Disclosures

- Consultant: Cook Medical, Philips, Getinge, Terumo Aortic, Arterica
- Research-grants: Cook Medical, Philips, Terumo Aortic, Medtronic
- Travel-grants: Cook Medical, Getinge, Philips
- Speaking fees: Cook Medical, Philips, Getinge
- Shares: Mokita-Medical, Arterica
- IP: Cook Medical, Terumo Aortic, Mokita Medical
- Royalties: Cook Medical, Terumo Aortic

- Devices and Techniques in this presentation are not approved by the FDA

Chronic Dissection Strategy

FL-Aneurysm in CAD

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FL-Aneurysm in CAD

TEVAR to the Celiac

+ FL-Occlusion

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Fen/Branch EVAR

Chronic Dissection Strategy

- FL-Aneurysm in CAD
- TEVAR to the Celiac
- + FL-Occlusion
- Fen/Branch EVAR

Chronic Dissection Strategy

- FL-Aneurysm in CAD
- TEVAR to the Celiac
- + FL-Occlusion
- Fen/Branch EVAR
- + FL-Occlusion

FL-Aneurysm in Chronic AD

Long-Term Predictors of Descending Aorta Aneurysmal Change in Patients With Aortic Dissection

Jong-Min Song, MD, PhD,* Sung-Doo Kim, MD,* Jeong-Hoon Kim, MD,* Mi-Jeong Kim, MD,*

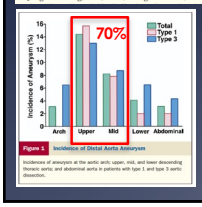
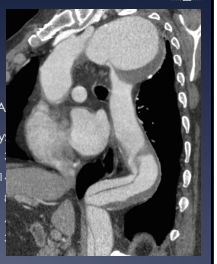


Figure 3 Incidence of Distal Aorta Aneurysm

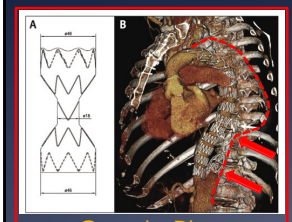
Incidences of aneurysm at the aortic arch, upper, mid, and lower descending thoracic aortic and abdominal aorta in patients with type 1 and type 3 aortic dissection.

- N=100: 51 post TAAD; 49 TBA
- FU: 53±26 months: FL-Aneury
  - Aortic arch
  - Upper desc. aorta
  - Mid desc. aorta
  - Lower desc. aorta
  - Abdominal aorta

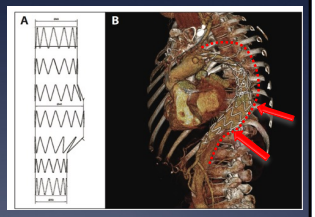


Song et al. 2007; JACC 50:799-804

False Lumen Occlusion Techniques

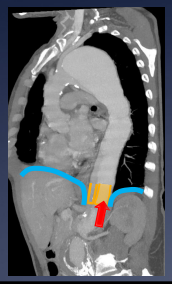


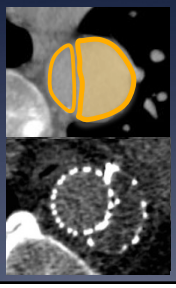
Candy-Plug

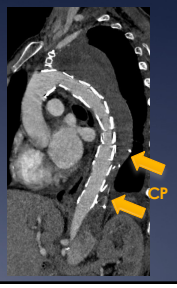


Knickerbocker

Thoracic CP-Placement At The Diaphragm

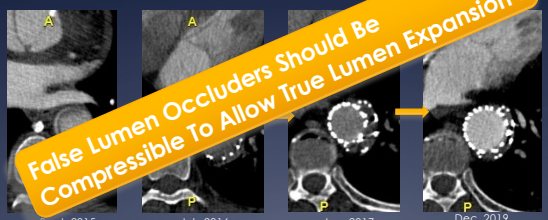






Candy-Plug Transformation

False Lumen Occluders Should Be Compressible To Allow True Lumen Expansion !

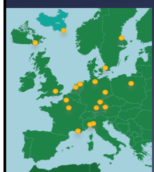


Sept. 2015 July 2016 Jan. 2017 Dec. 2019

Candy Plug: Multicenter Results

Custom Made Candy Plug for Distal False Lumen Occlusion in Aortic Dissection: International Experience

Ahmed Eleshra [a,b,*], Stephan Haulon [c], Luca Bertoglio [d,e], Thomas Lindsay [f], Fiona Rohlffs [a], Nuno Dias [g], Nikolaos Tsilimparis [a,h], Giuseppe Panuccio [a], Tilo Kölbel [a], on behalf of the Candy-Plug Collaborators



- Multicenter, n=155
- Chronic AD: 89%; Subacute AD: 11%
- TBAD: 45%; TAAD: 54%
- Elective: 79%; urgent/emergent: 22%
- Primary Candy Plug: 82%
- F/B TEVAR: 33%; TEVAR 49%
- SCI 2%
- 30d mortality 3%

Table 6. Outcomes of high volume centres (Hamburg, Paris, and Milan) vs. low volume centres

Variables	High volume centres (n = 99)	Low volume centres (n = 56)	p value
Technical success	99 (100)	56 (100)	.96
Clinical success	93 (94)	45 (80)	.23
Early death	3 (3)	2 (4)	.16
Early complete false lumen occlusion (CTA)	76 (77)	44 (79)	.59
Early CP related re-intervention	3 (3)	1 (2)	.16
Follow up CTA	86 (87)	56 (100)	
Remodelling of aneurysm sac	52/86 (60)	16/56 (29)	.20
Stable aneurysm sac	32/86 (37)	37/56 (66)	.17
Increase of aneurysm sac	2/86 (2)	3/56 (5)	.87

} 96% (Remodelling of aneurysm sac + Stable aneurysm sac)

Eleshra et al. 2023; Eur J Vasc Endovasc Surg 66: 50-6

F/BEVAR in Chronic Type A/B

Mid-Term Results of Fenestrated/Branched Stent Grafting to Treat Post-dissection Thoraco-abdominal Aneurysms

Kyriakos Oikonomou [a,b], Piotr Kasprzak [b], Athanasios Katsargyris [a], Pablo Marques De Marino [a], Karin Pfister [b], Eric L.G. Verhoeven [a,*]

Table 3. Origin of visceral vessels targetted with fenestrations and branches

Target vessel	TL Fen	TL Branch	FL Fen	FL Branch	Total n
RRA	51[a]	10	4	2	67
LRA	48[b]	10	5	2	65
SMA	52	18	0	1	71
CA	33	25	0	0	58
All	184	63	9	5	261

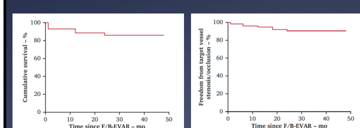
- 2010-2017
- N=71, 25 months median FU
- Technical success: 96%
- TV-patency 97%
- In-hospital mortality: 5.6%
- SCI: 15%
- FL-thrombosis >1yFU: 85%

Oikonomou et al. 2019; Eur J Vasc Endovasc Surg 57:102-9

F/BEVAR in Chronic Type A/B

Post-dissection Thoraco-abdominal Aortic Aneurysm Managed by Fenestrated or Branched Endovascular Aortic Repair

Filippo Gorgatti [1], Petroula Nana [*,1], Giuseppe Panuccio, Fiona Rohlffs, José I. Torrealba, Tilo Kölbel
German Aortic Centre, Department of Vascular Medicine, University Heart and Vascular Centre UKE Hamburg, Hamburg, Germany

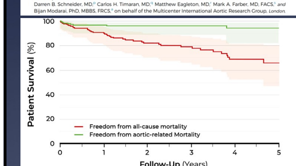


- Single center, 2014-22
- N=55, 33m median FU
- Urgent/emergent: 22%
- LSA debranching: 33%
- CMD patient specific: 86%
- Technical success: 96%
- In-hospital mortality: 7% (all in urgent cases)
- Stroke: 3%
- SCI: 13%
- TV-patency 97%

Gorgatti et al. 2024; Eur J Vasc Endovasc Surg 68:325-34

fEVAR in Chronic Type A/B

Multicenter trans-Atlantic experience with fenestrated-branched endovascular aortic repair of chronic post-dissection thoracoabdominal aortic aneurysms

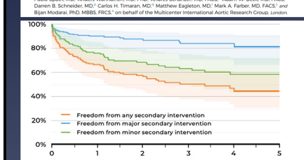


- N=246, 16 international Centers 2008-21
- Urgent/emergent: 9%
- CMD patient specific: 85%
- Iliac branch device: 18%
- Technical success: 96%
- 30d mortality: 3%
- Stroke: 1%
- SCI: 7%

Abdelhalim et al. 2023; J Vasc Surg 78:854-62

fEVAR in Chronic Type A/B

Multicenter trans-Atlantic experience with fenestrated-branched endovascular aortic repair of chronic post-dissection thoracoabdominal aortic aneurysms



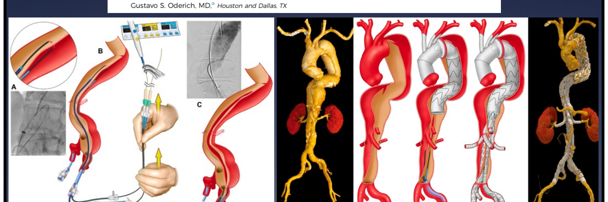
- FL-thrombosis @ latest FU: 57%
- Remodelling:
  - Diameter decrease 37%
  - Diameter stable 45%
  - Diameter increase 18%
- FL-embolization: 9%
- Reintervention @ 5y 56%
- Secondary patency @5y 96%

Abdelhalim et al. 2023; J Vasc Surg 78:854-62

Electrosurgical Septotomy

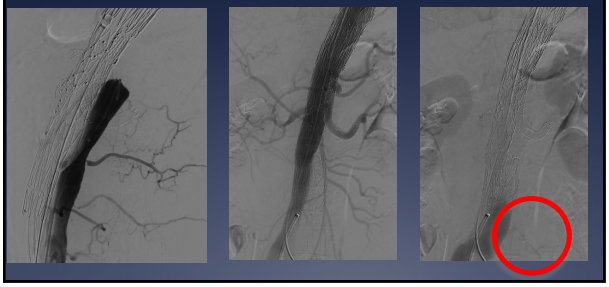
Transcatheter electrosurgical septotomy technique for chronic postdissection aortic aneurysms

Aidin Baghbani-Oskouei, MD,[a] Safa Savadi, MD,[a] Thomas Mesnard, MD,[a] Titia Sulzer, BSc,[a] Aleem K. Mirza, MD,[a] Shadman Baig, MD,[b] Carlos H. Timaran, MD,[b] and Gustavo S. Oderich, MD,[a] *Houston and Dallas, TX*



Baghbani-Oskouei et al.; J Vasc Surg Cases Innov Tech 10:101402

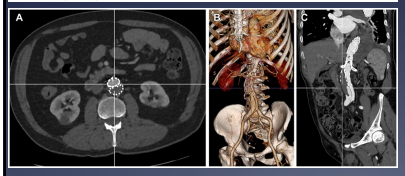
FLE In Infrarenal Abdominal Aorta



FLE In Infrarenal Abdominal Aorta

Evaluation of false lumen occluders implanted in the abdominal aorta false lumen

Mickael Palmier, MD,[a] Justine Mougin, MD,[b] Jeremy Bendavid, MD,[a] Dominique Fabre, MD, PhD,[a] Tilo Kölbel, MD, PhD,[c] and Stéphan Haulon, MD, PhD,[a] *Le Plessis Robinson and Nantes, France; and Hamburg, Germany*



- Single center 2019-2022; n=23
- cTBAD: 49%; cTAAD: 51%
- Elective: 75%; urgent: 14%; emergent: 11%
- Technical success: 100%
- Remodelling:
  - Diameter decrease 77%
  - Diameter stable 21%
  - Diameter increase 2%

Palmier et al. 2023: J Vasc Sura 78:1146-52

Conclusion

- Majority of false lumen aneurysms in the proximal and mid TA.
- Candy-Plug when seal-zone in descending TA and AA<5.5cm.
- Simultaneous TEVAR and Candy-Plug recommended
- F/BEVAR when no seal-zone in dTA and AA ≥5.5cm.
- Generally recommended: limitation of aortic coverage and staging !
- Techniques of Candy-Plug and F/BEVAR are complimentary.