Results with Dedicated Venous self-expanding Oblique Hybrid Nitinol Stent (Sinus Obliquus® Stent)

Prof. I. Baumgartner, Head Clinical & Interventional Angiology, Bern

**Disclosure**
- Research grant by Optimed

**Challenge**
- The majority of iliofemoral DVTs are caused by iliac vein compression, in the majority May-Thurner-Syndrom
- Focal external compression and vicinity to the ilio-caval bifurcation hampers venous stenting using conventional stents.

**Ideal venous stent:**
- oblique cutting
- radial force at compression site
- flexibility to accommodate anatomy of curved iliac vein

**Conventional MT stents placed into the IVC**
- In 51 patients, 4 patients (8%) developed recurrent thrombosis during 16 month FU
- 2 of 51 patients (4%) developed late contralateral DVT

**Another patient with Wallstent in IVC**

Recurred DVT in contralateral Rt iliofemoral vein: (a) the patient’s Lt iliac vein had been stented 30 months ago.

Phlebology 2014 Aug;29(7):461-70
How to fix this problem

Open questions

• Is 4% a realistic rate of contralateral thrombosis after conventional MT stenting?
• Increase during late FU when anticoagulation is stopped?
• Can dedicated MT* stents prevent contralateral DVTs?

* May Thurner

Sinus-Obliquus® Stent

Proximal closed cell design:
Provides high radial force
Oblique design

Distal open cell design:
Provides flexibility and less radial force for accommodating the curved anatomy of iliac veins during hip flexion

Stent implantation

Bern Venous Stent Registry

• prospective registry including all patients receiving venous stents at the University Clinic of Angiology, Bern, CH
• 12/2014 – 7/2015

24 patients with common iliac vein compression treated with sinus-Obliquus® Stent
- acute iliolfemoral thrombosis after CDT (n=10)
- postthrombotic syndrome (PTS, n=10)
- non-thrombotic iliac vein compression (n=4)

Results

• 20 women, 39 ± 18 years
• 23 (96%) patients with stent implantation in left CIV
• 12 (50%) with distal stent extension in CFV (XL Flex®)
• Mean range between most recent DVT & intervention
  10.3 years in patients with PTS
  7 days in patients with acute DVT

Stuck A, et al. JVET 2016, in press
Primary Patency

- Primary patency estimates by KM analysis:
  - 92% [95% confidence interval (CI) 71% to 98%] @ 6 months
  - 83% [95% CI 54% to 95%] @ 10 months
- Secondary patency was 100%

Stuck A, et al. JVET 2016, in press

Reintervention

- Mean FU 10 months (6-18 months)
- 3 symptomatic patients with reintervention for early & late stent thromboses and a third for in-stent restenosis.
- No stent fractures
- No contralateral DVTs

Stuck A, et al. JVET 2016, in press

Conclusion

- Patency and clinical outcomes @ 6 months in patients with CIV compression treated with the sinus-Obliquus stents were excellent.
- Further studies needed to investigate efficacy and safety of sinus-Obliquus stenting in a long-term perspective.