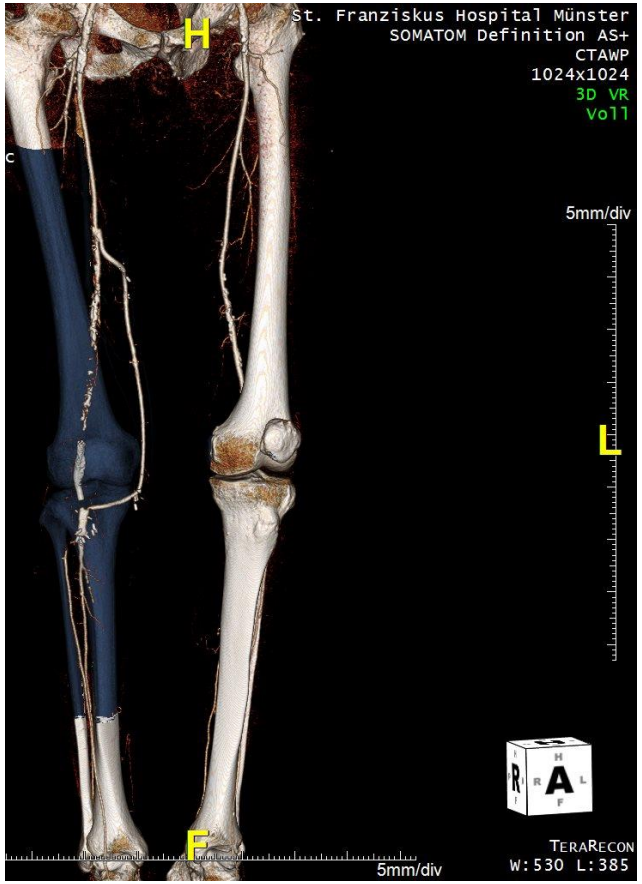
- New endovascular treatment
- Open surgical repair by means of a distal origin vein bypass

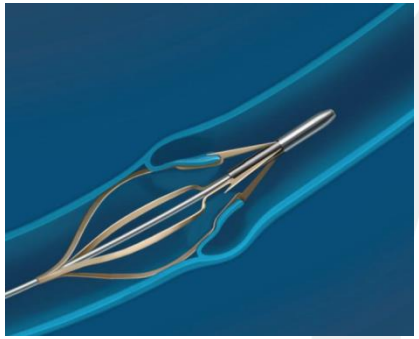
Our concept

The vein mapping showed an available ipsilateral great saphenous vein. Thus, we decided to go for an in-situ vein bypass with the ipsilateral great saphenous vein.



Final treatment
In-situ vein bypass





1.5 mm HYDRO LeMaitre®
Valulotome

Questions to Vascupedians

- Would you have done sth else?
- Do you agree with DAART for in-stent stenosis?
- Which is your treatment strategy for Tosaka I, II und III in-stent occlusions?
- Are you performing in-situ vein bypasses?