

# Management Ventricular Tachycardia in Structural Heart Disease: Reason for Hope

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# What is VT with Structural Heart Disease?

- Common causes
  - Ischemic
  - Non-ischemic / Dilated
  - Myocarditis
  - HCM
  - ARVC
  - Sarcoid
- These can result in scar in the ventricles
  - Substrate for re-entrant arrhythmias
- May result in sudden cardiac death
- Usually require optimal cardiac medications and possible ICD

# Antiarrhythmics

- Many antiarrhythmics may worsen outcomes in patients with prior MI and LV dysfunction:
  - Class I agents (Flecainide, propafenone, etc)
  - Class IV agents (Diltiazem)
- No benefit for digoxin for ventricular arrhythmia prevention
  
- Beta-blockers, Sotalol, and Amiodarone are usually the only anti-arrhythmic options in patients with VT and structural heart disease
- Other medications (statin, ACE-I etc) that treat underlying heart disease also helpful

# Who should receive an ICD

- Persistent Severe LV dysfunction after optimal treatment (EF < 35%)
  - Primary prevention
  - Most common reason today
- Prior cardiac arrest or significant, life-threatening ventricular arrhythmias due to an irreversible cause
  - Secondary prevention
  - VF in context of acute MI would be considered reversible and does not usually require ICD
- Other risks factors/conditions
  - HCM, Long QT, ARVC.....
  - Not just diagnosis but depends on risk of SCD

# Summary of Indications for VT ablation

- 1) Patients with sustained monomorphic VT that recurs despite antiarrhythmic drugs or when drugs are not tolerated or desired
- 2) Control of incessant sustained monomorphic VT or VT storm that is not due to a transient reversible cause
- 3) Bundle branch re-entrant or interfascicular VT
- 4) Frequent PVCs, nonsustained or sustained VT in the setting of ventricular dysfunction (and/or symptoms)

# Summary of Indications for VT ablation (continued)

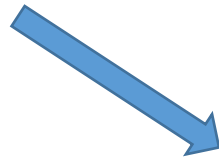
5) Recurrent sustained polymorphic VT and VF that is refractory to antiarrhythmic therapy and thought to be secondary to a trigger (i.e. PVC) that is amenable for ablation.

6) Additionally, catheter ablation can be considered for sustained monomorphic VT despite therapy with class I/III antiarrhythmic drugs

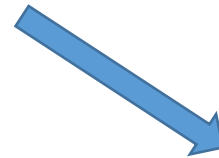
- as an alternative to amiodarone in patients with prior MI and LVEF >30%
- and as an alternative to antiarrhythmic drugs for hemodynamically tolerated sustained monomorphic VT due to prior MI and LVEF > 35% .

# Role of catheter ablation in VT with Structural heart disease

Beta blockers + ICD



Add Sotalol or Amiodarone



Catheter Ablation

Antiarrhythmics and ablation may reduce shocks but unclear if has effect on mortality

Palliative vs Curative

Success 50 – 77 % (over 1-2 years)  
Many remain on antiarrhythmic medications  
Complications up to 7%  
Stroke/TIA, perforation, vascular injury, hemodynamic decompensation  
Death up to 3%  
May need more than one ablation  
Mortality in one year follow up to 18%  
Recurrent VT or heart failure