Transcatheter tricuspid valve interventions in 2017:
Unmet needs and future perspectives

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I have the following potential conflicts of interest to report:

➢ Speaker honoraria:
    Abbott Vascular, Edwards LifeSciences
Prevalence of TR and Mortality

Estimated prevalence of > moderate TR in the US

- 1,600,000 > moderate TR cases
- 250,000 Annual New TR
- 50,000 Annual MR Surgeries
- 5,500 Annual TR Surgeries

TR Mortality

- No TR
- Mild TR
- Moderate TR
- Severe TR

Surviving and # at Risk over time (P < .0001)

Nath et al, JACC 2004
Kammerlander et al, JACC 2013
Topilsky et al, JACC 2014
Surgical Mortality for TR Repair
(> 50,000 pts from STS Database)

Mortality after E2E Repair
(766 pts from TRAMI Registry)

Kilic et al, Ann Thorac Surg 2013
Kalbacher et al, EuroIntervention 2017
E2E-based Therapies for TR

Modified after Rodés-Cabau et al, JACC 2016
Can we steer the MitraClip to the tricuspid valve?

Munich modified steering technique

RV

Anterior Leaflet

A – Curve of CDS

Septal Leaflet

RA VCI

M3
Is an E2E technique feasible and safe?

<table>
<thead>
<tr>
<th>52 patients</th>
<th>In-hospital</th>
<th>30-day FU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>MI</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Stroke</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Bleeding</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unplanned Op</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Repeat interv.</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>
Do we know, where to place the clips?

Outward remodeling

Regurgitant orifice
Is an E2E technique efficacious in TR reduction?

Baseline (n=69) vs Discharge (n=69)

- Baseline: 4+ (0%), 3+ (46%), 2+ (46%), 1+ (11%)
- Discharge: 4+ (0%), 3+ (17%), 2+ (29%), 1+ (54%)
Are the achieved TR reductions durable?

Baseline (n=23) 6 Months (n=19)
Is there a clinical improvement?

LMU Großhadern and Heart Center Leipzig

- NYHA IV
- NYHA III
- NYHA II

Baseline (n=23) 6 Months (n=20)

6 MWD

NT-proBNP

Combined TR and MR  Isolated TR
There are many open questions . . .

- Which patients should be treated?
- Which TR pathologies can be treated by E2E?
- Can we standardize the procedural steps?
- Can we standardize echocardiography for screening and the procedure?
- Should we treat MR and TR concomitantly?
- Will a dedicated E2E device improve TR treatment?
- . . .