Type 2 Endoleak Embolization By Laser-Assisted Transendograft Micropuncture: How To Do It And Results

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Introduction
Type II endoleaks after EVAR

- In this report, a novel transgraft embolization (TGE) technique is described that utilizes laser energy to micropuncture the endograft via a transfemoral arterial approach to access the aneurysm sac at the precise site of the endoleak nidus, irrespective of its location.

Disclosure Information
No disclosures or conflicts of interest.

Laser-assisted TGE with Onyx
Case Presentation

10/09 (post op)  04/11 (18 months)

6.2 cm  7.4 cm

CTA
- 3D location of leak
- Study all landmarks

TLE difficult
Laser-assisted TGE with Onyx
Case Presentation

- Femoral access
  - Rt vs Lt
- 6 F Guide
  - Cordis Vista brite tip
  - Tip perpendicular to graft
  - Aim at leak location

Laser-assisted TGE with Onyx
Case Presentation

- Graft puncture
- Photoablation
- Coronary ELCA catheter
  - Laser ablation catheters
  - 0.9 mm
  - Rx
  - 0.014 wire

Laser-assisted TGE with Onyx
Case Presentation

- Echelon 10 Micro catheter 2.1/1.7 OD
  - 0.014 compatible, 150 cm usable length
  - EV3

Laser-assisted TGE with Onyx
Case Presentation

- Angio: 1-2 cc

Laser-assisted TGE with Onyx
Case Presentation

- Post angio
Laser-assisted TGE with Onyx

Case Presentation

- Post embolization limb graft angiogram shows no contrast extravasation

Case Presentation

From 03/2011-07/2015
- 25 patients referred for type II endoleak embolization
  - Male: n=23; Female: n=2
  - TGE with Onyx: n=24
    - One patient failed due to severe iliac tortuosity
      - Successful TLE
  - Technical success: 23/24 (96%)
  - No major complication

Laser-assisted TGE with Onyx

Results

- N=24
  - Deceased: n=4
  - Lost to FU: n=2

1 year CTA: n =16

<table>
<thead>
<tr>
<th>AAA size</th>
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<tbody>
<tr>
<td>Decreased (&gt;0.5 cm)</td>
<td>7</td>
</tr>
<tr>
<td>Stable</td>
<td>6</td>
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<tr>
<td>Increased (&gt;0.5 cm)</td>
<td>3 (repeat n=2; conversion: n=1)</td>
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Decreased or stable: 81%

Laser-assisted TGE with Onyx

Results

4/2011 (pre-embo)  | 11/2013

7.4 cm | 5.7 cm

Laser-assisted TGE with Onyx

Conclusion

- Laser-assisted TGE with Onyx for the treatment of persistent type II endoleaks is safe and effective
- Allows for precise microcatheter access into the nidus of the endoleak, regardless of anatomical location