DECLARATION OF CONFLICT OF INTEREST
Multiple TAVI for Aortic Regurgitation in True Porcelain Aorta

A. Pacchioni, G. Kompara, G. Sorropago*, B. Reimers

Cardiovascular Department
Mirano Hospital
* Interventional Cardiology
Clinica Montevergine, Mercogliano
• 63-y old female, hypertension
• **Diagnosis of aortic regurgitation in 2006**

<table>
<thead>
<tr>
<th></th>
<th>December 2009</th>
<th>March 2010</th>
<th>May 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV EDV</td>
<td>155ml (93ml/m2)</td>
<td>218ml (130ml/m2)</td>
<td>230ml (140ml/m2)</td>
</tr>
<tr>
<td>ESLVD</td>
<td>34mm</td>
<td>41mm</td>
<td>45mm</td>
</tr>
<tr>
<td>LVEF</td>
<td>64%</td>
<td>64%</td>
<td>68%</td>
</tr>
<tr>
<td>NYHA</td>
<td>II</td>
<td>III</td>
<td>III</td>
</tr>
</tbody>
</table>
• ectasic coronary arteries without significant stenoses
• porcelain aorta
• Symptomatic severe AR: clear indication for valve replacement

• Porcelain aorta: clear contraindication for surgery (the patient was refused by our and two other heart surgeons)
Diagnostic CT
<table>
<thead>
<tr>
<th>method</th>
<th>size</th>
</tr>
</thead>
<tbody>
<tr>
<td>TT Echo</td>
<td>27 mm</td>
</tr>
<tr>
<td>TE Echo</td>
<td>24 mm</td>
</tr>
<tr>
<td>CT</td>
<td>26-27 mm</td>
</tr>
<tr>
<td>angio</td>
<td>24 mm (Not done with measuring pigtail cath 😞)</td>
</tr>
</tbody>
</table>
COMPANY EVALUATION:

CoreValve (JCLB): Not feasible (dec 2009)

Edwards: ok (may 2010)
Live measurements using valvuloplasty balloons

22 mm balloon

22mm: Too small

25 mm balloon

25mm: Balloon does not move; Big enough ?!!
Apparently good position, 26mm valve; balloon 26 cc (normal 23 cc)....
oooops

Valve embolized into left ventricle
Unsuccessful retrieval of the prosthesis with aortic balloons (Medtronic Reliant 40 mm)
Unsuccessful attempts to snare the valve with bended 0.035” Emerald wire (arrow) or snaring of Amplatz wire with Goose neck 18mm
1) Advancement of Amplatz wire (never lost) further through the valve
2) Advancement of Simmons III (Terumo) catheter over the wire and removal of the wire
3) 260cm 0.035” soft Terumo wire advanced through the valve into the ascending aorta where it was easily snared
1,2) Snaring of Simmons catheter with 18mm Goose neck and retrieval of valve into abdominal aorta.
3,4) Unsuccessful attempts to stabilize valve using 33mm balloon.
5) Ok with 40 mm balloon.
Patient stable, 4+ AR.

29 mm CoreValve prosthesis was deployed after 3 hours of long and stressful procedure…
...unfortunately, the valve was not completely detached from the delivery system and while retrieving the system the incompletely opened valve slipped into the ascending aorta. It proved impossible to recapture the valve and it was deployed in the distal thoracic aorta...
Finally a 29 mm CoreValve was correctly positioned; echo: mild AR
Aftermath 1

• in cathlab 1:00 – 5:00 pm; 340 ml contrast, 92 min fluoroscopy

• 6:30 pm Pericardial effusion with mild tamponade, pericardial drainage and...

• ... 7:15 pm Sternotomy for off-pump surgical revision: one stitch was placed without a patch to close a small apical tear. (After having touched the aorta our very honest surgeon was still happy not to have done valve replacement:)

• 8:20 pm Stable, extubated
Aftermath 2

• uneventful hospital stay, discharged day 7

• 30 days f-u: NYHA I, Echo: mild AR, ‘no gradient of 3 valves’, became grandmother

• 31.07.2011 (nearly 12 months). Doing well, NYHA I
Conclusions & take home messages

- extremely careful evaluation of diameters before TAVI is crucial (in doubt, choose the largest one)
- look at the annulus for calcium: if it is spared, the risk of valve embolization is high

Gurvitch, JACC Inv 2010
Conclusions & take home messages

*Be careful when going off-label!!!!*
Contacts:

Bernhard Reimers, MD
Cardiology Division
Mirano General Hospital
emodinamica@ulss13mirano.ven.it

Andrea Pacchioni, MD
Cardiology Division
Mirano General Hospital
andreapacchioni@gmail.com