Screening and Selecting Patients for TMVR

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Potential conflicts of interest

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☑ I have the following potential conflicts of interest to report:

Receipt of honoraria or consultation fees: 4Tech, Abbott, Boston Scientific, Edwards Lifesciences, Medtronic
Screening

1. Most important part of early therapy development
2. Learning from screen failures
3. Expansion of Indications

History
Physical Examination
Functional Status
Echo : TTE and TEE
Gated CT
Unique design

- TAVR like
- Position and deploy
Screening

1. Physiological Hurdles
2. Anatomical hurdles: Device specific
3. Procedural
4. Role of competitive treatments
Physiological

• Degree of MR
• LV function
• PA pressures
• Associated valve disease (AS, TR)
• Associated coronary lesions
Ideal Patient

- Symptomatic MR (Moderate/severe)
- Reasonable EF (>20%)
- Optimum medical management
- Reasonable lung function
Mitral Pathology

• Primary
• Secondary

Mitral Stenosis:
- thickened leaflets
- Calcified leaflets
- Fused commissures
- Subvalvar apparatus crowding
- Small ventricles
Primary MR

• Some pathologies have very bulky leaflets
• Severe prolapse
• MAC

1. Surgery is commonly performed in reasonable risk candidates
2. Patients from this pool – high risk candidates with comorbidities
Secondary MR

- Leaflet morphology
- Annulus size
- Ventricular function
- Many patients have CABG in past

Patient from this group are ideal candidates
1. Role of surgery and Repair techniques is unclear and failure rates are higher
Anatomical challenges

- Annular size
- LVOT obstruction
- Issue related to access
- Leaflet length
- Papillary muscle
Annulus sizing

- Diameter
- Perimeter
- Shape
- Oversize?
LVOT & LV assessment
Left ventricle considerations
examples of anatomical failure

- LVOT Obstruction
Left ventricle Size
LVOT & LV assessment

• LV volume score: 248
• Wide 134° aortomitral angle
• 8.5 mm wall at incision site
Thinned out Apex
< 5mm
Left Atrial Thrombus
Surgical planning: Incision location

$4^{th}$ intercostal space
8 cm below left nipple
11 cm from center of sternum
Apical access site

- 2.5 cm from true apex
- 2 cm from LAD
Screening related to procedure

1. Hostile chest
2. Pleural plaques
1. Is reduction in MR enough over elimination??
2. If yes, how much reduction??
3. In which patients?
4. Long term durability of repair technology?

Very complex – gathering of evidence will take a long time

Safety versus Efficacy
Futile – Cohort C?

- Low EF
- Multiple comorbidities
- Significant risk of LVOTO
- Aneurysmal hearts
Screening failures

It is not similar to TAVR in 2017 but probably TAVR IN 1997
Expanding Indications

- Experience
- Device profile - Device design
- Trans-septal approach
- Technology vs Technique

MAC
- Larger annuli
- Smaller Neo-LVOT
Annular dilatation
Normal leaflets
Large LV

Lower EF
Small LV
Severe MAC
Thrombus