BRAZILIAN TECHNIQUES IN PERIPHERAL INTERVENTION

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I have the following potential conflicts of interest to report:

- Consulting
- Employment in industry
- Stockholder of a healthcare company
- Owner of a healthcare company
- Other(s)

X I don’t have any financial relationships to disclose.

I will be discussing off label use of a device that has not been FDA or CE approved.
Speaking about Brazilian approach....... this is the closest we can get,
• BIFURCATION STENTING
  Coronay- Marco Perin MD. PhD. -PCR 2004
  Peripheral – Luis Virgen & Felipe Nasser MD PhD- CCC 2012

• VASCULAR OCLUSION DEVICE – HOME MADE
  Luiz Kajita & Luis Virgen MD. PhD.- ISES Endo Summit 2012

• SANDWICH FOR AORTOILIAC ANEURYSMS
  Lobato MD. PhD.- SVS 2011
  Modified Approach- Luis Virgen & Alex Fabiani MD- VIVA 2014
Case 1: Description of the problem

Angiography before procedure

Male, 74 y/o

- Smoker
- ABI = 0.40
- The Ulcer as well as the Pain have worsened

The initial Angiography shows a very complex bifurcation stenotic lesion in the fibular (peroneal) and posterior tibial arteries
As we know, the stent implantation at a bifurcation site is associated with the potential problem of limiting blood flow and access to the side branch.

**Description of the problem 1,1,1**

**Medina Classification**

- 1,1,1
- 1,0,1
- 0,1,1
- 0,1,1

**Snow plough effect**
After wiring both branches, the predilatation was performed.
STEP II

Then the stent was prepared as follows:

The proximal stent deployment was obtained by low-pressure balloon dilatation, while the distal end of the stent was prevented from deployment by local external compression.
STEP III

Then the proximal end of the side branch wire was inserted through an expanded stent structure and the stent was manually re-crimped.

When this was done, the stent was advanced up to the carena.
After the stent deployment, the side branch guide wire was ready to be used for kissing balloon

In the end, we observed an outstanding Angiographic result
Today: Dedicated self-expandible bifurcation DES technology (Coronary)

The Axxess™ stent implantation sequence tutorial

1. Two wires
2. Position
3. Deploy partially at carina
4. Advance
5. Deploy
6. Sheath off
Case 2: HIGH-FLOW FISTULA OCCLUSION (HOME MADE)

- Male 8 y/o
- Tricuspid and pulmonary atresia
- Glenn Surgery
- Cyanosis
- Abundant collateral venous

Angiography before procedure

Treatment Options:

- Occlusion balloons
- Coils
- Vascular Plug
- Kajita technique?
Step I

The Stent was deployed. The distal end of the stent was tied with a 2-0 cotton thread.
The stent was re-crimped, passing the balloon only midway and to the proximal part of the stent. Avoiding to put any pressure on the tied portion (distal) while opening the balloon.
Step III

The stent is delivered and then it is dilated with more pressure on the proximal portion of the stent, thus adopting a conical shape (similar to a basket).
After this, we put 2 coils. We observed complete occlusion of the fistula.

Angiography after procedure

The manufacturing of this device is currently in development for industry availability.
Case 3: Endovascular treatment of an AAA and Iliac Artery Aneurysm: Sandwich technique

- Asymptomatic AAA 5.4 cm
- Left common iliac artery aneurysm 4.3 cm.
- Right common iliac artery 2.3 cm.

### TECHNICAL NOTE

**Sandwich Technique for Aortoiliac Aneurysms Extending to the Internal Iliac Artery or Isolated Common/Internal Iliac Artery Aneurysms: A New Endovascular Approach to Preserve Pelvic Circulation**

Armando C. Lobato, MD, PhD

*SVS 2011 - J Endovasc Ther. 2011;18:106-111*
The technique uses a Bifurcated Stent Graft, followed by Catheterization of the ipsilateral internal iliac artery through a left brachial access. Place a covered self expanding stent 2 cm inside iliac internal artery with 6 cm overlapping.

Positioning of an iliac limb extension 1 cm below covered stent. First deploy the iliac limb extension and then the covered stent.

SVS 2011 - J Endovasc Ther. 2011;18:106-111
Three months after Lobato’s technique, we modified the sandwich technique, using aortic anatomical fixation stent graft and contralateral access.
We prefer the Asymmetrical Double D Technique using a limb extension and covered Stent.

### Asymmetrical Double D Illustration:

16mm Limb Extension + 9mm Viabahn Covered Stent within 16mm Limb

### Bifurcated Limb Diameter Table:

<table>
<thead>
<tr>
<th>Bifurcated Limb Diameter</th>
<th>Extension Diameter</th>
<th>‘Snorkel’ Covered Stent Diameter</th>
<th>Hypogastric Artery Diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>16mm</td>
<td>16mm</td>
<td>6-10mm</td>
<td>5-9mm</td>
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<tr>
<td>16mm or 20mm (TBD)</td>
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</table>
To date, we have successfully completed 6 cases of Asymmetrical Double D POWERLINK-AFX & VIABAHN.

- CONTRALATERAL SHEAT 8FR
- AMPLATZ STIFF 1CM KISSING STENT
- ILIAC LIMB EXTENSION + 2 VIABAHN 8X50 Y 8X100

KISSING BALLON
CONTROL
FINAL ANGIOGRAPHY
We also see excellent intermediate results, without endoleak, demonstrating that the easiest sandwich-snorkel approach is using an anatomical fixation aortic stent graft.
Our cases shows how Brazilian Techniques have contributed to the increase and improvement of the procedures in Peripheral Intervention.
Thanks for your time

Brazilian approach 2002

Germany approach 2014

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