My best and worst TAVI case

Ανδρέας Συνετός, MD, PhD, FESC, MEAPCI
επεμβατικός καρδιολόγος, επιμελητής
Α’ Παν/κή Καρδιολογική, ΓΝΑ Ιπποκράτειο’
Unable to perform BAV
Patient data

- 84 yo male
- Dyspnea NYHA III-IV
- aortic valve stenosis
  - area 0.7 cm², mean gradient 55 mmHg
- Ejection fraction 50%
- LogEuroscore: 30.26%
Multi Slice Computed Tomography
TAVI procedure plan

Implantation of a 18F 29 mm CoreValve
TAVI steps
Trans-femoral access

Mild sedation

Left common femoral artery punctured

Prostar 10XL sutures were pre-placed

18 F sheath insertion
TAVI steps

Pre TAVI angio
TAVI steps Cross and BAV

- Crossing of the aortic valve with AL1 and straight wire
- Exchange over pigtail for a Medtronic Confida Brecker wire
Unable to cross with balloon

A 21 mm 10F compatible valvuloplasty balloon could not be advanced across the stenotic aortic valve.
An Amplatz ST1 wire was inserted into the left ventricle to act as a “buddy wire”.
An Amplatz ST1 wire was inserted into the left ventricle to act as a “buddy wire”.

Even so, the valvuloplasty balloon could not be advanced across the stenotic aortic valve.
BAV with an 8/40 mm peripheral balloon
Then normal BAV with a 21 mm balloon
TAVI
(various implantation steps)
TAVI final result

- Final gradient ~5 mmHg
- No paravalvular leak
- Successful 18F hemostasis
Thank you!

TAVI and bailout maneuvers
Only of historic interest (?)
History

- **80 year old man** with severe symptomatic AS
  - NYHA III-IV
  - **Echo:** EF=50%, mean gradient= 45mm Hg, pulmonary hypertension (~50 mmHg)
- Atrial fibrillation, hypertension, history of minor stroke
- Permanent Pacemaker
- Creatinine clearance 40 ml/min
- Only mild atheromatous coronary vessels
- Log EuroScore: 16.9%
Pre TAVI imaging

LAD / LCX

RCA
Pre TAVI imaging
TAVI #1
TAVI #1

Positioned supra-annularly
Question TAVI #1

Stop and emergency surgery?

Or something else?
MCV Bail-out Maneuvers

<table>
<thead>
<tr>
<th>Problem</th>
<th>CV* deep</th>
<th>CV marginally supra-annularly</th>
<th>CV dislocated into aorta</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cause</td>
<td>Deep implantation by operator</td>
<td>Shallow implantation by operator</td>
<td>Excessive proximal correction during deployment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Excessive proximal correction by operator</td>
<td>As a result of “hinges locking”</td>
</tr>
<tr>
<td>Solution</td>
<td>Snare of the first valve</td>
<td>2nd CV lower (Valve-in-Valve)</td>
<td>2nd CV (Valves-in-Series)</td>
</tr>
<tr>
<td></td>
<td>2nd CV higher (Valve-in-Valve)</td>
<td>Pulling 1st CV into ascending aorta and 2nd CV (Valves-in-Series)</td>
<td></td>
</tr>
</tbody>
</table>

TAVI Valve-in-Series
TAVI #1 snare

Decision to snare in ascending aorta
2nd MCV advanced through the 1st, while
The 1st MCV was under constant pull
with a Snare catheter
TAVI #2
TAVI #2

Positioned too deep
3/4+ AR
Question TAVI #2
Stop and emergency surgery?
Or something else?
TAVI Valve-in-Valve (in-Series!!)
3rd MCV advanced through the 1st inside the 2nd, while The 1st MCV was under constant pull with a Snare catheter
TAVI #3

Positioned good
Excellent hemodynamics
Uneventful 18 month follow up
Thank you!

iPad App
PCR Valve Atlas (2014)

THE CLINICAL ATLAS
OF TRANSCATHETER AORTIC VALVE THERAPIES

Special Contributors
G. Latsios
A. Synetos
K. Toutouzas