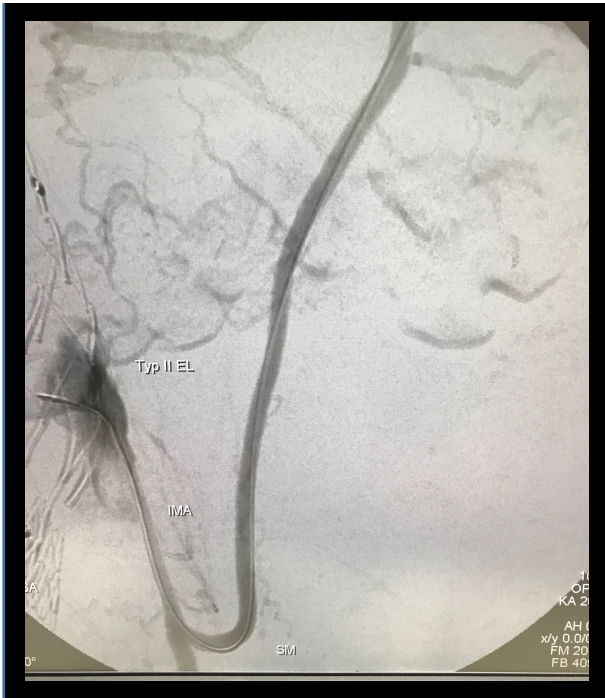




VASCUPEDIA

Transarterial Onyx Embolization of a Type II endoleak following endovascular aneurysm repair



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Case presentation

- 71 y/o. male patient
- EVAR 6 years ago (Endurant II, Medtronic)
 - Prior Onyx-embolization of a type II endoleak (lumbar arteries)
 - Aneurysm growth (13 mm within 8 months)
 - No aneurysm related symptoms

Comorbidity: Obesity, CHD, art. HT

CT scan: Endoleak type II, patent inferior mesenteric artery

Which would be your treatment strategy?

1) Embolization with:

Onyx

Coils

Particles

Combination

2) Conversion to open repair?

3) Conservative?



Our strategy: Transarterial Onyx Embolization through left transbrachial access

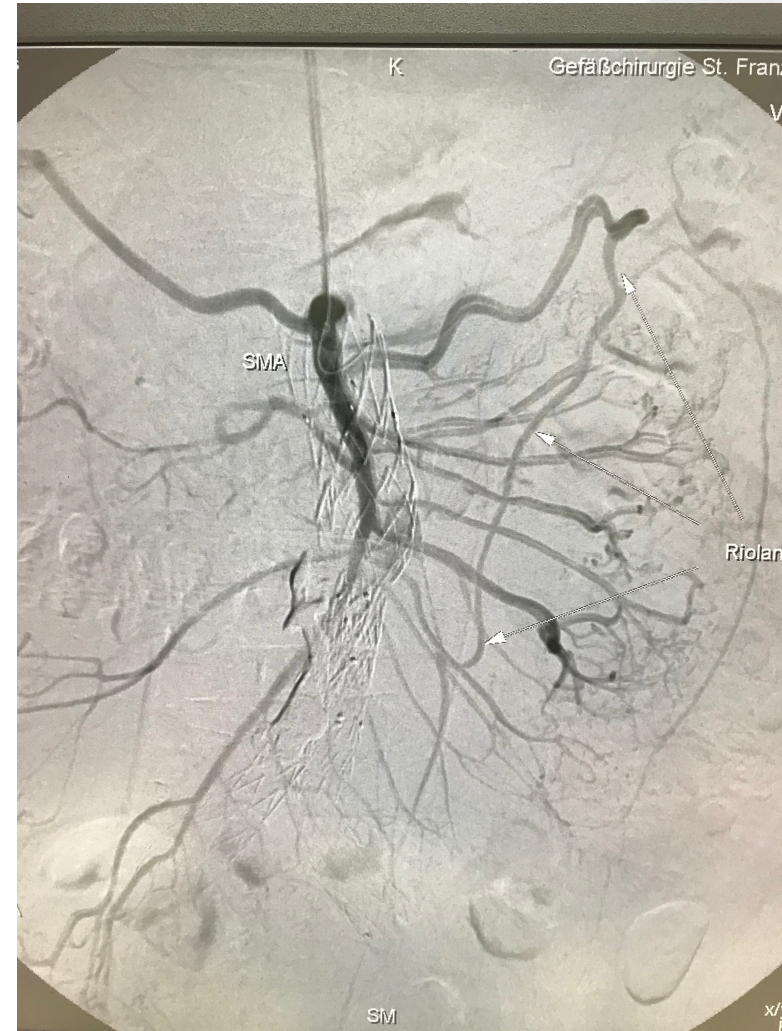
Materials:

- 6F Flexor Shuttle Guiding Sheath, 90 cm (Cook Medical)
- 0.035 Glidewire-Advantage (Terumo)
- 0.014 Choice PT Floppy Guidewire, 300 cm (Boston Scientific)
- 5F Radiofocus Glidecath, vertebr. dist. curve, 110cm (Terumo)
- Echelon 14 Microcatheter, 150 cm (Medtronic)
- Onyx 34 dissolved in dimethyl-sulfoxide <DMSO> (Medtronic)

Our strategy: Transarterial Onyx Embolization

First step:

- Percutaneous transbrachial access and positioning of the 90 cm sheath in descending aorta
- Positioning of the vertebral support/diagnostic catheter in the SMA through a 0.035'' hydrophilic guidewire
- Selective angiography of the SMA branches and identification of the right colic artery



Our strategy: Transarterial Onyx Embolization

Second step:

- Placement of the vertebral-catheter in the right colic artery using a 0.014” guidewire
- Selective imaging of the marginal artery of the colon (Riolan arcade)
- Advancing the guidewire through the arcade and the IMA into the aneurysm sack
- Positioning the vertebral-catheter as far as possible
- Selective imaging of the IMA and of the endoleak

Our strategy: Transarterial Onyx Embolization

Second step:



Positioning of the 0.014" wire through the Riolan arcade into the IMA. Selective angiography of the endoleak.

Our strategy: Transarterial Onyx Embolization

Third step:

- Advancing the Echelon micro-catheter through the vertebral-catheter into the aneurysm sack
- Selective angiography of the endoleak and the aneurysm sack with the use of the Echelon catheter
- DMSO and Onyx infusion. Beginning the infusion in the aneurysm sack and afterwards pulling back the catheter in the IMA.

Our strategy: Transarterial Onyx Embolization

Third step:



Angiography of the endleak and embolization of the aneurysm sack + IMA with 2.1 ml Onyx. It is important to avoid an embolization of the the superior rectal artery as an ischemia of the colon is possible.

Final result



Onyx embolization tips and tricks

- **Access:** Although transbrachial access is sufficient for IMA endoleaks, embolization of lumbar arteries might require an additional transfemoral access
- **Slow infusion** of both DMSO (fill up the lumen/dead space of the microcatheter) and Onyx (to avoid any retrograde embolization)
- Use **DMSO compatible** microcatheters



Questions to Vascupedians

- Would you prefer a different treatment strategy?
- Do you agree with a primary transarterial embolization of Type II EL ?
- Which is your primary treatment strategy for Type II EL and which material you prefer?
- Which type II endoleaks should be treated?
- When do you think that conversion to open repair is unavoidable?