False Lumen Embolisation: Devices and Techniques

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Disclosures

- Research-grants, travelling, proctoring speaking-fees, IP, royalties with Cook.
- Consultant with Philips
- Research, consulting, royalties with Vascutek.
- Shareholder Mokita Medical

- Unapproved devices are shown. Modifications of approved and unapproved devices are not recommended.
False Lumen Occlusion

- Perfusion and pressure unchanged in false lumen
- Presence of Intercostals originating from false lumen
- False lumen back flow to Intercostals
- FL-TAA in 1/3 of TEVAR-patients!
Coils, Plugs, Glue
Outcomes after false lumen embolization with covered stent devices in chronic dissection

Jahanzaib Idrees, MD, Eric E. Roselli, MD, Susan Shafii, MD, Bruce W. Lytle, MD, Cleveland, Ohio

Maximum Diameter: 24 mm!
Candy-Plug
The Candy-Plug Technique: Technical Aspects and Early Results of a New Endovascular Method for False Lumen Occlusion in Chronic Aortic Dissection

Fiona Rohlffs, MD¹, Nikolaos Tsilimparis, MD¹, Beatrice Fiorucci, MD¹,², Franziska Heidemann, MD¹, Eike Sebastian Debus, MD, PhD¹, and Tilo Kölbl, MD, PhD¹

Table 2. Development of Thoracic Aneurysm Diameters in 10 Patients With >6-Month Follow-up.

<table>
<thead>
<tr>
<th>Patient</th>
<th>Follow-up, mo</th>
<th>Postoperative Measurement, mm</th>
<th>Most Recent Measurement, mm</th>
<th>Aneurysm Development</th>
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<td>45</td>
<td>35</td>
<td>Remodeling</td>
</tr>
<tr>
<td>2</td>
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<tr>
<td>10</td>
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<td>38</td>
<td>Remodeling</td>
</tr>
</tbody>
</table>

Rohlffs et al. 2107; J Endovasc Ther 24:549-55
Candy-Plug Multicenter

- N=21
- Technical success 21/21
- No rupture
- No SCI
- No early mortality
- 3 reinterventions for continuous perfusion
- Secondary FL-thrombosis 20/21 patients
Remodeling after Candy-Plug

February 2016

July 2016
Candy-Plug Sizing

True Lumen SG:
- Croissant-length
- No oversizing

FL candyplug:
- FL-diameter
- 10%-30% oversize
- 32-50mm
**Other Candyplugs**

- **Bolton CMD-Candyplug**
  - Courtesy of Dr. M Youssef, University of Mainz

- **Medtronic sm-Candyplug**
  - Courtesy of Prof. I-Hui Wu, National Taiwan University

- **Gore sm-Candyplug**
  - Ogawa et al. 2016; J Endovasc Ther 23:482-6

- **Gore/Cook sm-Candyplug**
Cook Candyplug

22mm AVP
sm Candyplug 2012

22mm ZIP
CMD Candyplug I 2013

CMD Candyplug II 2017
Candyplug II

Candyplug II
2017
Candyplug II

Candyplug II
2017
Candyplug II

2017
2013-2016; N=15
- Technical success 14/15
- No complications
- No 30d mortality
- No SCI
- 4 reinterventions for continuous perfusion
- Secondary FL-thrombosis all patients
Arch-Branch & FL-Occlusion

Chronic TAAD

A-Branch + Knickerbocker

A-Branch + Candy Plug
Secondary F/B EVAR

10cm

46mm
Secondary F/B EVAR

FET, TEVAR+Candyplug + Fenestration F/B EVAR
Innominate Artery
Common Iliac Artery

Ballon-occlusion to prevent plug-embolisation
Isolated Iliac Dissection
False Lumen Deployment
Spot-Stentgrafting
fEVAR in Chronic Type B
fEVAR in Chronic Type A/B

Outcomes of Fenestrated/Branched Endografting in Post-dissection
Thoracoabdominal Aortic Aneurysms

K. Oikonomou a,b, R. Kopp a, A. Katsargyris a, K. Pfister a, E.L. Verhoeven b, P. Kasprzak a,*

a Department of Surgery, Division of Vascular Surgery, University Hospital Regensburg, Regensburg, Germany
b Department of Vascular and Endovascular Surgery, Paracelsus Medical University, Nürnberg, Germany

* 2010-2014
* N=31, 17 months FU
* 6 Type II EL; 6 type 1b EL
* 30d-mortality: 9.6%
* Technical success: 93.5%
* FL-thrombosis: 88%

Oikonomou et al. 2014; J Vasc Endovasc Surg 48: 641-8
Chronic Dissection Strategy

FL-Aneurysm in CAD
Chronic Dissection Strategy

FL-Aneurysm in CAD

TEVAR to the Celiac
Chronic Dissection Strategy

- FL-Aneurysm in CAD
- TEVAR to the Celiac
- + FL-Occlusion
Chronic Dissection Strategy

FL-Aneurysm in CAD

TEVAR to the Celiac

+ FL-Occlusion
Chronic Dissection Strategy

1. FL-Aneurysm in CAD
2. TEVAR to the Celiac
3. + FL-Occlusion
4. Fen/Branch EVAR
Chronic Dissection Strategy

1. FL-Aneurysm in CAD
2. TEVAR to the Celiac
3. + FL-Occlusion
4. Fen/Branch EVAR
Chronic Dissection Strategy

- FL-Aneurysm in CAD
- TEVAR to the Celiac
  + FL-Occlusion
  - Fen/Branch EVAR
    + FL-Occlusion
False-lumen occlusion techniques increasingly utilized in aortic branch-vessels.

Short-term results of Candyplug promising.

Alternative smCandyplug materials reported.

Second generation self-occluding Cook Candyplug obviates AVP/ZIP-occluder.
Welcome to Essen!

5th AORTIC LIVE SYMPOSIUM

AORTIC LIVE 2018
October 29-30, 2018
Philharmonic Hall Essen, Germany

In 2018 Aortic Live Symposium will return to Essen, Germany again. We are looking forward to welcoming you again next year!