Heart Valve Clinic

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www.eurovalvecongress.com
I disclose the following financial relationships:

None
The Burden of Valve Disease Increases

Prevalence

Survival

Many of these patients
• do not receive a correct diagnosis
• do not have optimized care according to current guidelines

Nkomo. Lancet 2006;368:1005–1011
Management of VHD

Shortcomings:

- Management: general cardiologists, specialists in general internal medicine, or even primary care physicians

- Country-specific variability in the degree of expertise in the management of VHD

- Education provided to patients with VHD is still limited

- If not managed appropriately, patients are more likely to develop irreversible myocardial damage

When referred in a timely manner, surgery carries a lower risk and can improve survival and decrease symptoms
Challenges in the management of VHD

- The gap between evidence (guidelines) and practice
- Assessment of Symptoms
- Understanding Implications of Measured Variables
- Technical challenges: Availability and Quality of Imaging
- Interdisciplinary Management (‘Heart Team’ Approach)
Assessment of Symptoms:

Limitations

- Symptom onset is a key factor in the indication for intervention
- Gathering information about symptomatic status is challenging
- Patients may deny symptoms (Elderly patients)
- Adjustment of their level of physical activity
- Comorbidities (pulmonary disease, frailty)
Tailored Risk Stratification:
Predictors of Outcome in Asymptomatic MR

- **Clinical:** older age, presence of CV risk factors, atrial fibrillation
- **Echocardiography:** higher regurgitant volume, higher LV diameters, reduced LVEF, enlarged LA volume, pulmonary hypertension
- **Exercise testing:** symptoms on exercise, pulmonary hypertension, MR changes
- **Biomarkers:** markedly elevated natriuretic peptides (BNP, Nt-proBNP)
<table>
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<tr>
<th>Indications for Surgery</th>
<th>Level</th>
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<tr>
<td>Surgery is indicated in asymptomatic patients with LV dysfunction (LVESD ≥ 45 mm and/or LVEF ≤ 60%).</td>
<td>C</td>
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<tr>
<td>Surgery should be considered in asymptomatic patients with preserved LV function and new onset of atrial fibrillation or pulmonary hypertension (systolic pulmonary pressure at rest &gt; 50 mmHg).</td>
<td>IIa C</td>
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<tr>
<td>Surgery should be considered in asymptomatic patients with preserved LV function, high likelihood of durable repair, low surgical risk and flail leaflet and LVESD ≥ 40 mm (≥ 22 mm/m² BSA in patients of small stature).</td>
<td>IIa C</td>
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| Surgery may be considered in asymptomatic patients with preserved LV function, high likelihood of durable repair, low surgical risk, and:  
  • left atrial dilatation (volume index ≥ 60 ml/m² BSA) and sinus rhythm, or  
  • pulmonary hypertension on exercise (SPAP ≥ 60 mmHg at exercise) | IIb C |

*Vahanian A et al. Eur Heart J 2012*
Understanding Implications of Measured Variables: Avoid inappropriate treatment strategy

- Evaluation of VHD Mechanism
- Assessment of VHD Severity
- Evaluation of LV function

- Integrated approach (multiple parameters)
- Check for consistency between measurements
- Assess the correlation with clinical data
Technical challenges (Rational Utilization): Availability and Quality of Imaging

Echocardiography (Cornerstone in VHD)

Expert Echo Lab
Standard / TOE / 3D / Stress Echo

CT
CMR
Nuclear
A HVC is composed of a group of healthcare professionals with expertise in VHD, working in a dedicated environment in order to provide specialized and centralized evaluation, care, and education to patients with VHD.

The HVC represents a well-defined structure running on a permanent basis in the cardiology department.
<table>
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<tr>
<th>Heart Valve Clinic: Medical objectives</th>
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<tr>
<td>To assess patients properly</td>
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<td>To monitor valve disease at suitable intervals</td>
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<td>To determine the optimal timing of intervention</td>
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<tr>
<td>To supervise inpatient care of VHD</td>
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<tr>
<td>To define the appropriate type of intervention</td>
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<tr>
<td>To refer to the most suitable surgeon</td>
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<tr>
<td>To assess results after intervention</td>
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Heart Valve Clinic: Education and training objectives

- To educate and inform patients about valve disease both before and after surgery
- To organize meetings of updates knowledge in modern management of patients with VHD
- To set up dedicated training courses and programmes in VHD
- To set up and disseminate protocols of contemporary and good practice in VHD
Heart Valve Clinic: Long-term objectives

- To improve patient care and quality of life
- To optimize the use of proven diagnostic tests and therapies
- To reduce overall VHD-related healthcare costs
- To reduce hospital admissions, morbidity, mortality
- To improve the level of adherence to current evidence and guidelines
Heart Valve Clinic:
Structure

Cardiologist-Nurse–Based Clinic

Standard HVC

Cardiologist/Imaging
Expert in VHD
+ Nurse (‘Hub’)

Advanced HVC

• Echo
• Exer
• Cath

Short waiting times appropriate to clinical need; clear communication with referrers; more efficient use of resources
Heart Valve Clinic: Structure

Cardiologist-Nurse–Based Clinic

Standard HVC

Cardiologist/Imaging

Expert in VHD

+ Nurse (‘Hub’)  

Advanced HVC

Experts in VHD + Interventional Cardiology + Cardiac Surgery

Short waiting times appropriate to clinical need; clear communication with referrers; more efficient use of resources
Heart Valve Clinic

Standard HVC
Cardiologist/Imaging
Expert in VHD + Nurse (‘Hub’)

Advanced HVC
Experts in VHD + Interventional Cardiology + Cardiac Surgery

Multidisciplinary Decision-Making Ponctual evaluation

Inform the patient
Schedule exams
Take appointments
Deliver appropriate care

Information/Collaboration

New / Known Case

General Cardiologist Primary Care Provider

Patient
The “watch for symptoms” strategy in asymptomatic patients with severe DMR can be implemented safely without increased peri-operative and post-operative morbidity and mortality.

Rosenhek et al, Circulation 2006;113:2238-44.

However, the prognosis is poor when patients are not regularly followed-up, even after mitral valve repair.

Recently, Chambers et al. showed that the proportion of patients followed up in the HVC who were managed according to best practice guidelines rose (from 41% to 92%), while the total number of unwarranted echocardiograms performed fell significantly.

Br J Cardiol 2011;18:231–2

Recently, Zilberszacz et al. showed that delayed symptom reporting is common in patients with aortic stenosis. However, in patients being regularly followed up in a HVC program, symptoms are recognized at an earlier and less severe stage.

Eur J Echocardiography 2011

Studies are ongoing
Heart Valve Clinic:
Qualification and training for experts in HVC

To date, there is no established formal certification to build or work in a HVC structure

Most established HVCs have grown from individual local initiatives

Actors: specifically educated in VHD problems obtain all competencies, skills, and experience for the diagnosis, management and surveillance of patients with VHD
Heart Valve Clinic: Conclusions

- There is an unmet need for new healthcare structures specifically dedicated to VHD
- The role of the HVC is to provide
  - standardized organization of care based upon international evidence-based recommendations
  - higher quality healthcare in order to conform more precisely to best practice guidelines
- Such a structured approach will facilitate the performance of key clinical studies and the assessment of the quality of care at individual institutions (unique opportunity to construct large databases)
ESC Working Group on Valvular Heart Disease Position Paper—heart valve clinics: organization, structure, and experiences

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Lancellotti et al., Eur Heart J. 2013