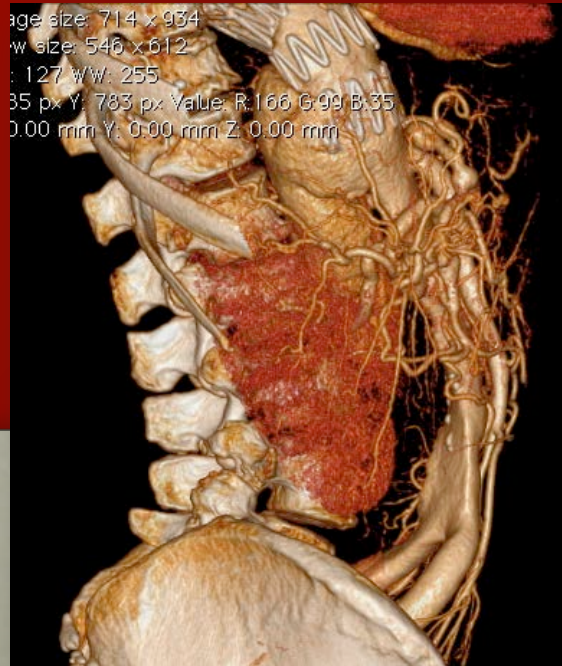


# Type B Dissections

*Is there a role for Fenestrated and Branched devices?*



Rodrigo S. Cunha; Guilherme D'utra; Luiz Lanzotti;  
Marcelo Ferreira

## CONFLICTS

**THE AUTHOR DECLARE:**

**PROCTOR AGREEMENT WITH COOK MEDICAL  
RESEARCH GRANT FROM COOK MEDICAL**

# Facts

- Endovascular treatment can save the lives of patients with complicated type B dissections both in the acute and chronic phases.
- Especially in contained ruptures and malperfusion syndromes.

Open surgery - Mortality at 30 days - 27%

Endovascular repair MORTALITY - Mortality at 30 days - 17%



- Dake MD, Kato N, Mitchell RS, Semba CP, Razavi MK, Shimono T, et al. Endovascular stent-graft placement for the treatment of acute aortic dissection. *N Engl J Med.* 1999;340:1546-52
- Nienaber CA, Fattori R, Lund G, Dieckmann C, Wolf W, von Kodolitsch Y, et al. Nonsurgical reconstruction of thoracic aortic dissection by stent-graft placement. *N Engl J Med.* 1999;340: 1539-45.

# Dilemma

The continuous perfusion of the false lumen is identified as a risk factor for aneurysm formation and expansion.

- *That means: unless you stop completely the perfusion of the false lumen, this will remain pressurized and consequently developed aneurysms and other complications.*
- International Registry of Acute Aortic Dissection. Long-term survival in patients presenting with type B acute aortic dissection: insights from the International Registry of Acute Aortic Dissection. *Circulation*. 2006;114:2226 –2231.
- Society of Thoracic Surgeons Endovascular Surgery Task Force. Expert consensus document on the treatment of descending thoracic aortic disease using endovascular stentgrafts. *Ann Thorac Surg*. 2008;85(suppl):S1–S41.
- Task Force on Aortic Dissection, European Society of Cardiology. Diagnosis and management of aortic dissections. *Eur Heart J*. 2001;22:1642–1681.

# THE key QUESTION?

## Thrombosis x Perfusion of False Lumen

Long-Term Survival After Open Repair of Chronic Distal Aortic Dissection

Stefano Zoli, MD, Randall B. Griep, MD

Departments of Cardiothoracic Surgery and Anesthesiology, Mount Sinai School of Medicine, (*Ann Thorac Surg* 2010;89:1458-66)

*“DR ZOLI: The question of thrombosis and its relationship to progression of the dissection is a very interesting one. In 25% of our cases, the false lumen was completely thrombosed. Despite that fact, these patients still developed an aneurysm.”*

*Complete thrombosis of the false lumen may slow down the growth rate, but it doesn't necessarily stop it.”*

*Erbel R, - Circulation. 1993;87:1604 -1615.*

*Kato N, - J Thorac Cardiovasc Surg. 2002;124:306 -312.*

*Akutsu K, - Eur J Cardiothorac Surg. 2004;26:359 -366.*

*Czerny M, - Ann Thorac Surg. 2007;83:1059 -1066.*

Paris – Jan/2013

## THE key QUESTION?

### **Thrombosis x Enlargement of the False Lumen**

*“Complete thrombosis of Abdominal Aortic Aneurysm may slow down the growth rate, but it doesn’t necessarily stop it.”*

1. Dalal S, Beard JD. Thrombosed abdominal aortic aneurysms. Do they need surveillance to prevent late rupture? **Eur J Vasc Endovasc Surg. 2001;22:570-2.**
2. Leke MA, Weaver FA. Rupture of a Previously Thrombosed Thoracoabdominal Aneurysm. **Ann Vasc Surg. 2003;17:143-7.**
3. Ricotta JJ, Kirshner RL. Case report: late rupture of thrombosed abdominal aortic aneurysm. **Surgery. 1984;95:753-5.**
4. Schanzer H;Miller CH. Rupture of surgically thrombosed abdominal aortic aneurysm. **J Vasc Surg. 1985;2:278-80.**

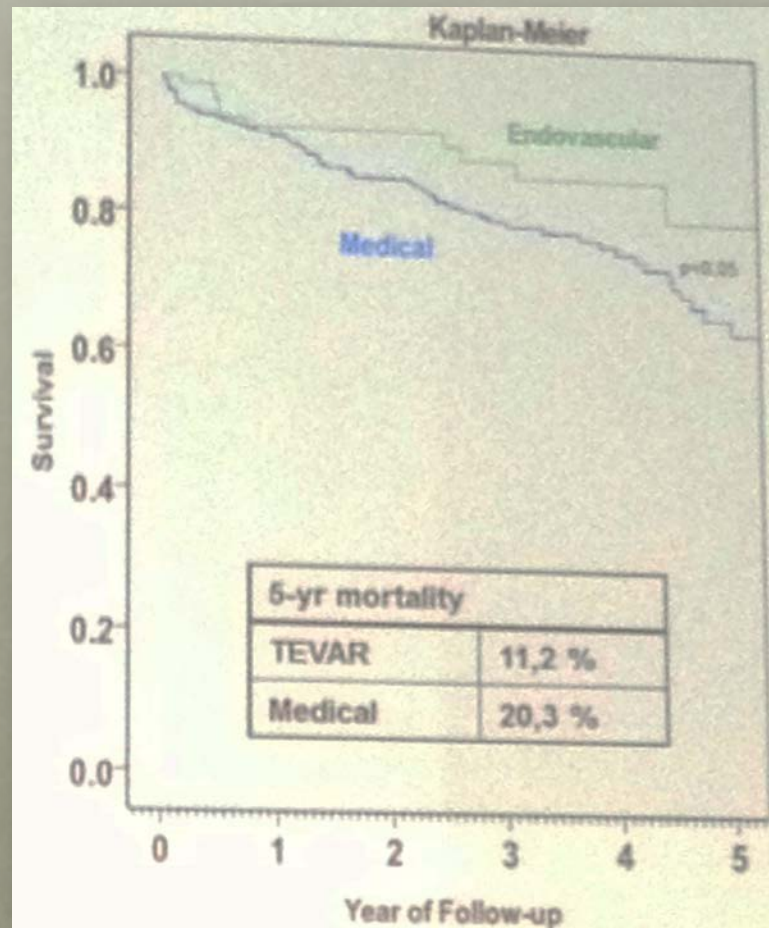
# INSTEAD Trial

## Conclusions

- TEVAR failed to improve 2-year survival and adverse event rates despite favorable aortic remodeling.
- Aortic remodeling (with true-lumen recovery and thoracic false-lumen thrombosis) occurred in 91.3% of patients with TEVAR  
19.4% medical treatment  
(P 0.001).

# INSTEAD Trial

## Instead trial Recent data



# Bare Stents and Type B dissections

*Prospective multicenter clinical trial (**STABLE**) on the endovascular treatment of complicated type B aortic dissection using a composite device design.*

Joseph V. Lombardi, MD.

*JVasc Surg 2012;55:629-40.*

## Results

Mortality at 30 days - 5% (2/40).

01 year Survival = 90%.

\*\* 02 late deaths occurred due to aortic rupture

\*11 PO

\*81 PO



*Prospective multicenter clinical trial (STABLE) on the endovascular treatment of complicated type B aortic dissection using a composite device design.*

### Late results

\*\*02 late deaths occurred due to aortic rupture.

\*\*04 patients (10%) required secondary interventions.



Remodeling with aortic false lumen thrombosis and re-expansion of the true lumen occurred in (only) 31% of patients at 12 months.

*Prospective multicenter clinical trial (STABLE) on the endovascular treatment of complicated type B aortic dissection using a composite device design.*

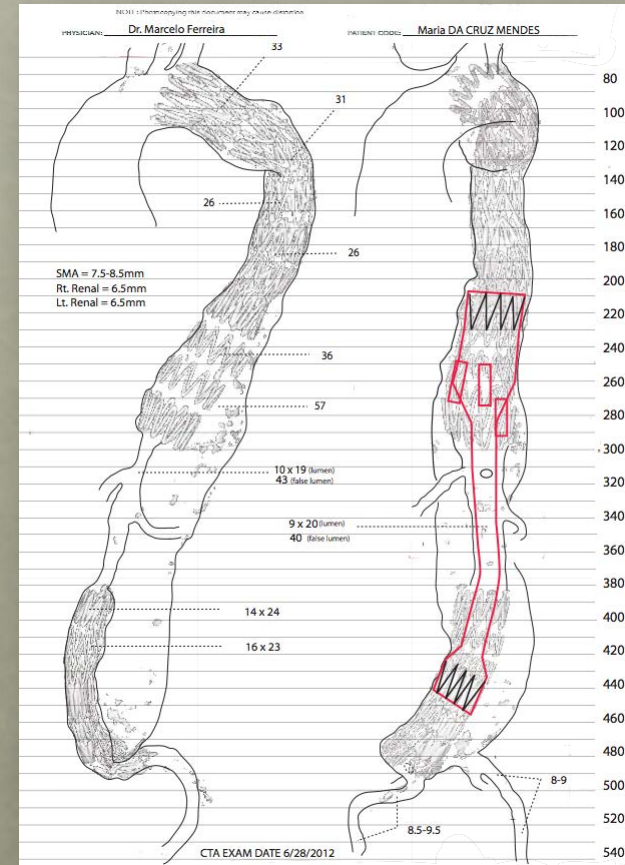
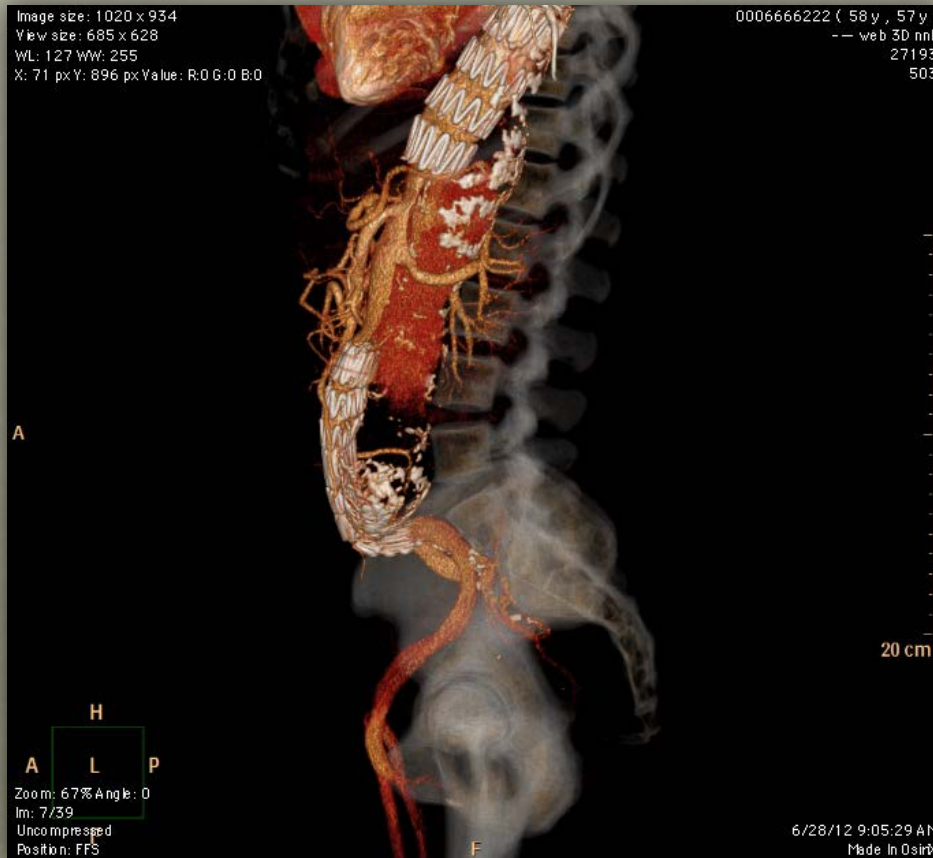
*Of note*

- “ There appeared a slight but not statistically significant increase in the false lumen size in the visceral segment of the aorta between post procedure and 12 months, which likely corresponds to continuous false lumen perfusion via either collateral sources or secondary tears in some patients.
- The significance of this observation is still unknown, but this subset of patients may require more aggressive therapy for false lumen exclusion to prevent aneurysm formation.”

# When use a branched devices - Some examples.

## Chronic Type B dissection

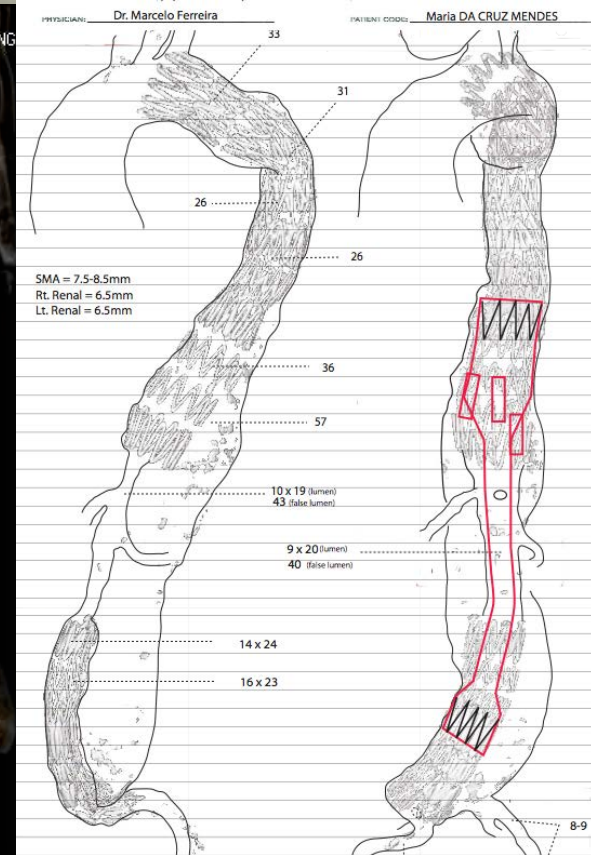
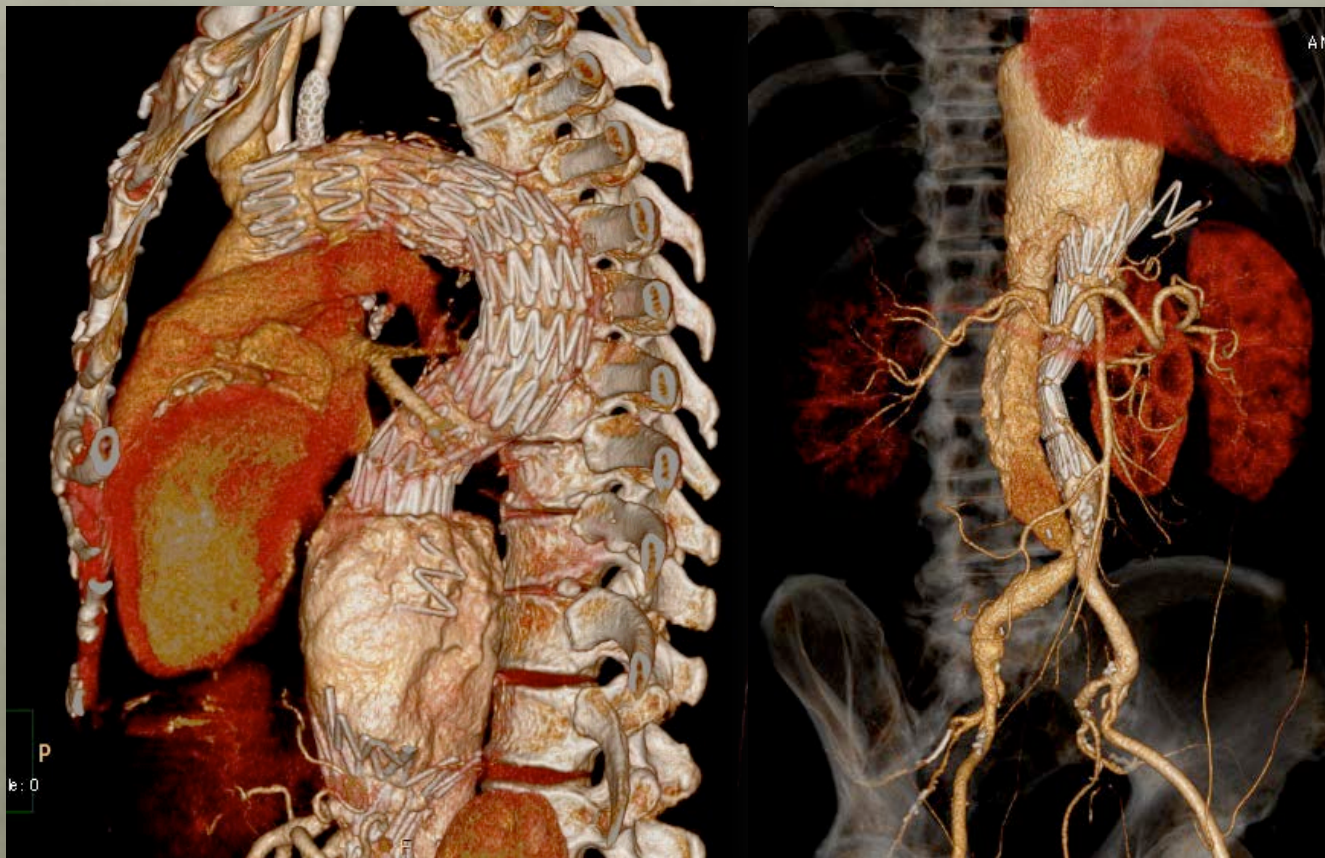
### Previous Endovascular repair with persistent flow to the FL through visceral communications – Graft Plan



When use a branched devices - Some examples.

## Chronic Type B dissection

Previous Endovascular repair with persistent flow to the FL through visceral communications – Graft Plan

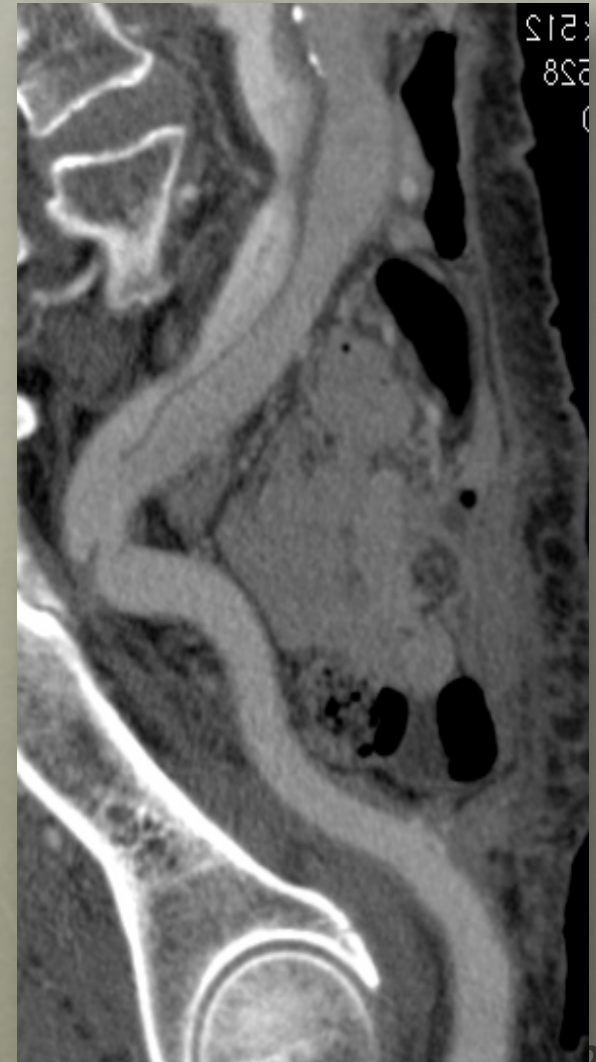


# FENESTRATED DEVICES

Is there a place for it in the management of chronic type B dissections

## Some Concerns:

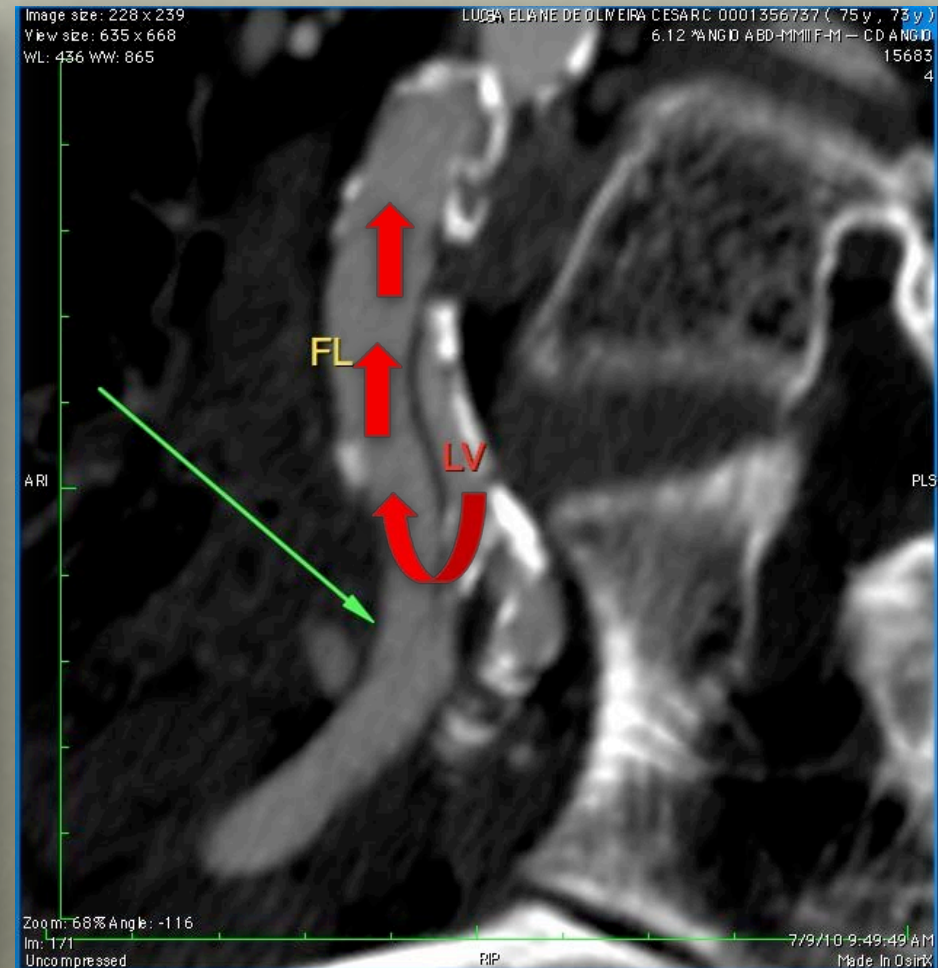
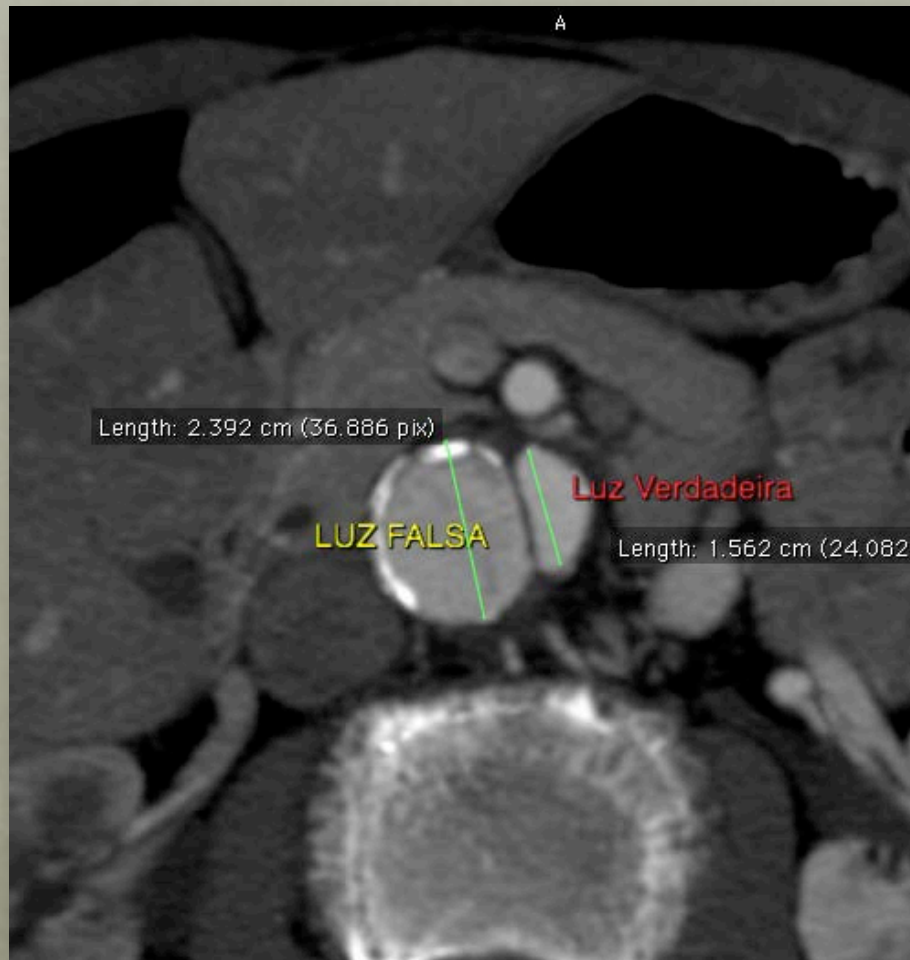
- Small lumen to work.
- Helical character of the dissections.
- Difficult correct positing the device.
  
- Very useful in iliacs reentries



# FENESTRATED DEVICE

Women to 75 yo,  
Chest pain

Chronic type B dissection with multiple reentries





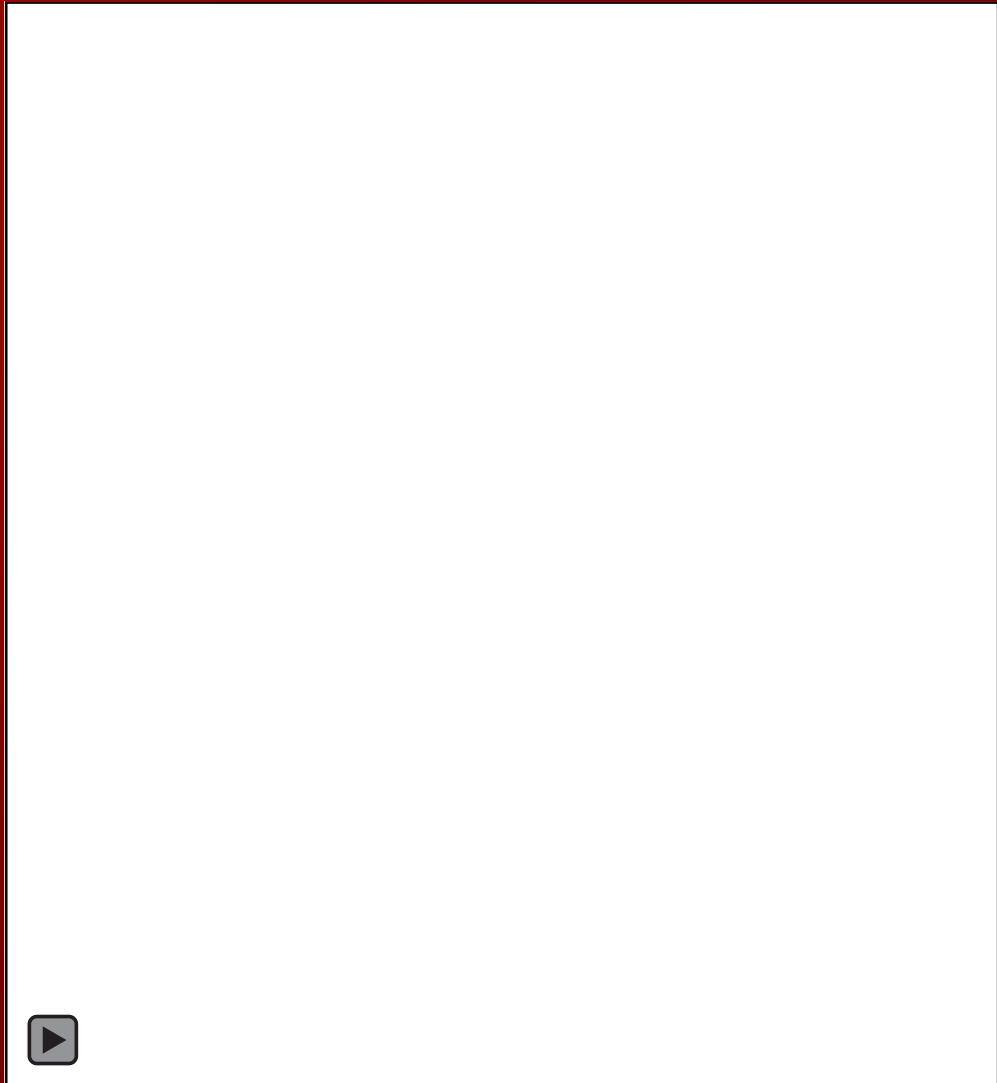
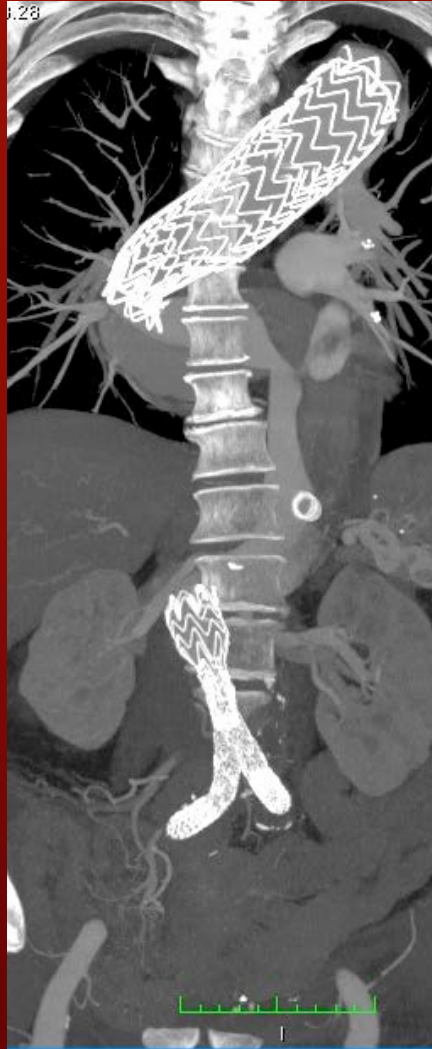
Women to 75 yo,  
Chronic type B dissection with multiple reentries  
01 year CT Scan



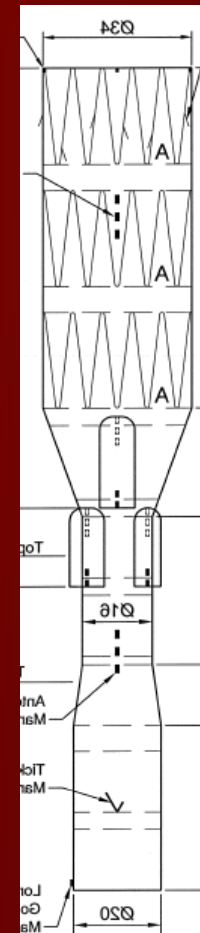
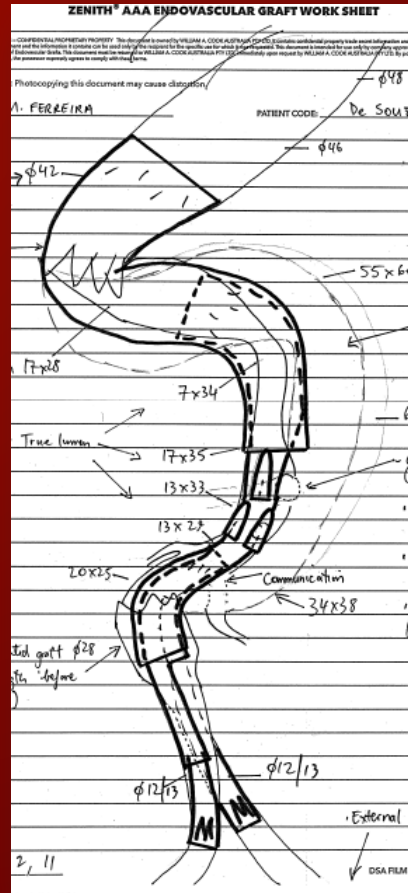
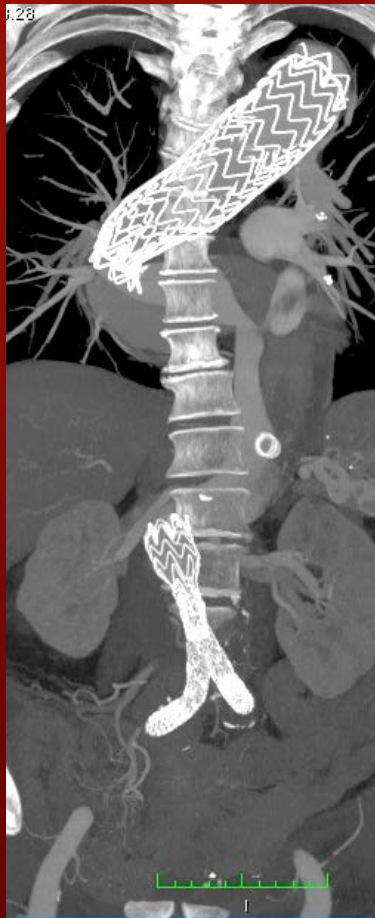


# Chronic dissection with aneurysmal degeneration of the aorta

## 03 prior endovascular procedures



# NOW WE HAVE A PLAN! WHAT'S NEXT?



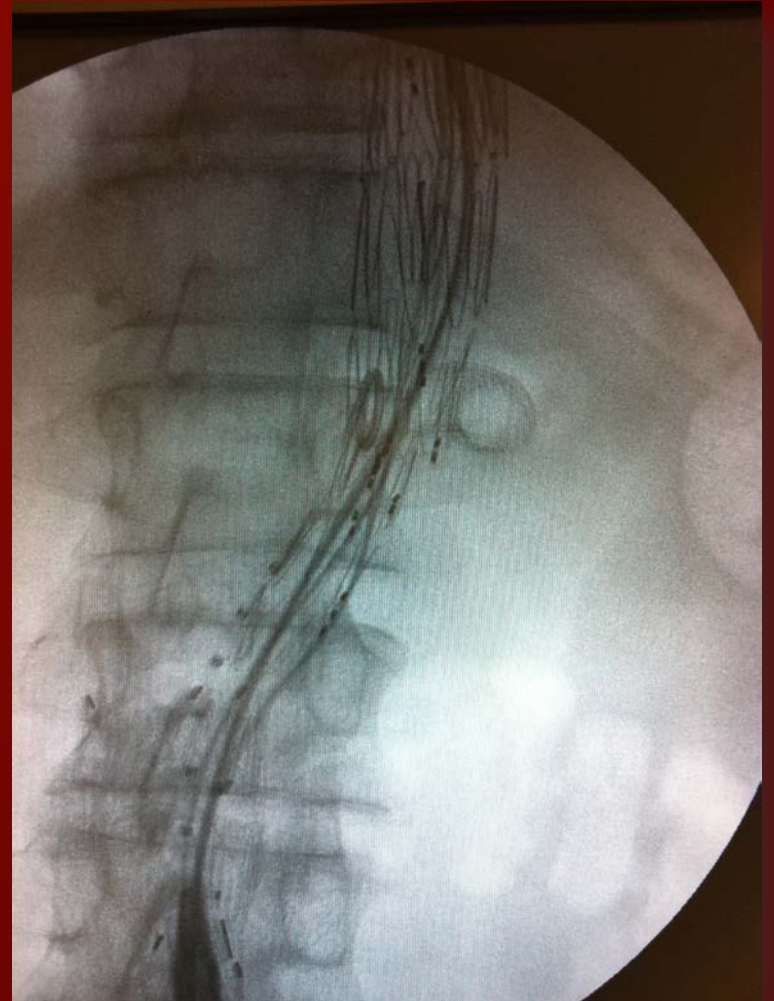
# Critical maneuvers

## Device Driven by the Seath – DDBTS

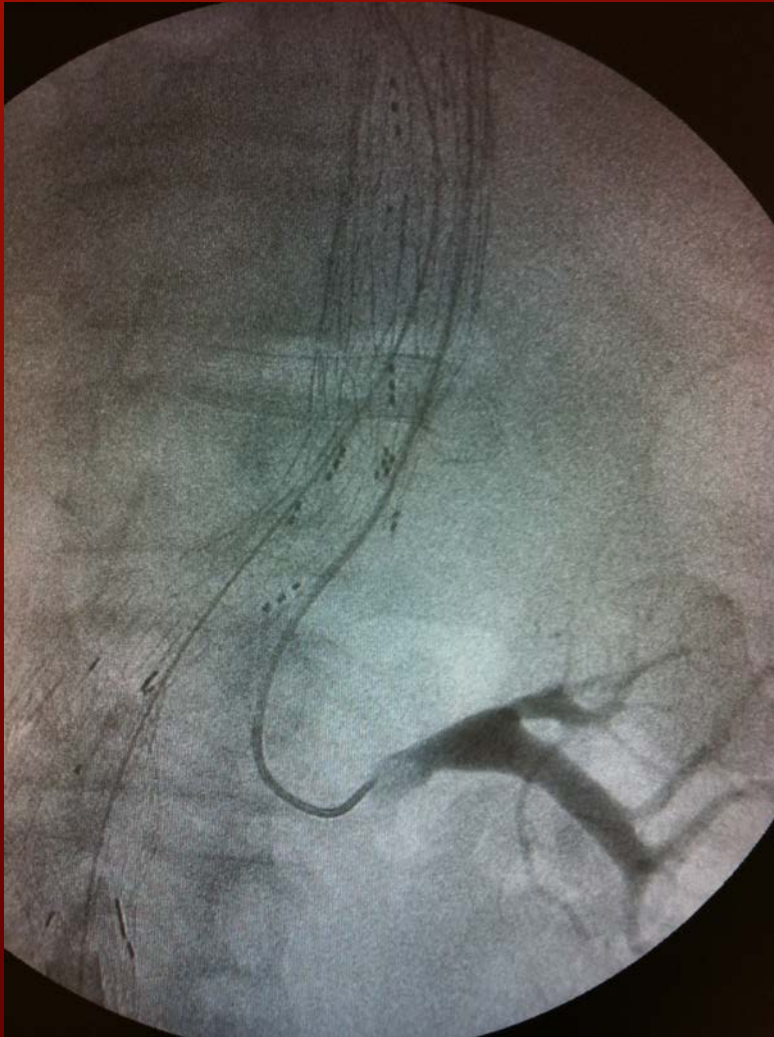
- 1 – Right axillary access - performing a T- Twith Lunderquist wire.
- 2 - 12 F sheath placed as distal as possible in the descending Aorta.
- 3 – The Stentgraft hinted inside the sheath.
- 4 – Advance the stentgraft along simultaneously removing of the sheath..
- 5 - Accept the helical movement of the stentgraft



‘DEVICE DRIVEN BY THE SHEATH’  
DDBTS



# LEFT RENAL



FINAL CONTROL  
JULY 2011



# APRIL 2012 – 9 MONTHS LATER.



# CONTROL ANGIOTC APRIL 2012 – 9 MONTHS.

Image size: 512 x 512  
View size: 731 x 647  
WL: 198 WW: 799  
X: 19 px Y: 477 px Value: -2048.00

DANILO ELZO RES DE SOUZA 110216039 ( 78 y., 77 y )  
Angio Aorta — CTA 1.0 ANGIO TC CE  
6995  
6

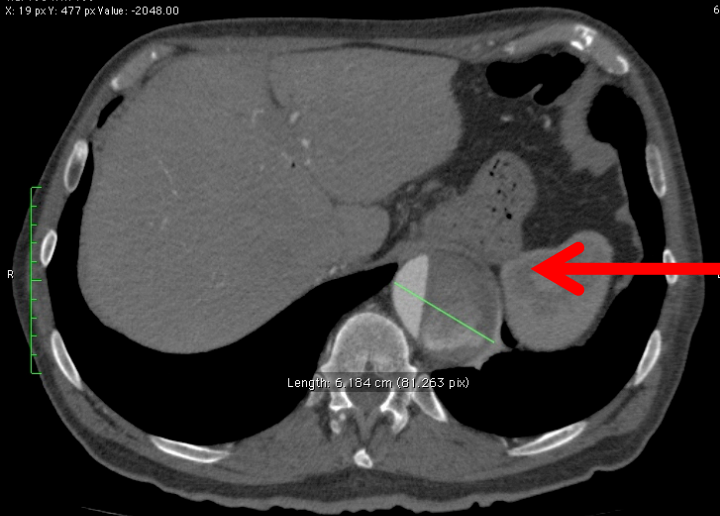
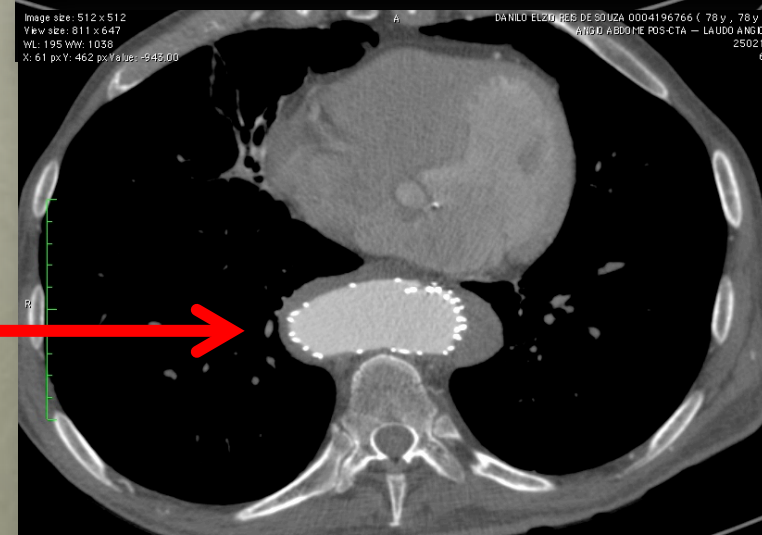
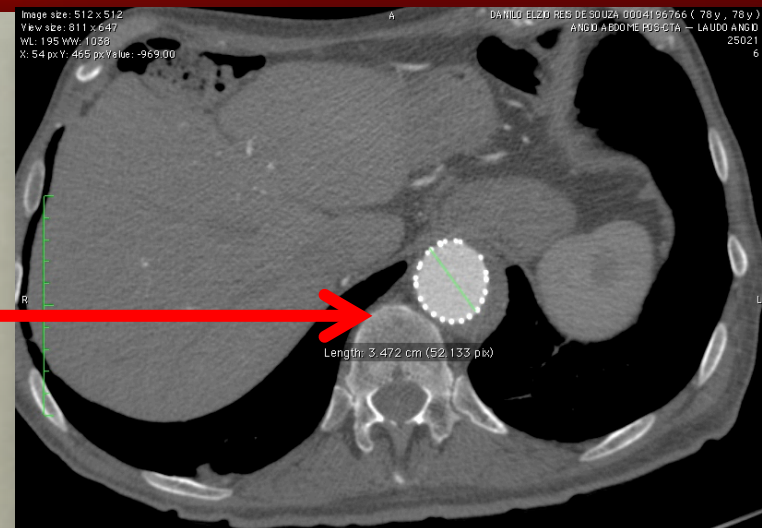


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WL: 195 WW: 1038  
X: 54 px Y: 455 px Value: -969.00

DANILO ELZO RES DE SOUZA 0004196766 ( 78 y., 78 y )  
ANGIO ABDOME POS-CTA — LAUDO ANGIO  
25021  
6





## *Final comments*

- Aortic dissections represent a major challenge to endovascular treatment.
- No single tactic for Endovascular treatment applies to all cases.
- Endografts combined with the free "Petit Coat" help in the process of remodeling aortic thrombosis of the false lumen and re-expansion of the true lumen they are especially useful in acute procedures to facilitate future expansion of the true lumen.
- In the presence of multiple communications between the two lumens the exhaustive search and occlusion of all these communications is essential to prevent aortic complications in long term.
- The only alternative to achieve exclusion of all these communication are the **Branched Devices**

Obrigado pela atenção!

Thank you for your kind Attention!

Merci pour votre attention

