ABF For AIOD Has Gone From A Favored Procedure To A Rarity Because Of Endovascular Techniques Including IVF (Shockwave): Options And Indications

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November 21, 2024

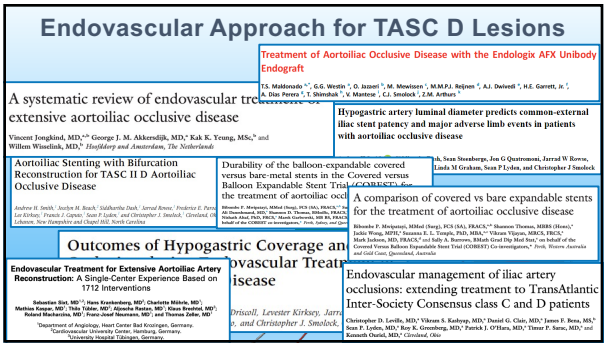
Disclosures

- Getinge – Speaking
- Cook – Speaking
- Medtronic Aortic – Consulting
- Penumbra – Research

AortoBiFemoral Bypass

		N	Mort.	Patency (%) 5y	10y	15y
de Vries	1997	1429	4.4	86	79	63
McDaniel	1997	2689	4	82	78	69
Ballard	1998	54	1.9	93		
Ohara	2000	380	0	89	94	
Faries	2001	370	0	93		
Mingoli	2001	130	4.6	81		
Reed	2003	281	1	85		
Hertzer	2007	224	1.2	88	81	71

Endovascular Approach for TASC D Lesions

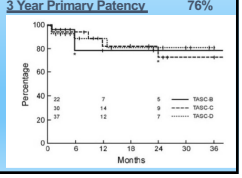


From the Society for Vascular Surgery

Endovascular management of iliac artery occlusions: extending treatment to TransAtlantic Inter-Society Consensus class C and D patients

Christopher D. Leville, MD,[a] Vikram S. Kashyap, MD,[a] Daniel G. Clair, MD,[a] James F. Bena, MS,[b] Sean P. Lyden, MD,[a] Roy K. Greenberg, MD,[a] Patrick J. O'Hara, MD,[a] Timur P. Sarac, MD,[a] and Kenneth Ouriel, MD,[a] *Cleveland, Ohio*

- 1998-2004; 42% female
- 89 patients; 92 iliac stents
- Age 66
- Procedural success 91%



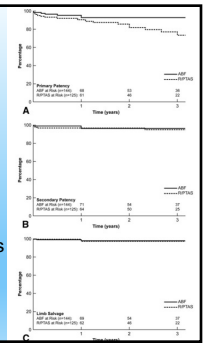
From the Society for Vascular Surgery

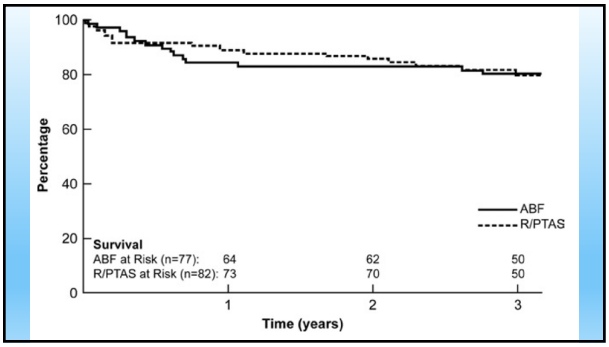
JOURNAL OF VASCULAR SURGERY
December 2008

The management of severe aortoiliac occlusive disease: Endovascular therapy rivals open reconstruction

Vikram S. Kashyap, MD,[a] Mircea L. Pavkov, MD,[a] James F. Bena, MS,[b] Timur P. Sarac, MD,[a] Patrick J. O'Hara, MD,[a] Sean P. Lyden, MD,[a] and Daniel G. Clair, MD,[a] *Cleveland, Ohio*

- 1998-2004; 39% female
- 86 pts (161 limbs) ABF; 83(127) recan/stent
- ABF patients were younger (60 v 65) & smokers
- Endart 61% ABF v 21%
- Procedural success 96% in R/S group





84 J ENDOVASC THER 2009;16:84–92

◆CLINICAL INVESTIGATION

Endovascular Management of Chronic Infrarenal Aortic Occlusion

Mireille A. Moise, MD; Javier A. Alvarez-Tostado, MD; Daniel G. Clair, MD; Roy K. Greenberg, MD; Sean P. Lyden, MD; Sunita D. Srivastava, MD; Matthew Eagleton, MD; Timur S. Sarac, MD; and Vikram S. Kashyap, MD

Department of Vascular Surgery, The Cleveland Clinic Foundation, Cleveland, Ohio, USA.

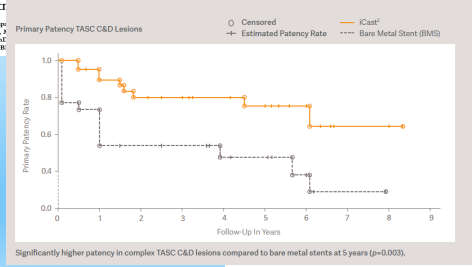
- 2000-2005; 71% female
- 31 patients
- Age 63
- Technical success 93%
- 0% mortality; complications: 5 UE access site, 5 ATN, 2 HD
- 3-Year Primary Patency -66%; Secondary Patency -90%

Durability of the balloon-expandable covered versus ba
Balloon I
the treatr

Bibombe P. Mwipa
Ali Daneshmand, I
Nishath Altaf, PhI
behalf of the COB

COBEST — 5-year results[1]

iCast vs. bare metal stent



Significantly higher patency in complex TASC C&D lesions compared to bare metal stents at 5 years (p=0.003).

Eur J Vasc Endovasc Surg (2016) ■, 1–11

Treatment of Aortoiliac Occlusive Disease with the Endologix AFX Unibody Endograft

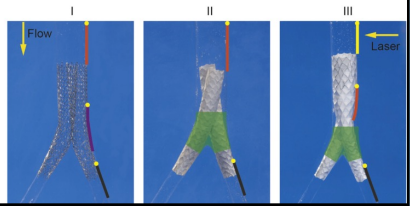
T.S. Maldonado [a,*], G.G. Westin [a], O. Jazaeri [b], M. Mewissen [c], M.M.P.J. Reijnen [d], A.J. Dwivedi [e], H.E. Garrett, Jr. [f], A. Dias Perera [g], T. Shimshak [h], V. Mantese [i], C.J. Smolock [j], Z.M. Arthurs [k]

- Multi-institution, 90 patients
- Some concomitant AAA
- 41% percutaneous access; 39% fem endarterectomy
- 4% procedural rupture
- 1% mortality
- 100% Secondary patency at 3 years.

Hemodynamic comparison of stent configurations used for aortoiliac occlusive disease

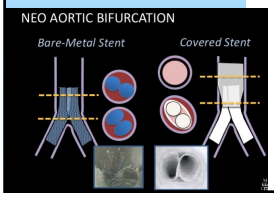
Erik Groot Jebbink, MSc,[a,b,c] Varghese Mathai, MSc,[b,d] Johannes T. Boersen, MSc,[a,b,c] Chao Sun, PhD,[b,d] Cornelis H. Slump, PhD,[c] Peter C. J. M. Goverde, MD,[e] Michel Versluis, PhD,[b,d] and Michel M. P. J. Reijnen, MD, PhD,[a] *Arnhem and Enschede, The Netherlands, and Antwerp, Belgium*

Journal of Vascular Surgery
Volume 66, Number 1



Geometrical consequences of kissi
Covered Endovascular Reconstruct
Bifurcation configuration in an in
endovascular reconstruction of aor

Erik Groot Jebbink, MSc,[a] Frederike A. B. Grimme, MD,[a] Peter C. J. Jaques A. van Oostayen, MD,[a] Cornelis H. Slump, PhD,[a] and Michel 3
Arnhem and Enschede, The Netherlands; and Antwerp, Belgium



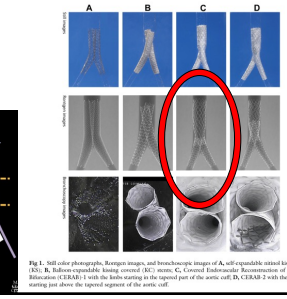


Fig 1. Still color photographs, Roentgen images, and bronchoscopic images of A, self-expandable nitinol kissing stents (KS); B, Balloon-expandable kissing covered (KC) stents; C, Covered Endovascular Reconstruction of the Aortic Bifurcation (CERAB) 1 with the limbs starting in the tapered part of the aortic cuff; D, CERAB 2 with the iliac limbs starting just above the tapered segment of the aortic cuff.

Hypogastric artery luminal diameter predicts common-external iliac stent patency and major adverse limb events in patients with aortoiliac occlusive disease

Andrew H Smith, Siddhartha Dash, Sean Stoenberge, Jon G Quatromoni, Jarrad W Rowse, Francis J Caputo, Levester Kirksey, Linda M Graham, Sean P Lyden, and Christopher J Smolock

Vascular
OnlineFirst
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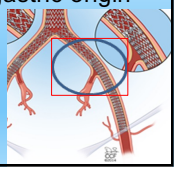
https://doi.org/10.1177/17085381221141737

Outcomes of Hypogastric Coverage and Occlusion during Endovascular Treatment of Aortoiliac Occlusive Disease

Andrew H. Smith, Siddhartha Dash, Erin C. Driscoll, Levester Kirksey, Jarrad Rowse, David Hardy, Sean P. Lyden, Francis J. Caputo, and Christopher J. Smolock, Cleveland, OH

Ann Vasc Surg 2021; 77: 116–126
https://doi.org/10.1016/j.avsg.2021.05.020

- Place bare stent over patent hypogastric origin
  - 5% occlusion; Clinically insig
- ↑Hypo diameter impacts
  - ↑IIA ↓EIA



Comparison of Aortobifemoral Bypass to Aortoiliac Stenting with Bifurcation Reconstruction for TASC II D Aortoiliac Occlusive Disease

ABF N = 24

Andrew H. Smith,[1] Jocelyn M. Beach,[2] Siddhartha Dash,[1] Jarrad Rowse,[1] Frederico E. Parodi,[1] Lee Kirksey,[1] Francis J. Caputo,[1] Sean P. Lyden,[1] and Christopher J. Smolock.[1] Cleveland, Ohio: Lebanon, New Hampshire and Chapel Hill, North Carolina Ann Vasc Surg 2022; 82: 120–130
https://doi.org/10.1016/j.avsg.2021.10.040

- Need ~1cm disease-free infrarenal aorta
- Recan/stenting is worth longer OR times
- 5yr primary assisted & secondary patency >90%
- ***Less EBL; shorter LOS 2 vs 7d***

Clinical Investigation

Journal of Endovascular Therapy
1–11
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DOI: 10.1177/15266028231166539
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SAGE

Long-Term Outcomes of the Covered Endovascular Reconstruction of the Aortic Bifurcation (CERAB) Technique in Patients With Aorto-Iliac Occlusive Disease

Kaj B. Rouwenhorst, MD[1], Omar M. A. Abdelbaqy, MD[1,2], Daphne van der Veen, Bsc[1], Rianne E. van Rijswijk, Msc[1,3], Suzanne Holewijn, PhD[1], and Michel M. P. J. Reijnen, MD, PhD[1,3]

- 2010-2020; 51% female
- 160 pts
- 95.6% technical success
- 5-year primary, -assisted, & secondary patency 78%; 88%; 95.0%
- Previous interventions predict loss of patency
- 100% freedom from amputation; 18% 5-yr mortality

Adjunctive Improvements

- A role for iliac Intravascular Lithotripsy
  - Iliacs
  - Femorals?
- *Development of dedicated devices for bifurcation

E.J. Armstrong et al. / Cardiovascular Revascularization Medicine 21 (2020) 1262–1268

Intravascular Lithotripsy for Treatment of Calcified, Stenotic Iliac Arteries: A Cohort Analysis From the Disrupt PAD III Study

Ehrin J. Armstrong *,*, Peter J. [illegible], Dorian de Freitas [illegible], Javier Va[illegible]

[illegible] ARTICLE INFO

[illegible]

Intravascular Lithotripsy in Severely Calcified CFA disease: Results from the Disrupt PAD III OS

Observational Registry — Calcified CFA Disease

Consistent core laboratory adjudicated procedural safety and effectiveness of IVL in CFA in a real-world setting

PAD III OS Sub-analysis: IVL treatment of calcified CFA lesions

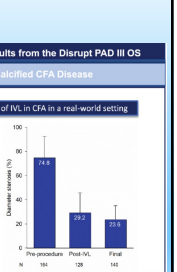
Heavily calcified de novo peripheral artery lesions
IVL +/- adjunctive therapy*

N = 163 patients with CFA disease; 164 lesions; 22 sites

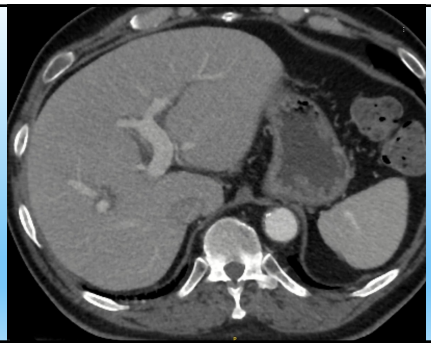
Objective: Assess 'real world' peri-procedural outcomes in patients with CFA lesions following IVL treatment of calcified PAD†

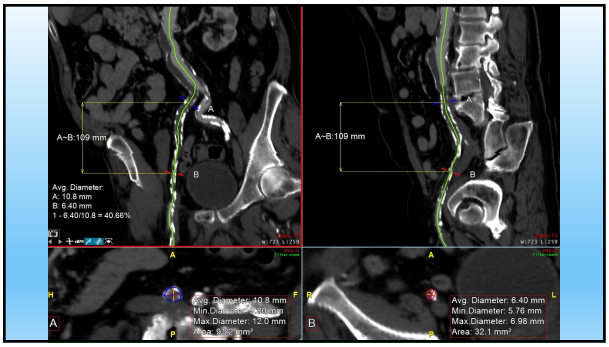
This study represents the largest real-world experience of IVL treatment in heavily calcified CFA lesions.

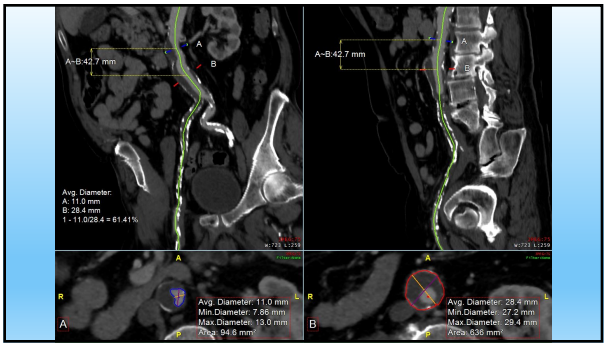
IVL treatment showed significant stenosis reduction and favorable peri-procedural safety, with no complications by the end of the procedure.

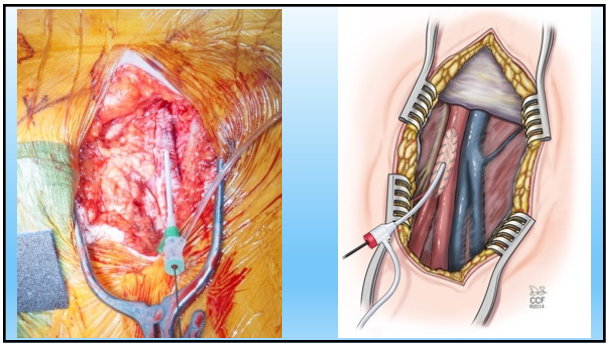


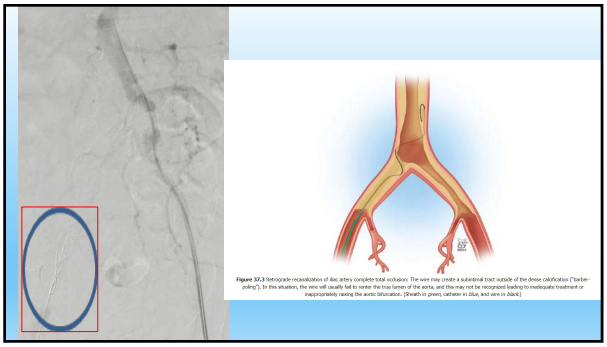
Shammas et al. *Journal of Endovascular Therapy*. [Published Month Year]. SAGE ENDOVASCULAR

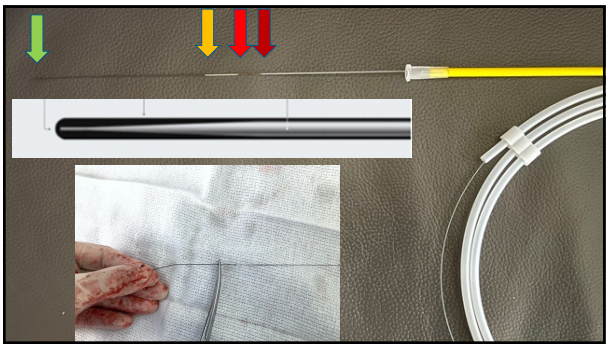


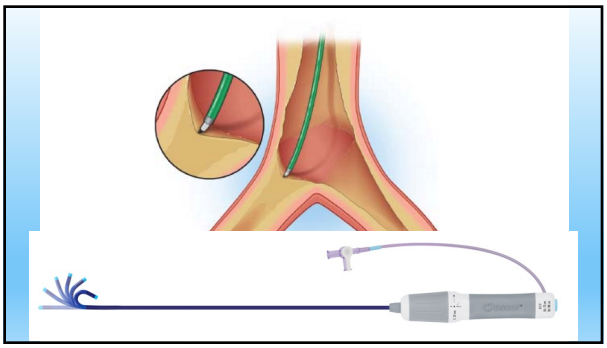

A~B:109 mm
Avg. Diameter:
A: 10.8 mm
B: 6.40 mm
1 - 6.40/10.8 = 40.66%
A~B:109 mm
Avg. Diameter: 6.40 mm
Min.Diameter: 5.76 mm
Max.Diameter: 6.98 mm
Area: 32.1 mm²

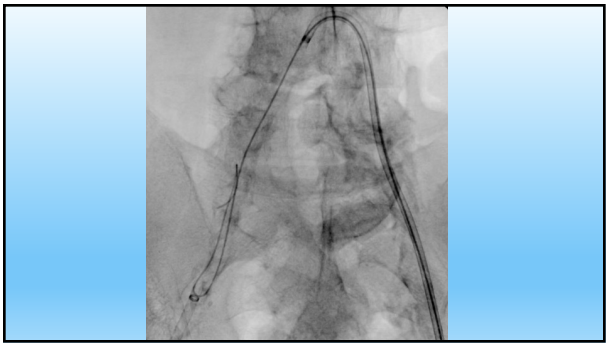

A~B:42.7 mm
Avg. Diameter:
A: 11.0 mm
B: 28.4 mm
1 - 11.0/28.4 = 61.41%
A~B:42.7 mm
Avg. Diameter: 11.0 mm
Min.Diameter: 7.66 mm
Max.Diameter: 13.0 mm
Area: 94.6 mm²
Avg. Diameter: 28.4 mm
Min.Diameter: 27.2 mm
Max.Diameter: 29.4 mm
Area: 636 mm²

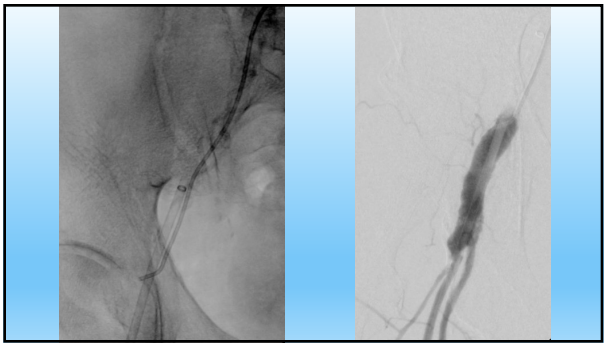












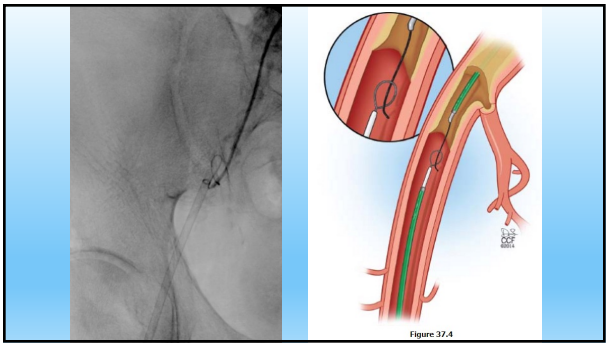
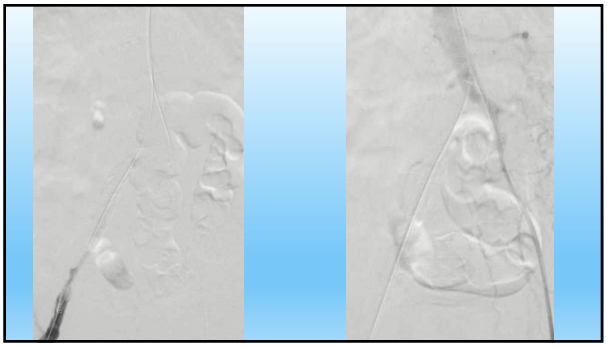
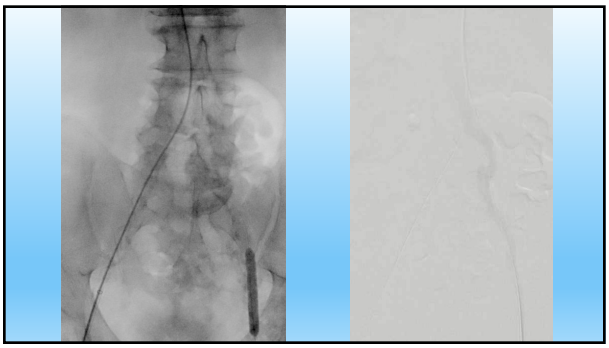
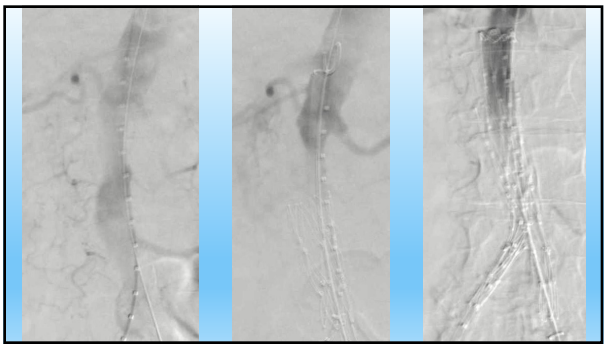
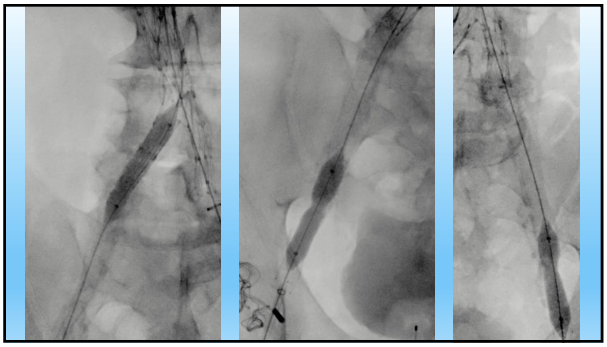


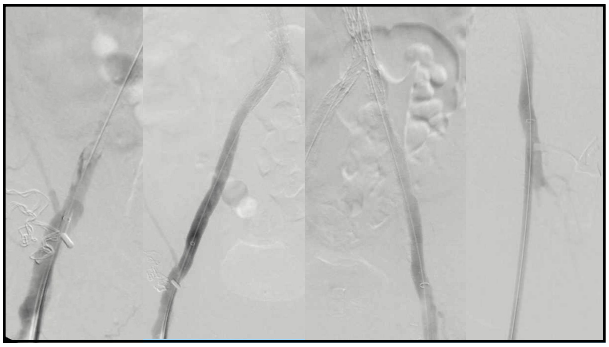
Figure 37.4

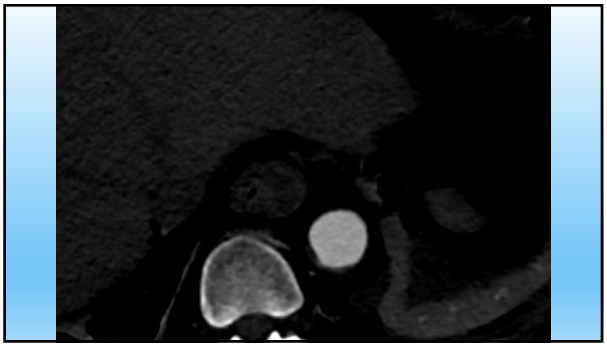


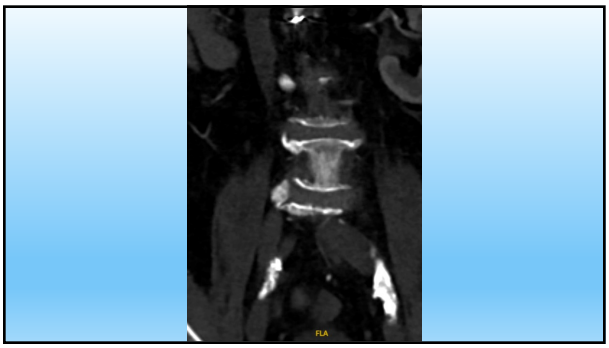












Conclusion

- AortoBiFemoral bypass for flush renal occlusions
- Aortoiliac Recanalization/Stenting rivals ABF
  - Same secondary patency
  - Same long term mortality
  - Same MALE
  - Better patient satisfaction; short LOS
    - No Dacron graft left in groins


Thank You!!!
Mount
Sinai
Hospital