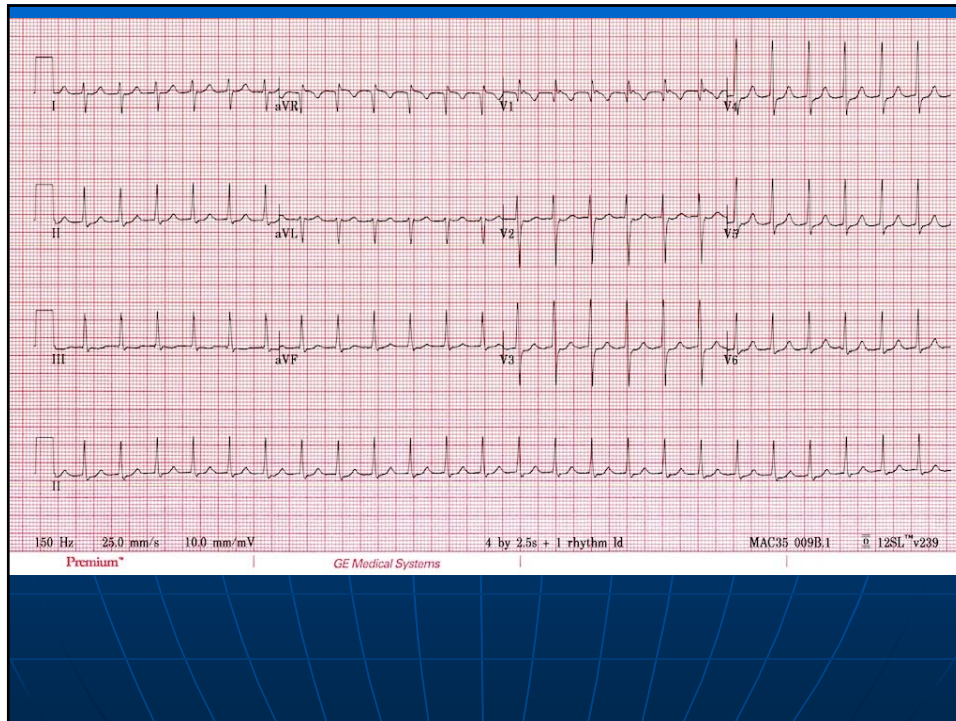


COMMON ARRHYTHMIA AND THEIR THERAPY

Raed Abdelhadi, MD
Cardiac Electrophysiology
Minneapolis Heart Institute @
Abbott Northwestern Hospital

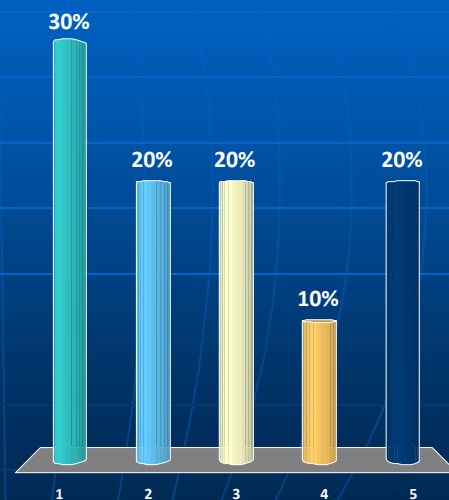
Clinical Presentation

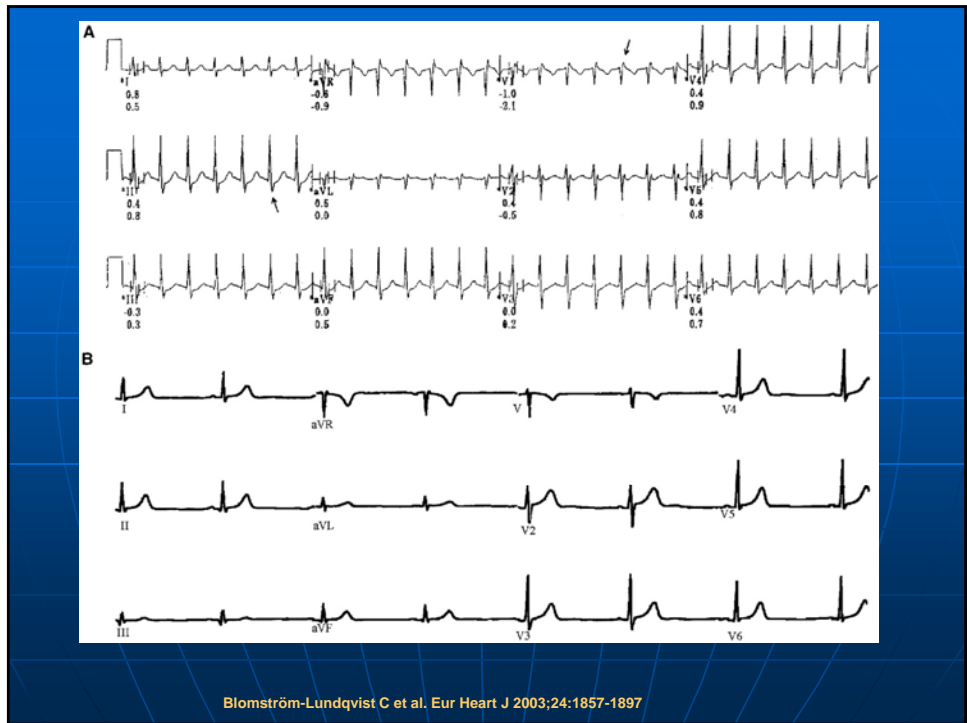
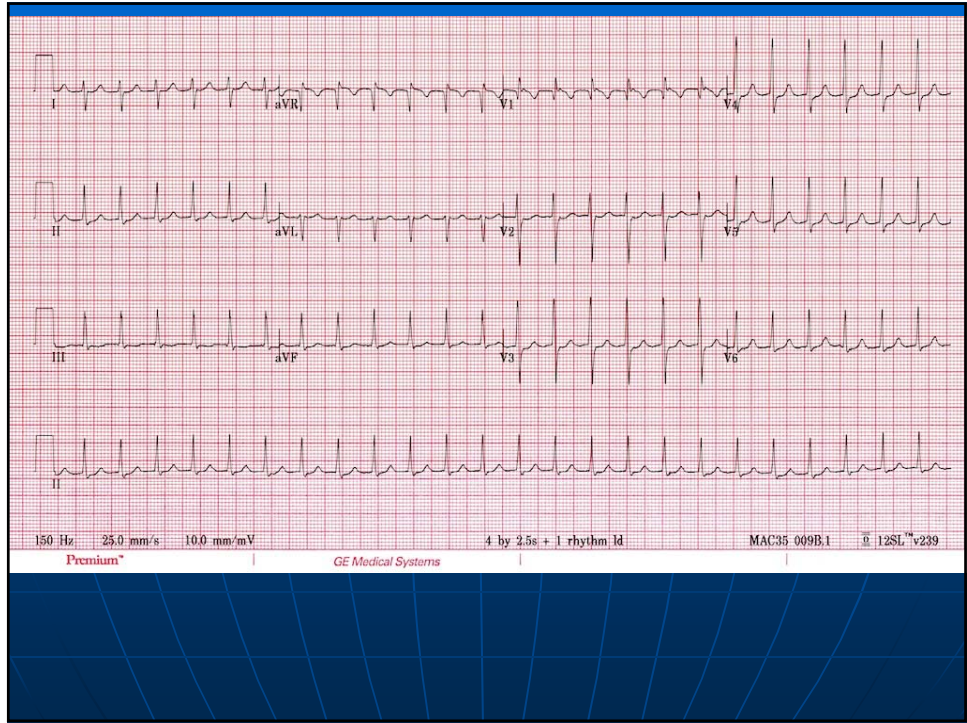
- 58 year old male with no prior cardiac history
- Intermittent episodes of palpitations for 6 years
- Palpitations became more frequent and highly symptomatic and required 2 ER visits over last 3 months
- Echo during first ER visit shows normal EF and normal structure
- Now presents to ER with palpitations, no chest pain or SOB
- BP 140/90



What is the most likely diagnosis?

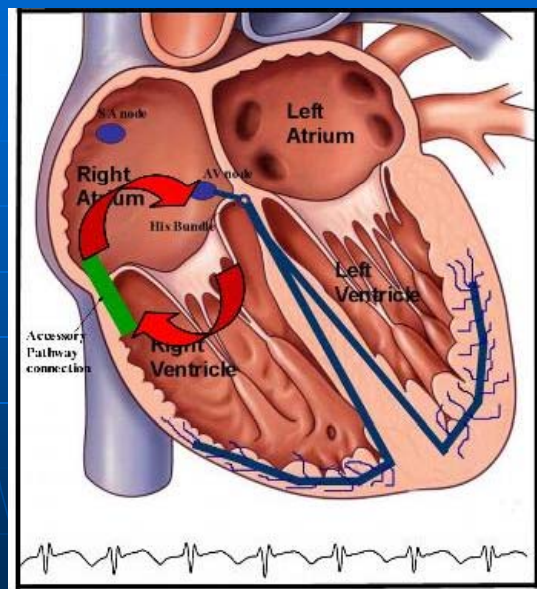
1. Atrial flutter
2. Atrial tachycardia
3. Pathway mediated tachycardia (AVRT)
4. AV nodal reentry tachycardia
5. Atrial fibrillation



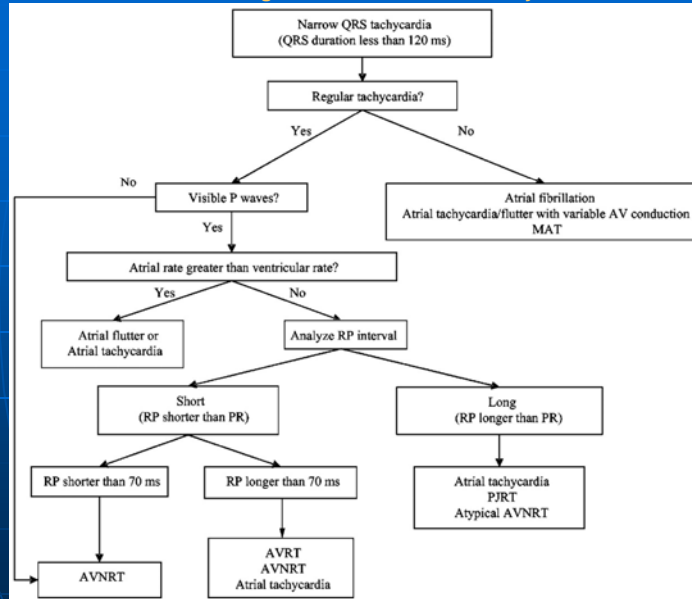


3 most common types of PSVT

- n Atrioventricular node reentrant tachycardia (AVNRT)
- n Atrioventricular reentrant tachycardia (AVRT)
- n Atrial tachycardia

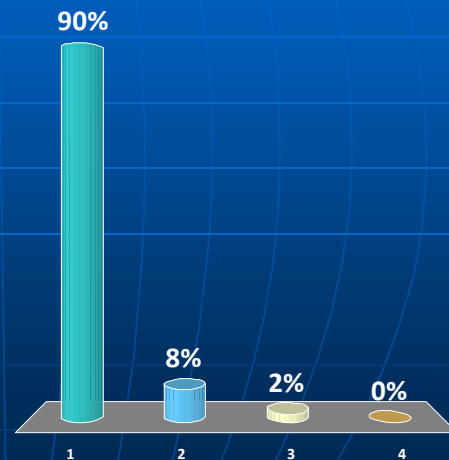


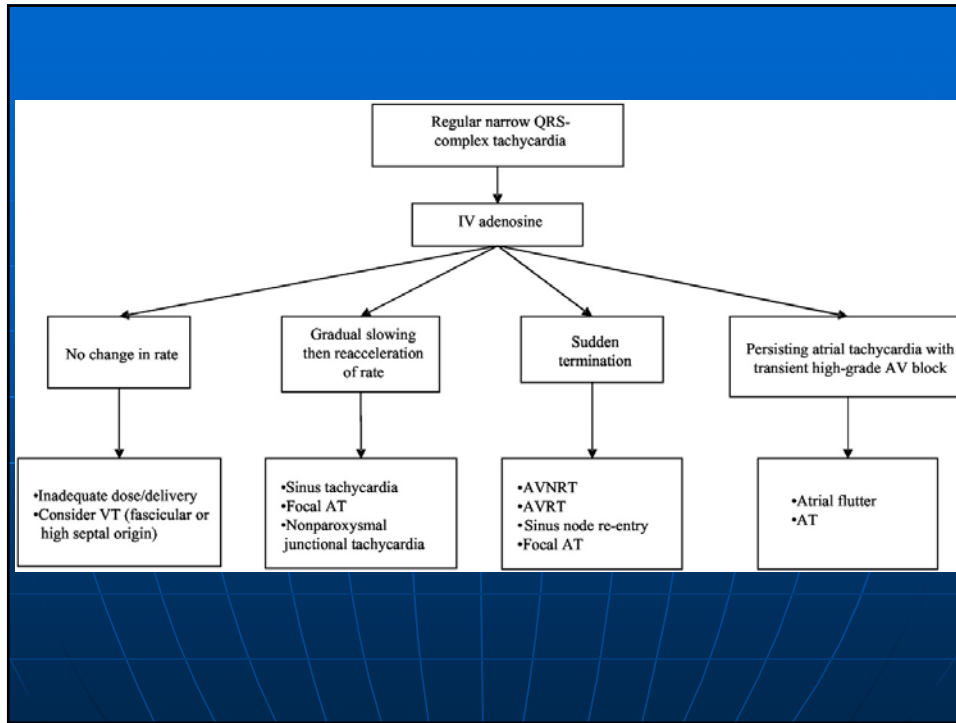
Differential diagnosis for narrow QRS tachycardia.



What would you do next in the ER?

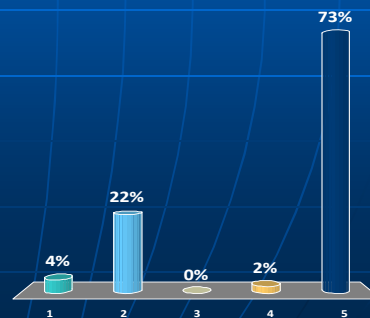
1. Adenosine
2. Cardioversion
3. Amidoarone
4. Urgent EP consultation for ablation

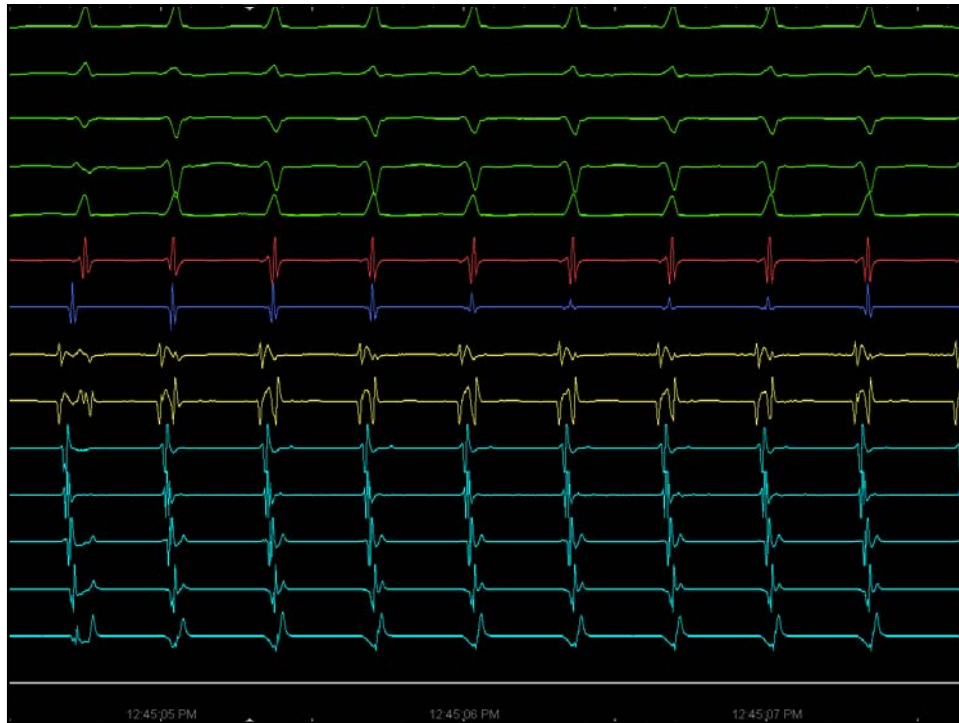




Next step?

1. Discharge home, instruct patient to come back if recurrent symptoms
2. Start on beta blockers
3. Start on Amiodarone
4. Refer for ablation
5. Either 2 or 4





Ablation for SVT

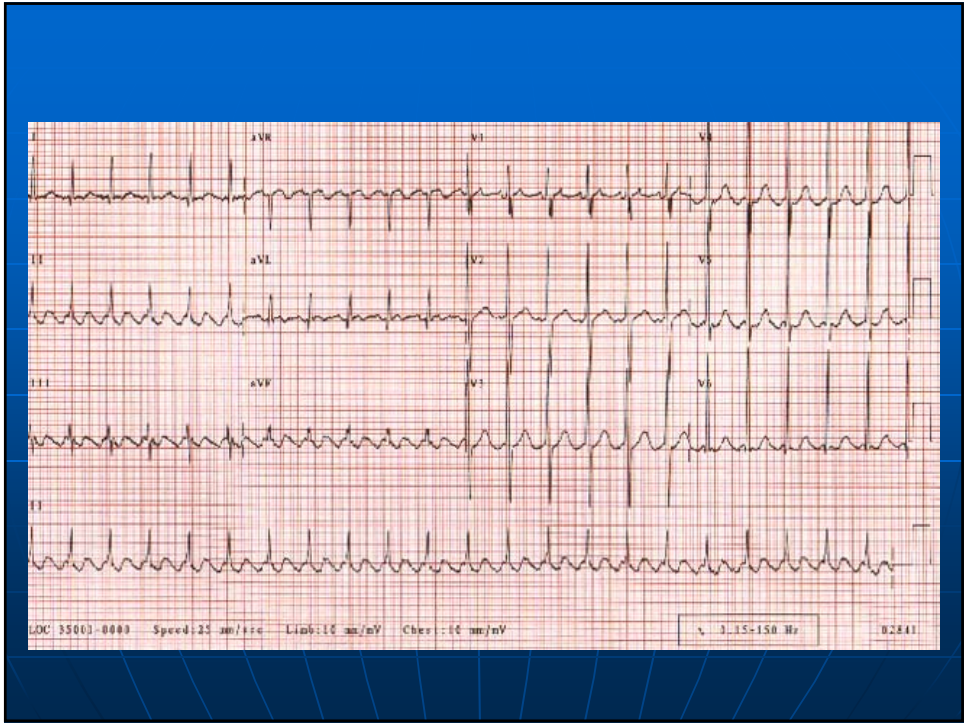
- High chance of success (> 95% for many SVTs)
- Low complication rate
- Only chance for cure
- Can avoid medications

TABLE 3 Recommendations for Long-Term Treatment of Patients With Recurrent AVNRT

Clinical Presentation	Recommendation	Class	Level of Evidence	Ref
Poorly tolerated AVNRT with hemodynamic intolerance	Catheter ablation	I	B	58
	Verapamil, diltiazem, beta blockers, sotalol, amiodarone	IIa	C	58
	Flecainide, [†] propafenone [*]	IIa	C	
Recurrent symptomatic AVNRT	Catheter ablation	I	B	58
	Verapamil	I	B	59
	Diltiazem, beta blockers	I	C	60
	Digoxin [†]	IIb	C	
Recurrent AVNRT unresponsive to beta blockade or calcium-channel blocker and patient not desiring RF ablation	Flecainide, [*] propafenone, [*] sotalol	IIa	B	53,6
	Amiodarone	IIb	C	66
AVNRT with infrequent or single episode in patients who desire complete control of arrhythmia	Catheter ablation	I	B	
Documented PSVT with only dual AV-nodal pathways or single echo beats demonstrated during electrophysiological study and no other identified cause of arrhythmia	Verapamil, diltiazem, beta blockers, flecainide, [*] propafenone [*]	I	C	
	Catheter ablation [†]	I	B	
Infrequent, well-tolerated AVNRT	No therapy	I	C	58
	Vagal maneuvers	I	B	
	Pill-in-the-pocket	I	B	
	Verapamil, diltiazem, beta blockers	I	B	

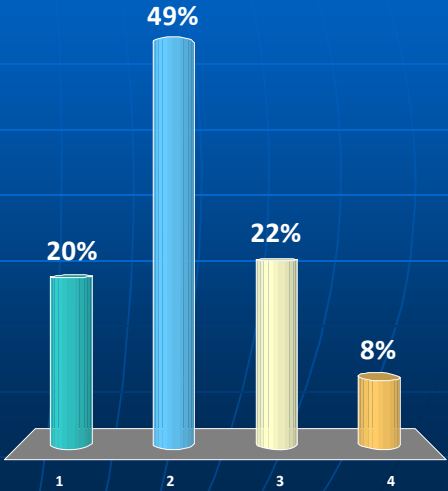
Case 2

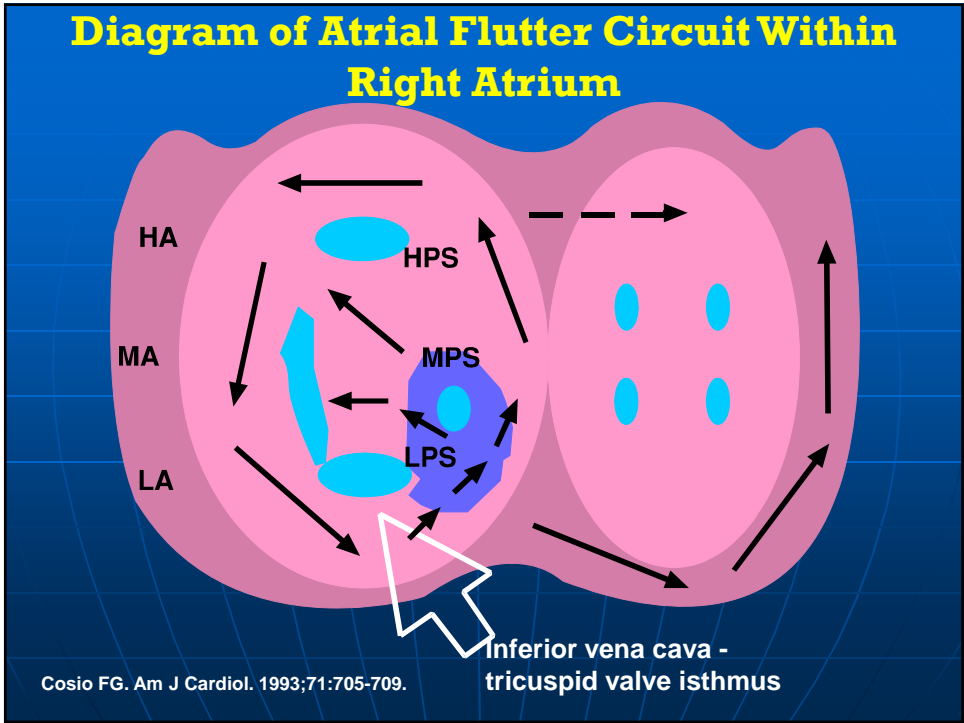
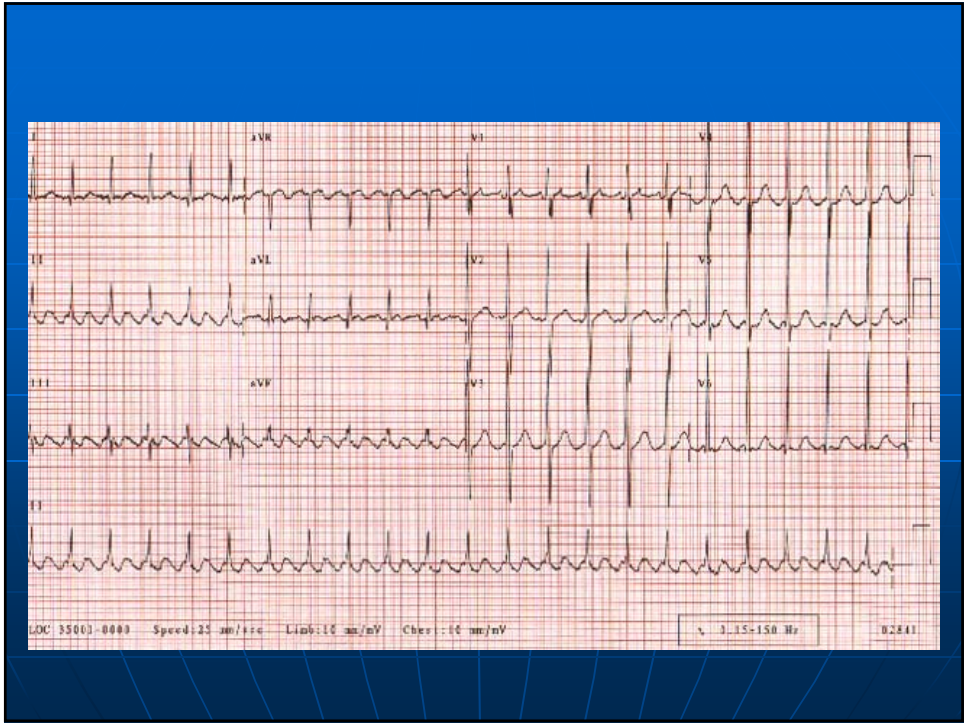
- 65 year old with HTN, DM, diastolic heart failure, mild-moderate pulmonary hypertension
- No CAD, no prior cardiac surgeries
- Presents to ER with sudden onset palpitations for 2 hours associated with SOB
- BP 140/70, HR 140 bpm
- Lungs were clear

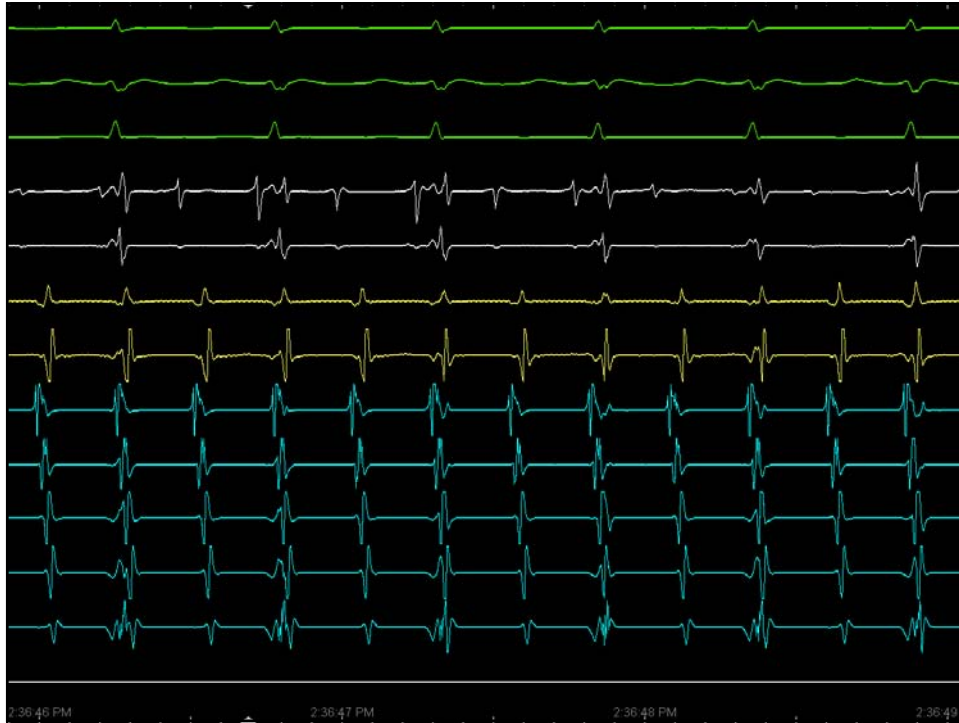


What is the most likely diagnosis?

1. Atrial fibrillation
2. Typical atrial flutter
3. Atypical atrial flutter
4. AVNRT

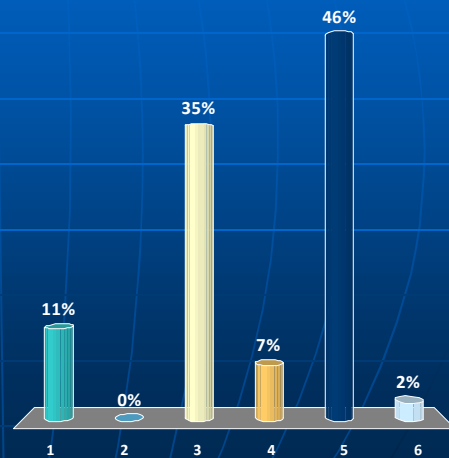




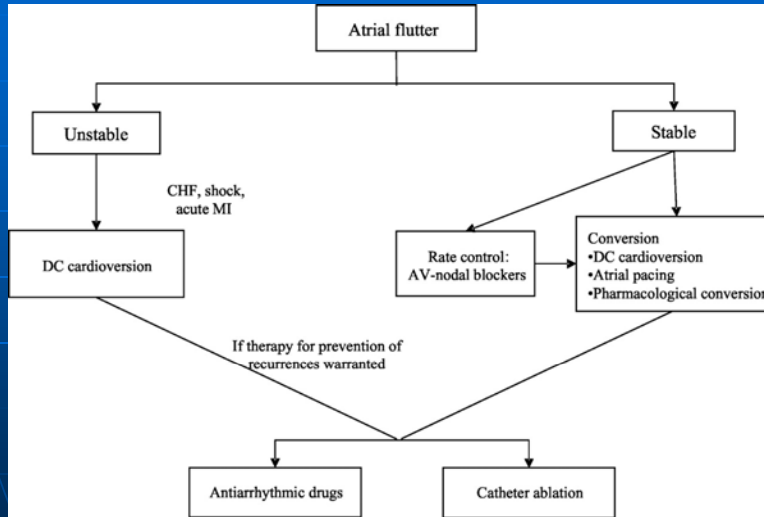


What would you do next?

1. Rate control and anticoagulation
2. Cardioversion and anticoagulation
3. Rate control, AC and referral for ablation
4. Cardioversion, AC and referral for ablation
5. Any of the first 4 are acceptable
6. Cardioversion with anticoagulation



Management of atrial flutter depending on hemodynamic stability



Committee Members, et al. J Am Coll Cardiol 2003;42:1493-1531



TABLE 8 Recommendations for Long-Term Management of Atrial Flutter

Clinical Status/Proposed Therapy	Recommendation	Classification	Level of Evidence	Reference
First episode and well-tolerated atrial flutter	Cardioversion alone	I	B	1
	Catheter ablation*	IIa	B	1
Recurrent and well-tolerated atrial flutter	Catheter ablation*	I	B	1
	Dofetilide	IIa	C	1
	Amiodarone, sotalolol, flecainide, ^{††} quinidine, ^{††} propafenone, ^{††} procainamide, ^{††} disopyramide ^{††}	IIb	C	2
	Catheter ablation*	I	B	1
Poorly tolerated atrial flutter	Catheter ablation*	I	B	1
	Catheter ablation*	I	B	1
Atrial flutter appearing after use of class Ic agents or amiodarone for treatment of AF	Catheter ablation*	I	B	1
	Stop current drug and use another	IIa	C	
Symptomatic non-CTI-dependent flutter after failed antiarrhythmic drug therapy	Catheter ablation*	IIa	B	1

The order in which treatment recommendations appear in this table within each class of recommendation does not necessarily reflect a preferred sequence of administration. Please refer to text for details. For pertinent drug dosing information please refer to the ACC/AHA/ESC Guidelines on the Management of Patients With Atrial Fibrillation.

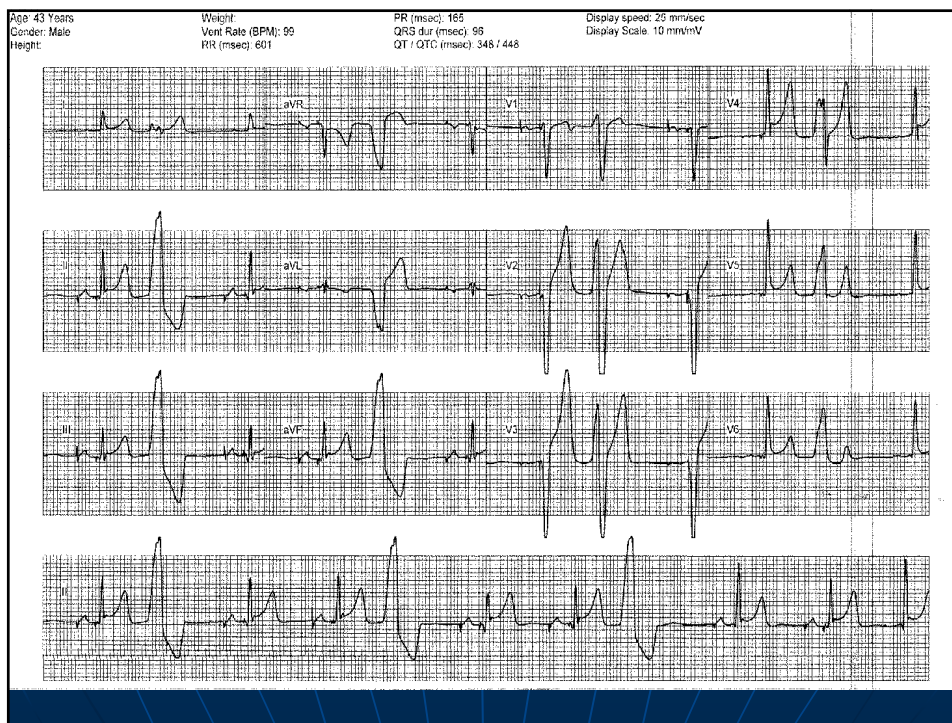
AF indicates atrial fibrillation; AV, atrioventricular; CTI, cavotricuspid isthmus.

* Catheter ablation of the AV junction and insertion of a pacemaker should be considered if catheter ablative cure is not possible and the patient fails drug therapy.

^{††} These drugs should not be taken by patients with significant structural cardiac disease. Use of anticoagulants is identical to that described for patients with atrial fibrillation. (http://www.acc.org/clinical/guidelines/atrial_fib/af_index.htm)²⁰¹

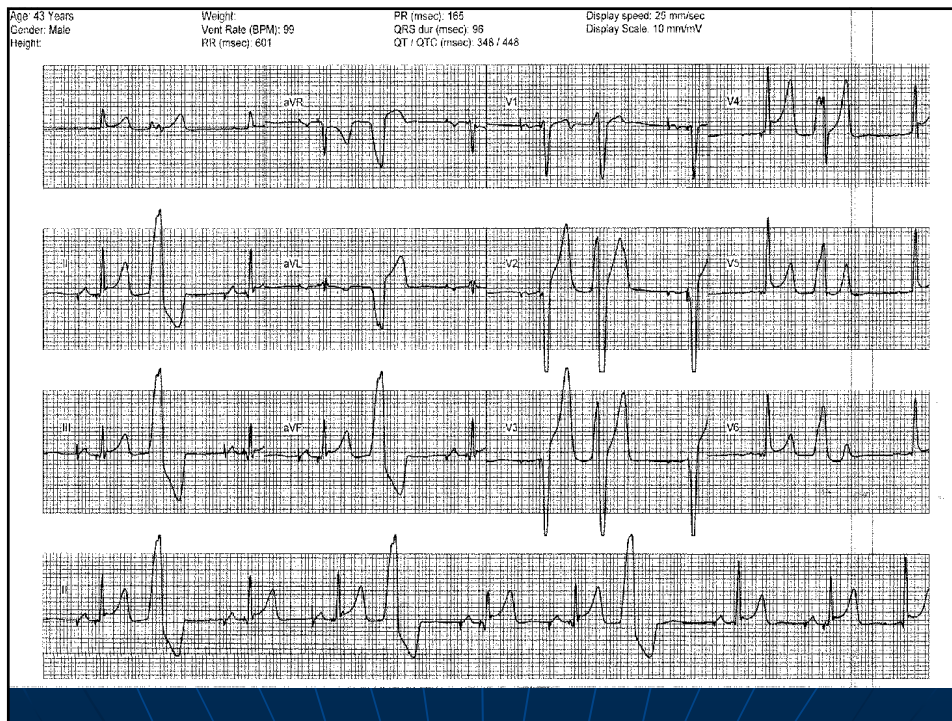
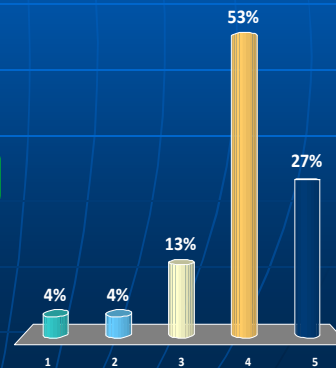
Case 3

- 43 year old with intermittent palpitations for 7 years
- Worse when he goes to sleep and improve with exercise
- Recently the palpitations became more frequent and would interfere with his ability to sleep
- Had Cardiac MRI that was completely normal
- No other medical problems



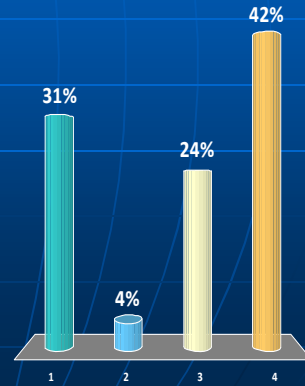
Next step can include all the following EXCEPT:

1. Holter monitor
2. Discuss beta blocker as an option
3. Discuss calcium channel blockers as an option
4. **Left Heart Catheterization**
5. Discuss Ablation as an option

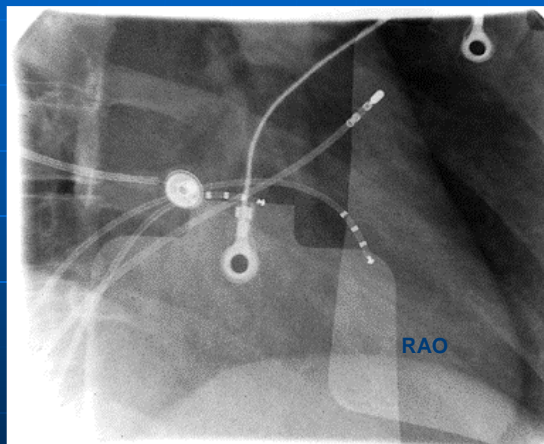


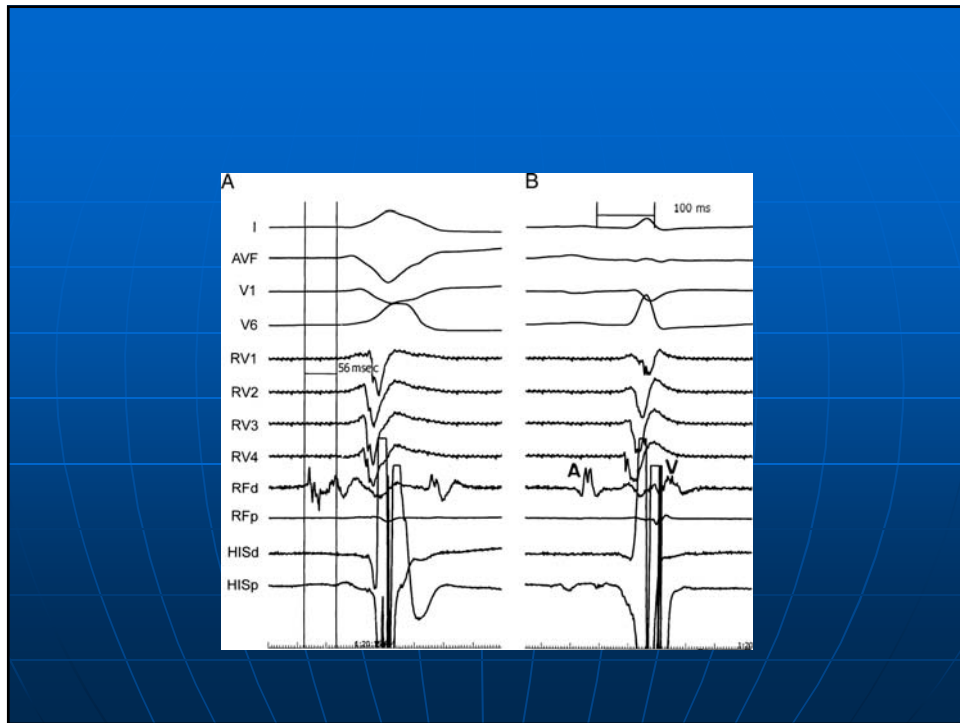
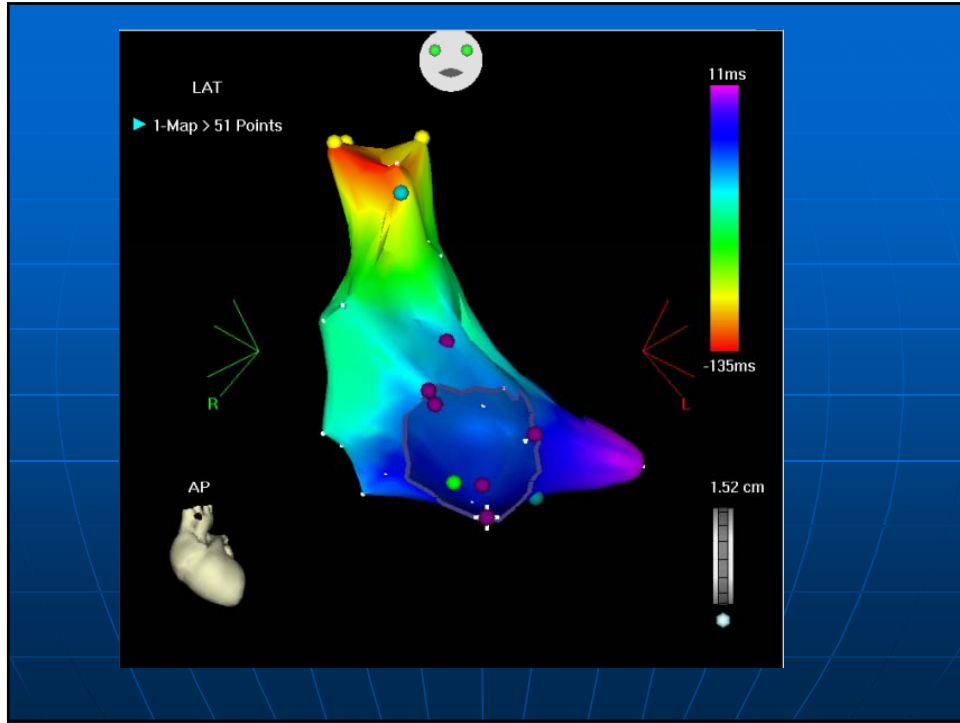
Indications for PVC ablation include all the following except:

1. Reverse/prevent Cardiomyopathy
2. Treat symptoms related to PVC
3. Maximize resynchronization therapy in patient with biventricular pacemaker
4. Prevent sudden cardiac death in patient with idiopathic outflow PVCs and repetitive monomorphic VT



Idiopathic PVC Ablation in RVOT

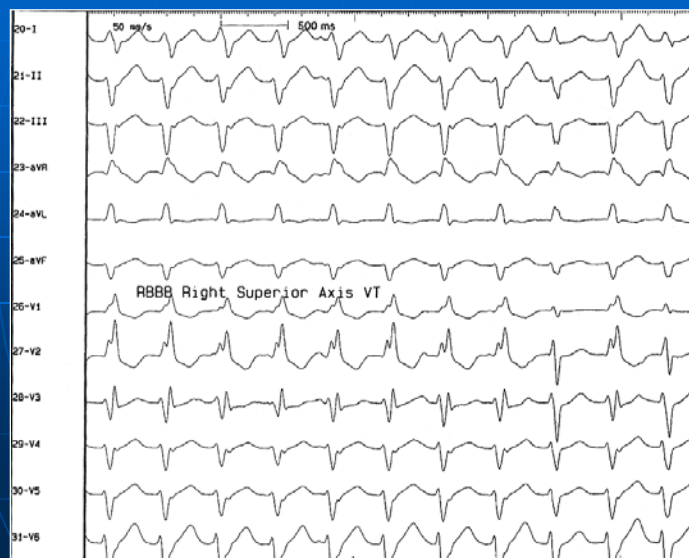




Idiopathic RVOT VT



LV fascicular VT



Thank You!!

Questions??