



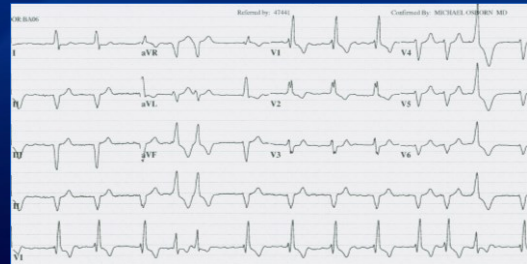
Structural Heart Disease Congenital Case

Heidi M. Connolly

Advanced Echocardiography
June 2, 2015
Dunblane, Scotland

©2014 MPMEDIA | slide 1

36-Year-Old Man with Repaired TOF Palpitations and Dyspnea



©2014 MPMEDIA | slide 2

What would you recommend next?

1. Arrhythmia consult for possible ablation
2. Echocardiogram
3. Cardiac MRI
4. Anticoagulation, TEE, Cardioversion
5. Anticoagulation and rate control



©2014 MPMEDIA | slide 3

What is most likely cause of AF?

1. Residual pulmonary stenosis
2. Residual pulmonary regurgitation
3. Residual/recurrent VSD
4. Lone AF



©2014 MPMEDIA | slide 4

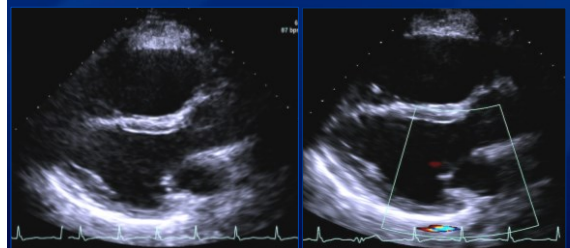
36-Year-Old Man Palpitations and Dyspnea

- Diagnosis of TOF in first week of life
- TOF repair at age 5 years
Transannular patch repair, VSD closure

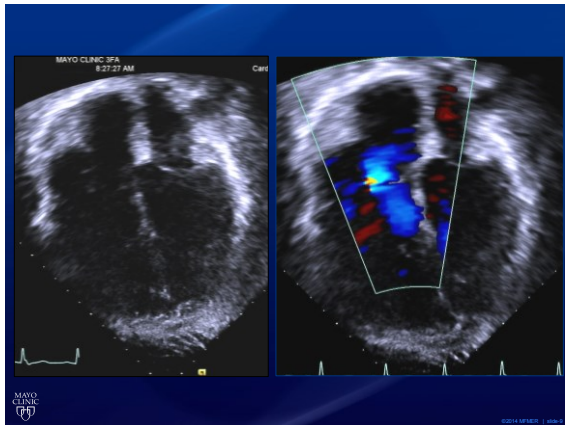
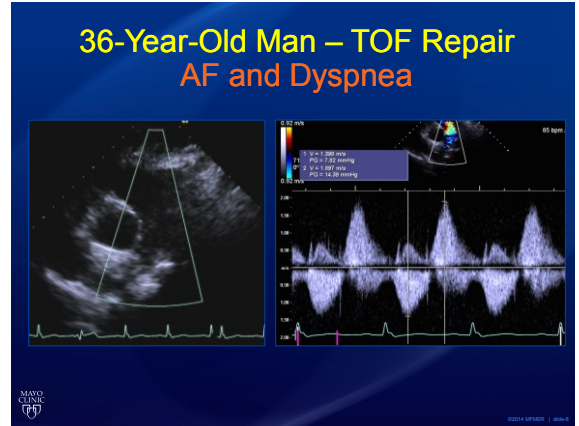
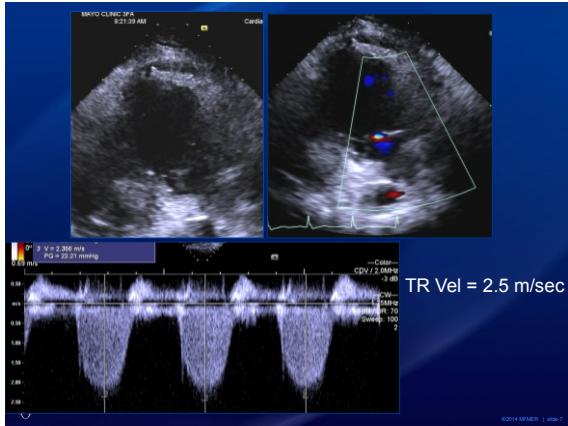


©2014 MPMEDIA | slide 5

36-Year-Old Man – TOF Repair AF and Dyspnea



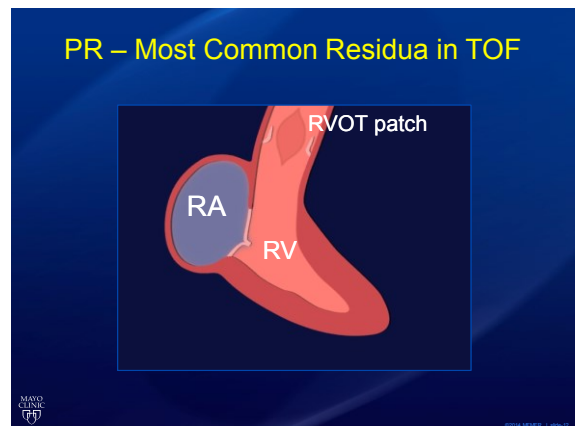
©2014 MPMEDIA | slide 6



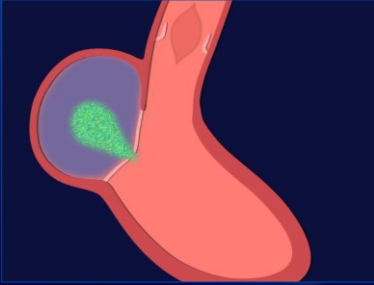
- ### What is the next best step?
1. Percutaneous PVR (Melody valve)
 2. Cardiac MRI to assess RV volume/function
 3. EP consult and ablation
 4. Start diuretic and f/u in 1 year

Tetralogy of Fallot

- Large subaortic VSD
- Overriding aorta
- RVOT obstruction
- RV hypertrophy

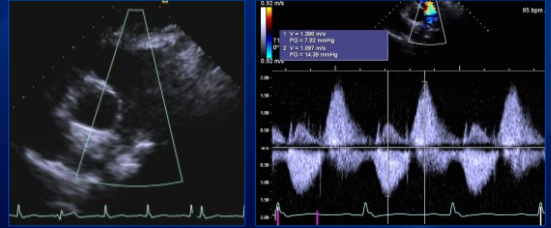


PR – Most Common Residua in TOF



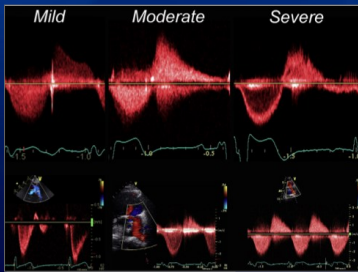
©2014 SPSS | slide 11

36-Year-Old Man – TOF Repair
AF and Dyspnea



©2014 SPSS | slide 14

PR-Spectral Doppler



Valente AM et al JASE 2014

©2014 SPSS | slide 15

Pulmonary Regurgitation - Doppler

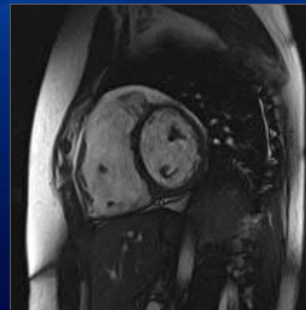
- PR index < 0.7
- Flow reversal in branch PAs
- PHT < 100 ms

Li W et al: Am Heart J 2004
Puchalski et al: Congenit Heart Dis 2008
Silverside et al J Am Soc Echocardiogr 2003



©2014 SPSS | slide 16

Multimodality Imaging



©2014 SPSS | slide 17



©2014 SPSS | slide 18

Timing of PVR in TOF

- Severe PR with symptoms
- Asymptomatic PR with
RVEDVi >160, RVESVi >80 mL/m²
RVEF <47%
Mod/severe TR
- Severe PR with arrhythmias/QRS ≥180 ms

ACC/AHA ACHD Guidelines 2008
ESC GUCH Guidelines 2010
*Lee C. et al: JACC 2012
*Oosterhof T. et al: Circulation 2007



Postoperative Patient with TOF Take Home Points

- Long-term follow-up imperative
- PR expected after TOF repair - don't miss it
- >20% TOF pt develop AF, often initial clue
- Multimodality imaging
- Risk of sudden death
Most related to neglected PR
RV enlargement/dysfunction



Questions & Discussion

©2014 Mayo Clinic | 48-21