Critical aortic dissections: benefit of surgical creativity out of any guidelines.

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Disclosure of Interest

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Definition of an aortic dissection

Spliting of the aortic wall at the level of the media creating a *False lumen* separated from the *True lumen* by a *Flap*
Dissection Classifications.

**The DeBakey classification**
- Type I: begins in asc. aorta at least to the aortic arch or beyond.
- Type II: dissections involve the ascending aorta only
- Type III: begin in the descending aorta, most often just distal to the left subclavian artery.

**The Stanford classification**
- Type A: ascending aorta
- Type B: do not involve ascending aorta.
When you open those patients...
Hemi-arch reconstruction
Felt "neo-media" placed at the distal anastomosis during

Optimal apposition of intima to adventitia

Felt "neo-intima" placed between adventitia and intima

BIOGLUE ONLY
Full Arch reconstruction
Surgical Hybrid Graft
But all this is done under CPB AND HYPOTHERMIA

YOU NEED A FIT PATIENT !!!
CRITICAL DISSECTION : CASE 1

Male
97 years old
Living with social help in his own house
73 Kg 174 cm BMI 24,1
GOOD general condition

Outpatient clinic October 2016
Symptomatic Aortic Valve stenosis
Cardiac evaluation

Symptomatic Aortic Valve stenosis
- Ao Valve Area : 0.6 cm²
- Peak Gradient : 80 mmHg
- Mean Gradient : 55 mmHg
- EF : 30-50%

Coronary angiography: LAD lesion
Operative risk evaluation

• Euroscore I : 21.48%
• Euroscore II : 6.57%
• STS score : 5.37%
Geriatric evaluation

- ISAR : 0/6
- SHERPA : 5/11,5

- Indication for TAVI
Treatment Strategy

• **STEP 1**
  
  – November 2016
  
  – Direct stenting of the LAD with DES Biotronic Osiro 3,0x18,0 mm stent

• **STEP 2**

  – December 2016
  
  – Trans-Femoral Corevalve implantation
TAVI procedure

– Predilatation with Cristal Balloon 25 mm

– Corvalve deployment 31 mm

– Postdilatation with Cristal Balloon 28 mm
Preop Angio
Pre-dilatation 25 mm balloon
TAVI Corevalve 31 mm deployment
TAVI Corevalve 31 mm deployment
Result after post dilation
Type A dissection during TAVI, Which Treatment at 97 years ???

A. Surgical management of an acute type A dissection
   Sternotomy, CPB, Hypothermia, Ascending aorta replacement

B. Medical treatment
   ICU, hypotension, pain control and speak to family !

C. Coiling of the false lumen

D. Percutaneous stenting of the ascending aorta
Type A dissection during TAVI, Which Treatment at 97 years ????

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We decided to use Zenith Dissection TX2 Bare Stent
Percutaneous stenting of the ascending aorta
6 months follow-up (June 2017)
Final Follow-up

In October 2017 he had pulmonary infection
A week of oral antibiotic at home he had pneumonia
Hospital for IV perfusion for pneumonia

Died for septic reasons at the age of 98 years

He did not had any Cardiac or Vascular Complication
CRITICAL DISSECTION : CASE 2

- Female, 74 ans
- Type A in 2008, treated by Asc Ao Replacement and Hemiarch with an elephant trunk
- On follow-up for False Lumen dilatation
2010

5.0 cm
Injection from left arm

Catheter from the femoral
Right arm catheter in the FL

Femoral catheter in the TL
YES, we have a wire from femoral to right arm in TRUE Lumen
PTA of the flap between FL and FL
Conclusion

1. When we surf at the edge of therapeutics and technologies we need to have a very **opened mind** and be able to deliver a **quick solution** for unusual complications by using **bailout strategies** that could save patients’ lives.
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2. Material knowledge and guide wire skills are the key of success.
1. When we surf at the edge of therapeutics and technologies we need to have a very **opened mind** and be able to deliver a **quick solution** for unusual complications by using **bailout strategies** that could save patients’ lives.

2. Material knowledge and guide wire skills are the key of success.

3. Minimal invasive approach for complex disease is a good alternative.
1. When we surf at the edge of therapeutics and technologies we need to have a very opened mind and be able to deliver a quick solution for unusual complications by using bailout strategies that could save patients’ lives.

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3. Minimal invasive approach for complex disease is a good alternative.

4. Minimal invasive follows the natural evolution of the society.

Conclusion