Egypt meets Germany
Joint sessions of the Egyptian and German Working Groups of Interventional Cardiology
CardioEgypt 2018

Cross-cultural learning

Interventions for valvular heart disease:
Essentials for a successful program

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Interventions for valvular heart disease

TAVI
Balloon aortic valvuloplasty
TMVI
Mitraclip
Mitral annuloplasty
BMV
Tricuspid interventions
Balloon pulmonary valvuloplasty
TPVI
Paravalvular leak closure

+ Surgery
ESC guidelines 2017
Recommended requirements for a heart valve center

Requirement Nr. 1: Multidisciplinary Team

Specialized communicating teams are essential!
Requirement Nr. 2: Multimodality Imaging

Echocardiography (including 3D and stress imaging)  
Computed tomography  
Cardiac MRI

Imaging modalities are essential for screening, device selection, procedural guidance and assessment of success/complications

Multimodality imaging

Computer-aided evaluation of low-dose and low-contrast agent third-generation dual-source CT angiography prior to transcatheter aortic valve implantation (TAVI)

Peter Dankel1, Matthias Hammon1, Hannes Seuss1, Monique Trobe2, Annika Schuhhaack2, Michaela M. Hell2, Alexander Cavallaro3, Stephan Achenbach2, Michael Uder1, Mohamed Marwan2


Tipp: Always check the measurements by yourself!
Multimodality imaging

For advanced users:
Master and integrate fluoroscopic, echocardiographic and CT anatomy

Requirement Nr. 3: Standards!

The intervention is not only a procedure, it's a process!
Practical Recommendations

1. Dedicated „Valve Department“
   - From admission to discharge in a single ward
   - Clear structures for patient screening, preparation, heart team discussions as well as post-procedural care
   - Specialized personnel (nurses, physicians, research coordinators)
   - Clear role allocation

2. Optimize Screening
   - Tipp: Optimizing CT and cardiac cath protocols to minimize contrast load is possible
Practical Recommendations

A very low-contrast CT-protocol for TAVI planning (contrast amount=38ml)

A very simple CT-based determination of suitable fluoroscopic angulation can save ca. 30 ml of contrast during TAVI

Bittner et al. Eur Radiol 2016;26:4497-4504


Practical Recommendations

3. Standardize your procedure

- Our TAVI practice:
  - Small team
  - Local anesthesia
  - No TOE
  - Purely percutaneous
  - Single suture device
  - Selected predilatation (20%)
  - Know how to prepare the valve!
Practical Recommendations

4. Streamline post-procedural care

Requirement Nr. 4: Continuous Education

Educate the whole team!

The evolution of transcatheter valve interventions has changed the way we understand, prevent and manage valvular heart disease

CME is essential to maintain a functioning process, and should include all team members
Continuous Education

Diagnosis? Differential diagnosis?

Requirement Nr. 5: Quality Control

Create a database and follow-up your patients!

- E.g. through a dedicated outpatient clinic
- Our schedule: 30 days, 6 months, 1 year, then yearly
- Best way for quality control
- Streamlines participation in clinical trials
- Cornerstone for early assessment of THV failure (thrombosis, endocarditis, degeneration, etc.)
Quality Control

Long-term follow-up in Bad Segeberg (> 5 years, work in progress)

10 years after CoreValve
Patient Nr. 2 in Bad Segeberg
(patient consented for publication)

Take home message

Successful Program

Standards

Imaging

Education

Team

Data