


Atrial Fibrillation

- THE TODDLER OF ARRHYTHMIAS & HOW TO KEEP YOUR COOL -

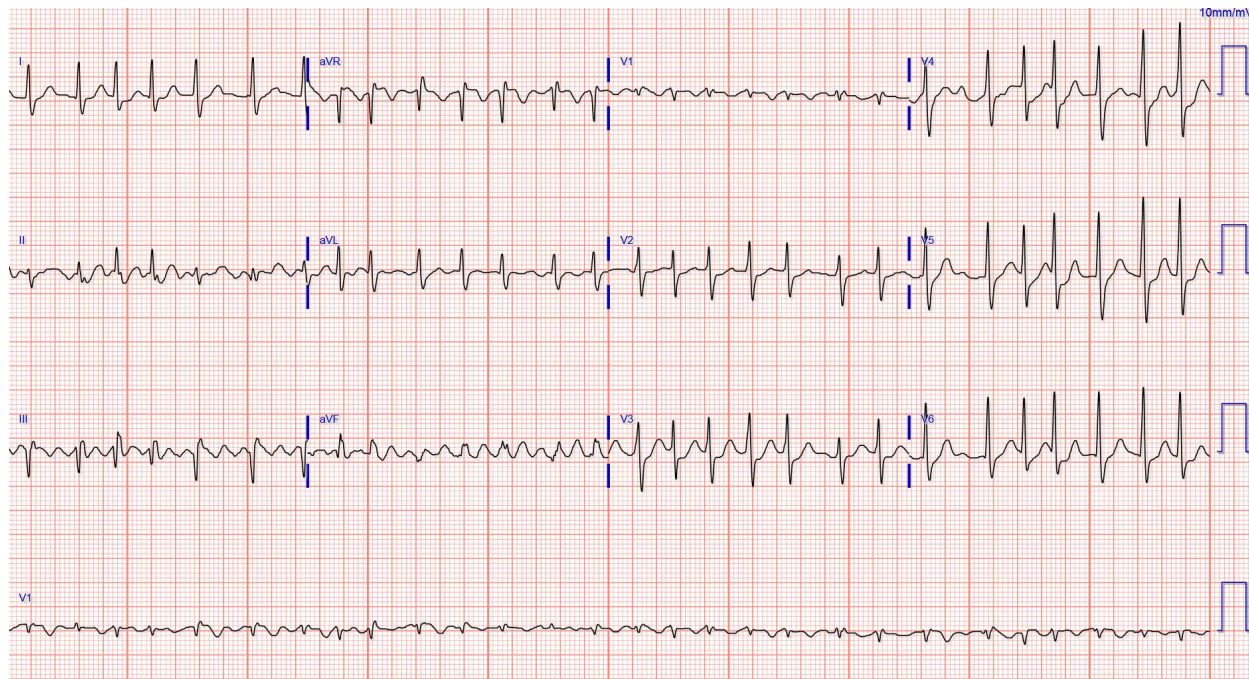
NICOLE HABEL, MD PHD

OBJECTIVES

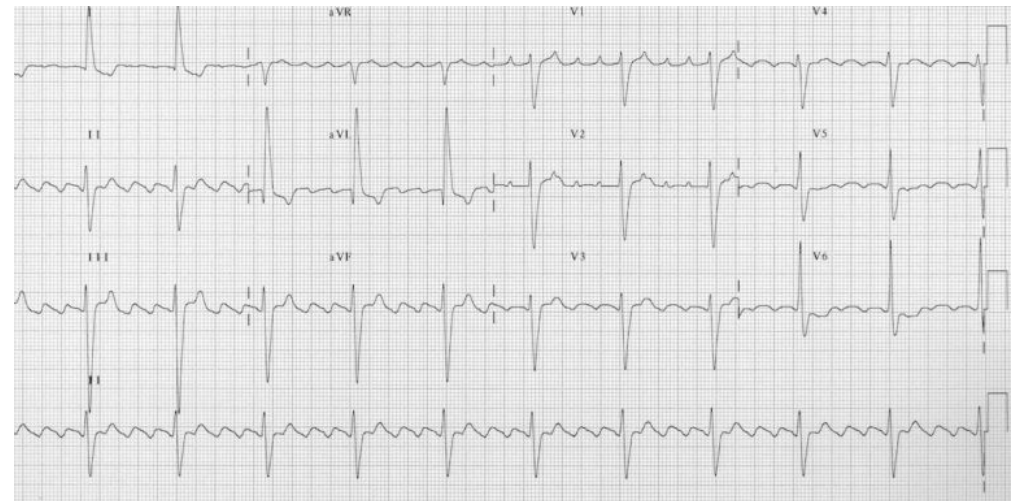
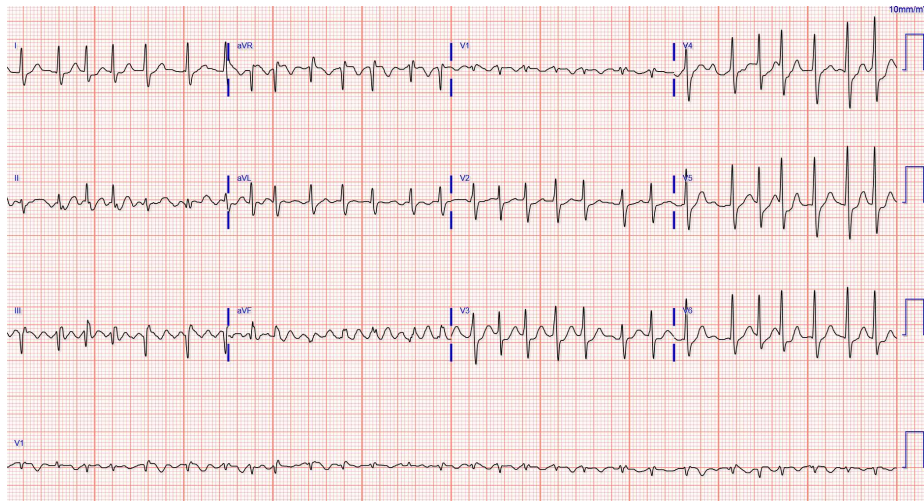
- Distinguish AFib from other rhythm abnormalities
 - Recognize whether AFib is the primary problem or bystander
 - Management of AFib in patients with heart failure
- 

Case I: WHAT IS THE RHYTHM?

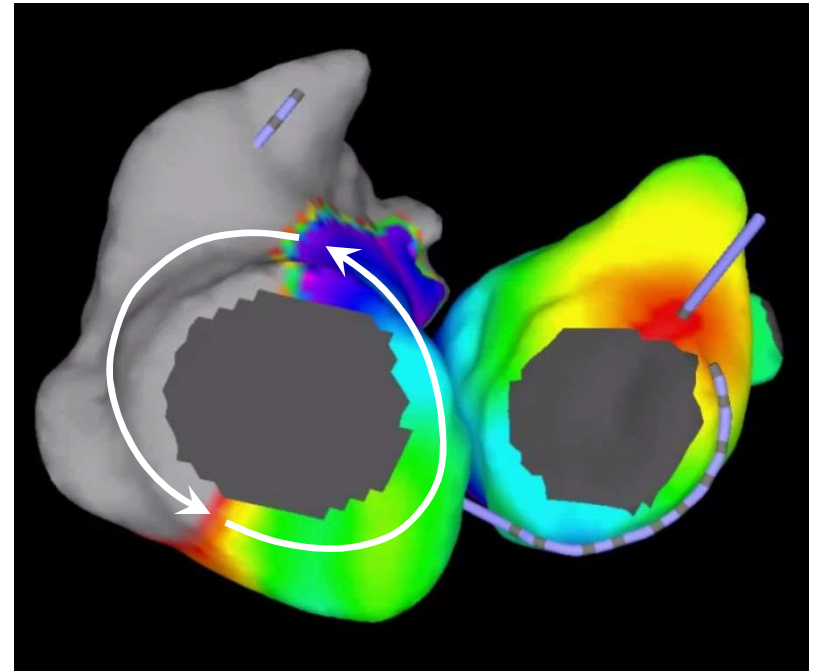
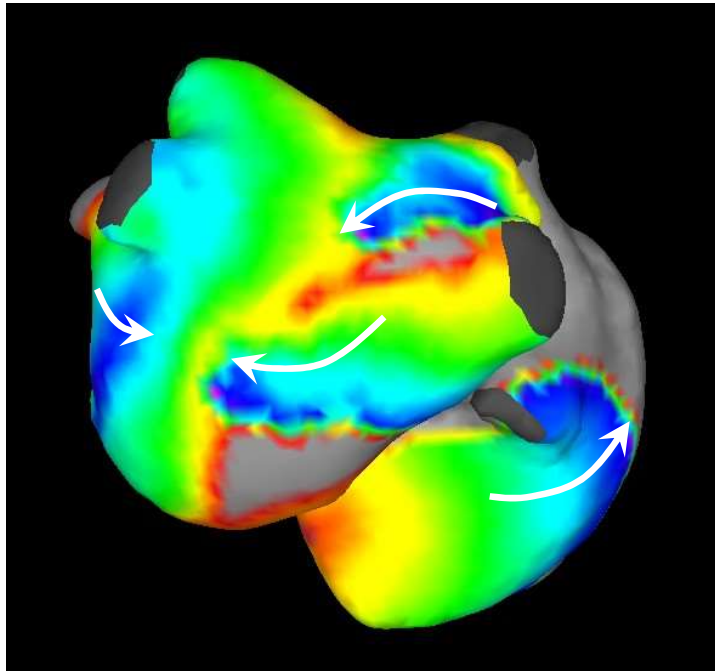
59yo F with obstructive nephrolithiasis s/p recent bilateral stent placement presents with nausea, weakness & heart racing



How is AFib different from AFlutter?



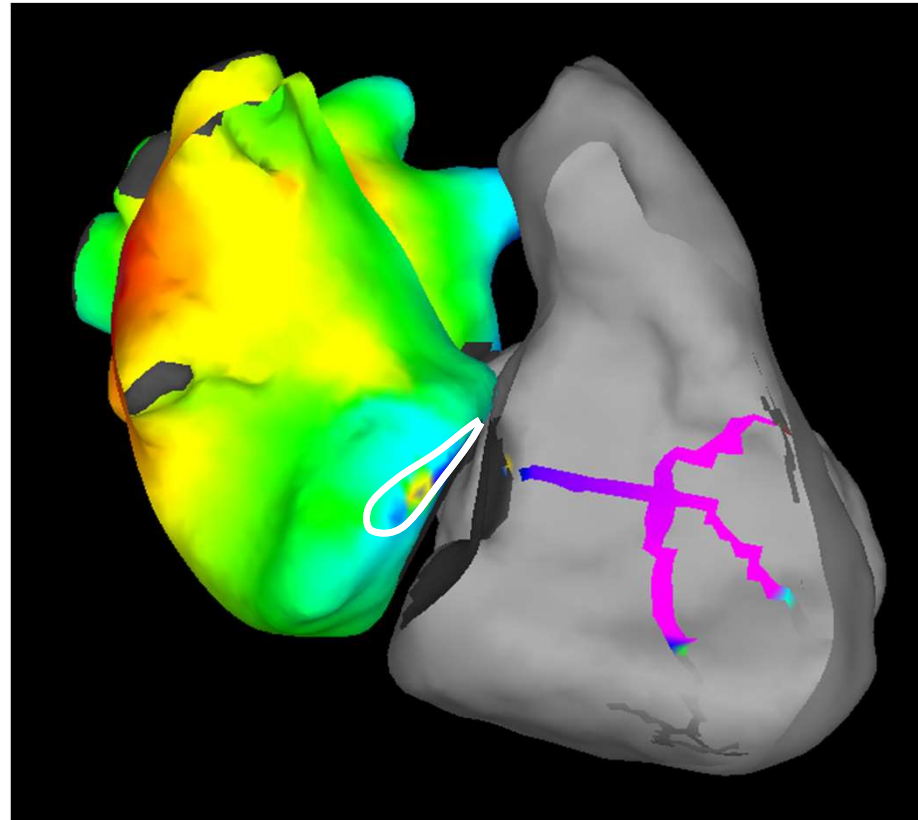
Why does it matter?



The AV node is a gatekeeper

Rate control agents act on the AV node

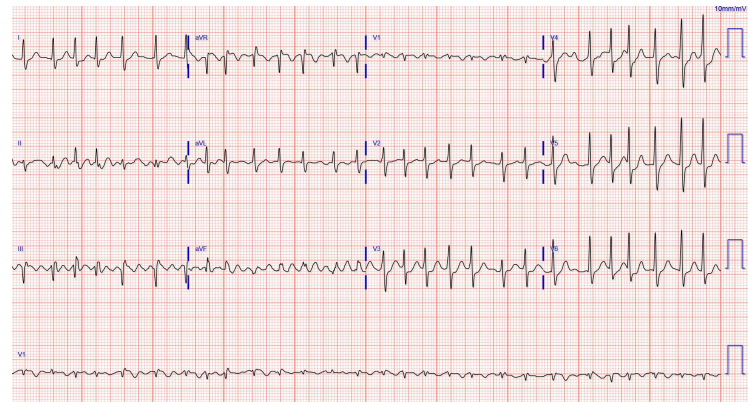
- Metoprolol
- Diltiazem



Case I: WHAT IS THE APPROACH?

59yo F with obstructive nephrolithiasis s/p recent bilateral stent placement presents with nausea, weakness & heart racing

- AFib with rapid ventricular response



Case I: WHAT IS THE APPROACH?

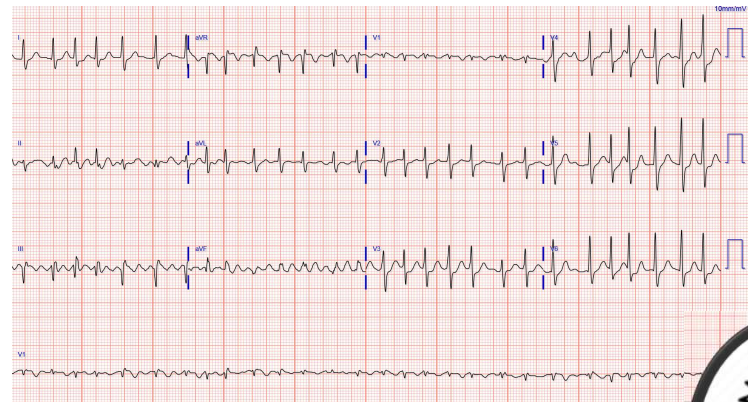
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WHY ???

- * Why is AFib present?
- * Why do we care?

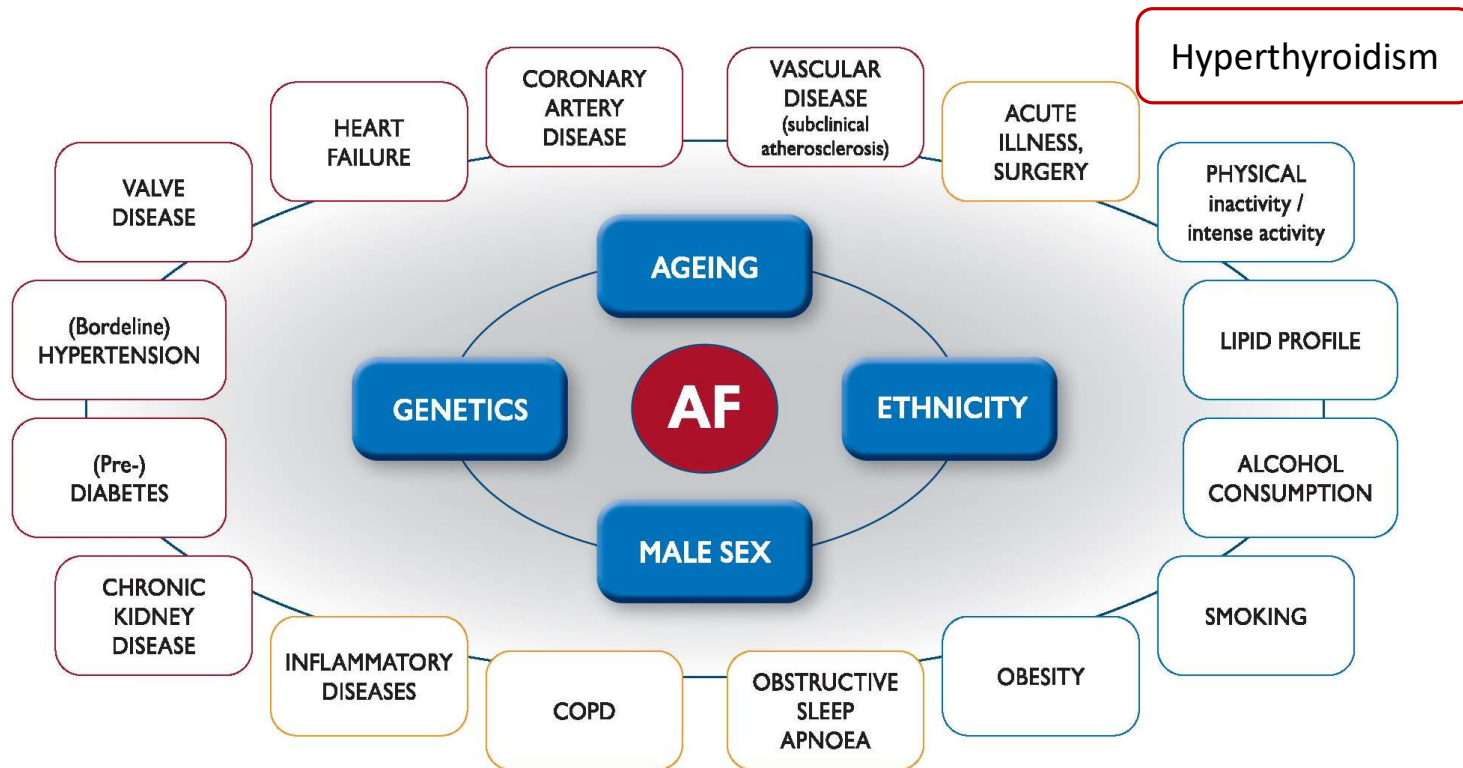
HOW DO WE 'FIX' IT?



AFib – Bystander or Primary Problem?

- New problem? Known problem?
- What company does AFib keep?

AFib Risk Factors



AFib – Bystander or Primary Problem?

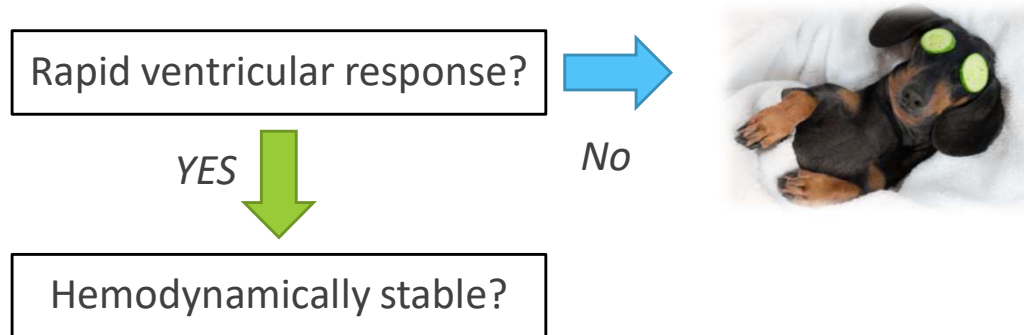
New problem? Known problem?

What company does AFib keep?

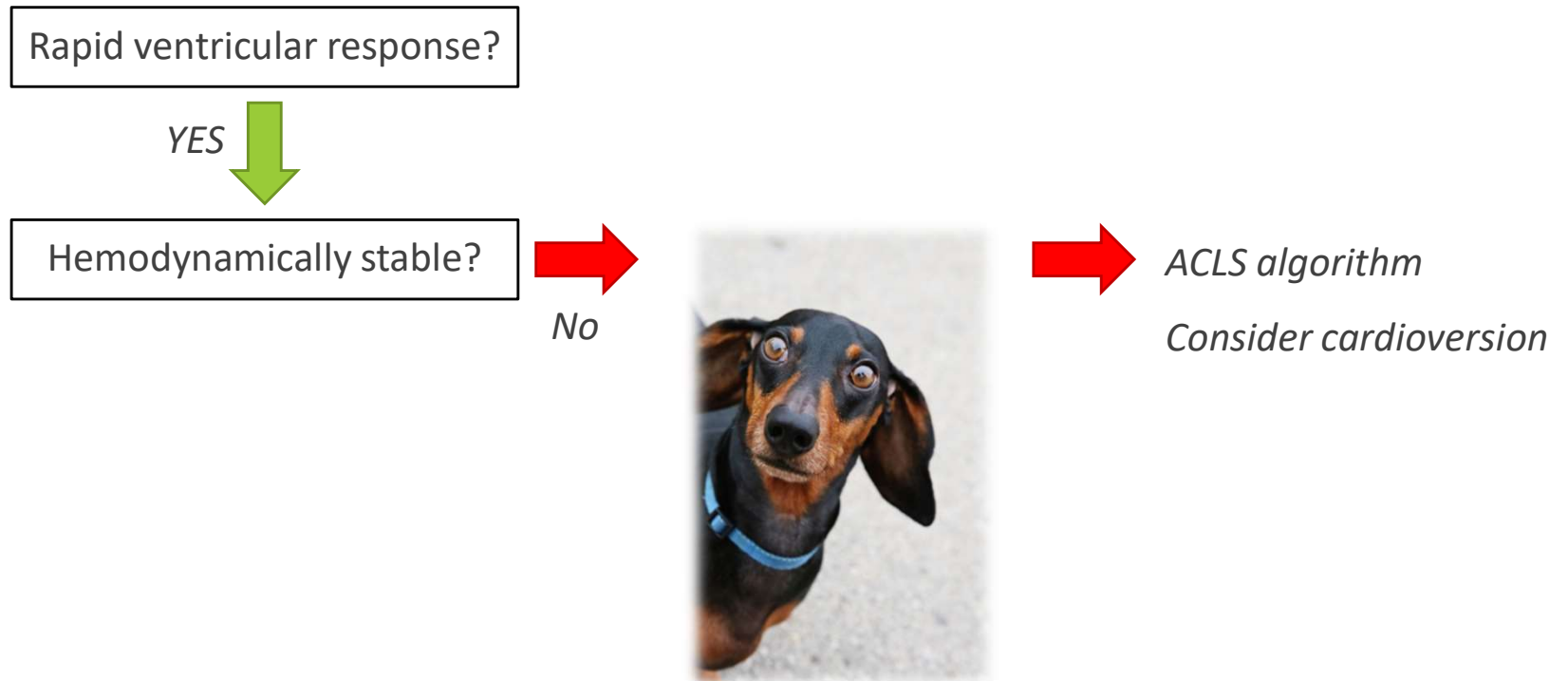
Do we need to worry?

- Rapid ventricular response
- Blood pressure
- Heart failure

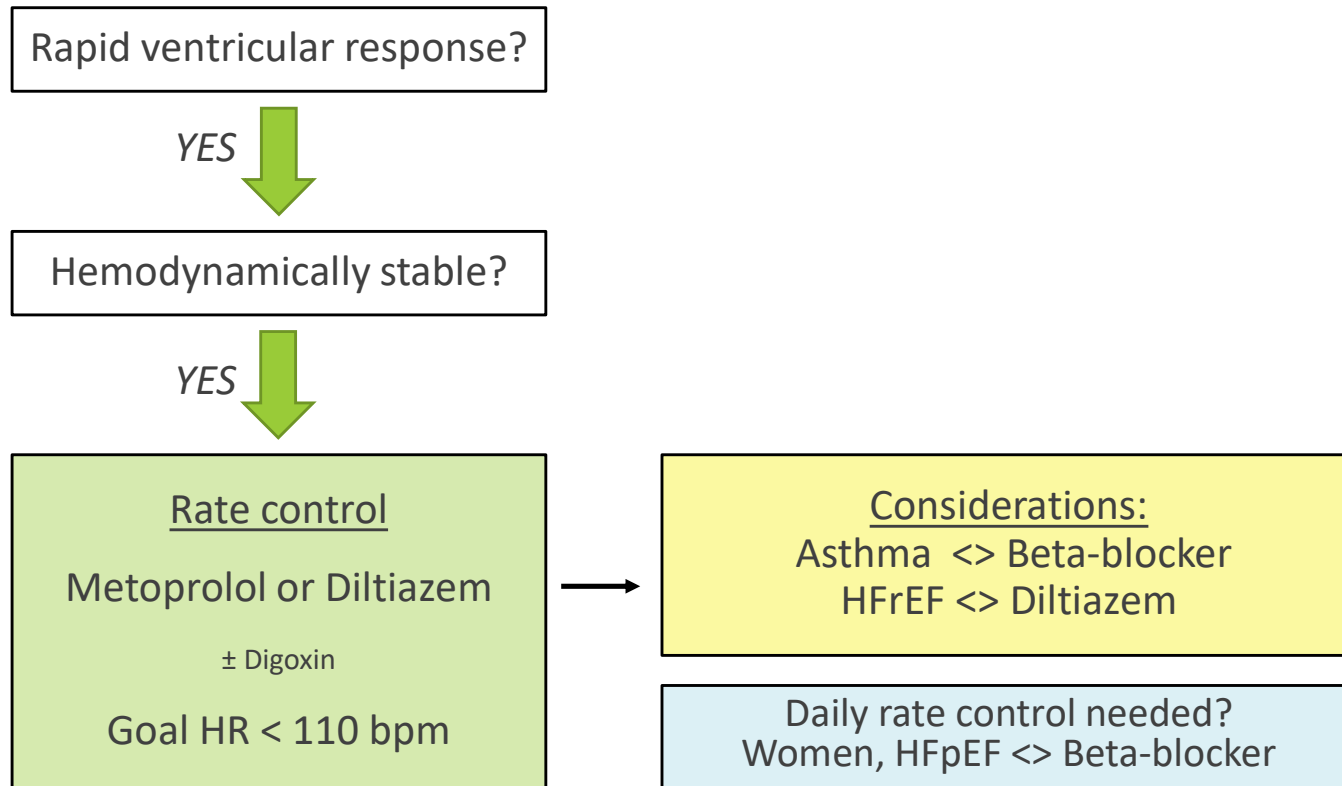
AFib – Bystander or Primary Problem?



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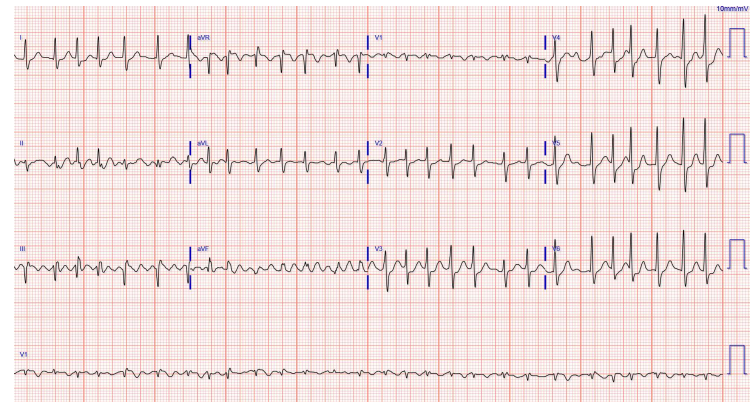
AFib – Bystander or Primary Problem?



Case I: WHAT IS THE APPROACH?

59yo F with obstructive nephrolithiasis s/p recent bilateral stent placement presents with nausea, weakness & heart racing

- AFib with rapid ventricular response
- Converts to sinus rhythm on Diltiazem gtt



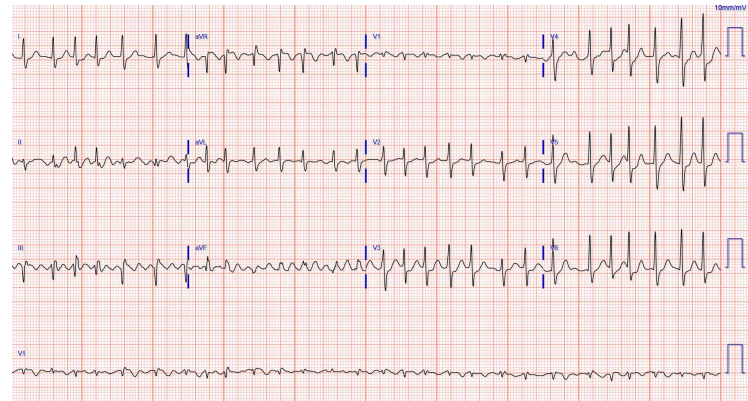
Diltiazem = Antiarrhythmic?

Are we done???

Case I: WHAT IS THE APPROACH?

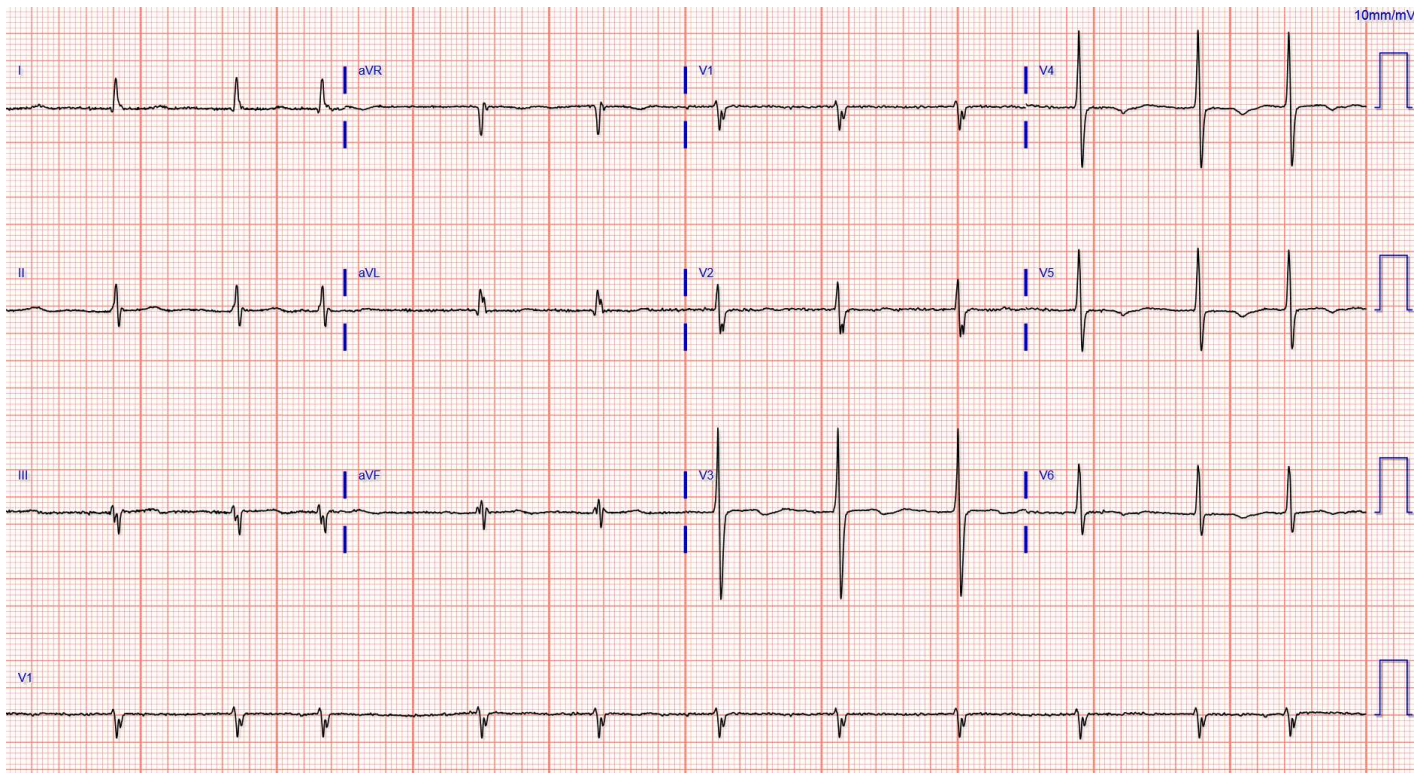
59yo F with obstructive nephrolithiasis s/p recent bilateral stent placement presents with nausea, weakness & heart racing

- AFib with rapid ventricular response
- Converts to sinus rhythm on Diltiazem gtt
- Address underlying etiology
- Long-term approach to Afib
 - Anticoagulation
 - Better symptom control
 - Cardiovascular risk factors & comorbidities



Case II: WHAT IS THE RHYTHM?

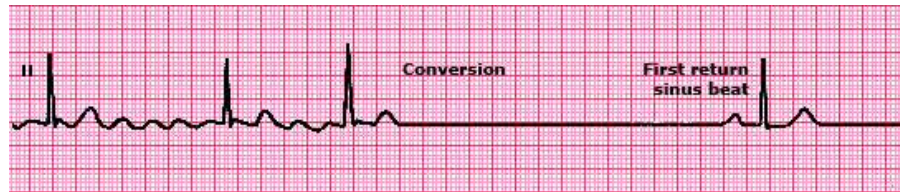
73yo M with AFib and multiple ablations presents with several episodes of near syncope



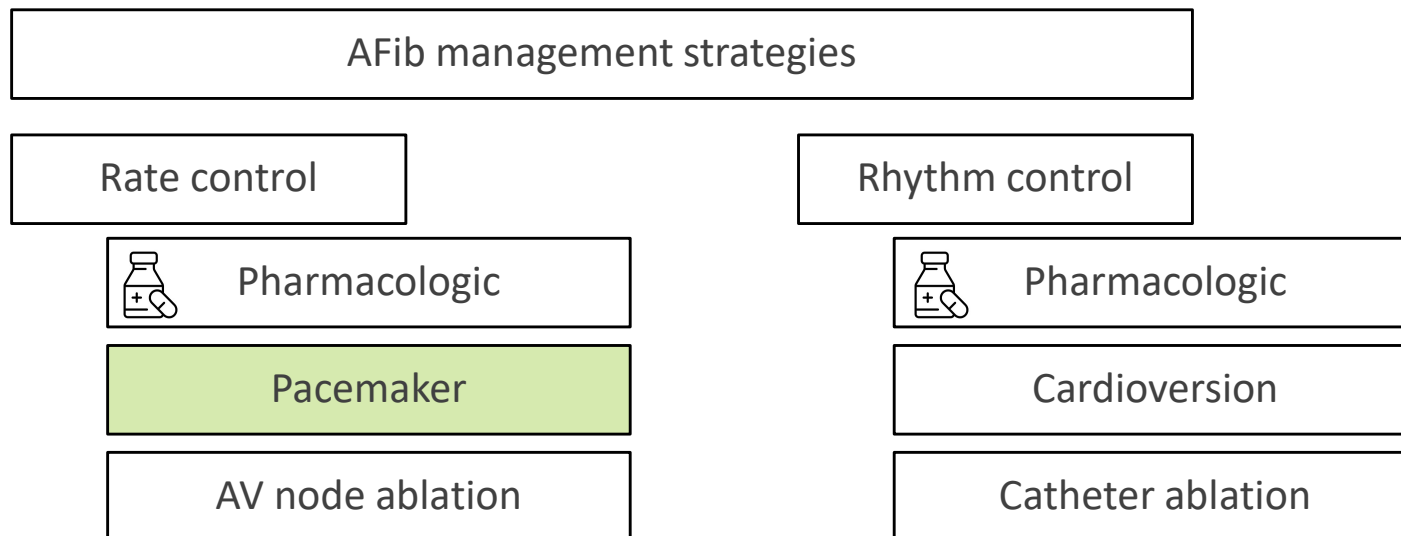
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73yo M with AFib and multiple ablations presents with several episodes of near syncope

- Spontaneous return of sinus rhythm

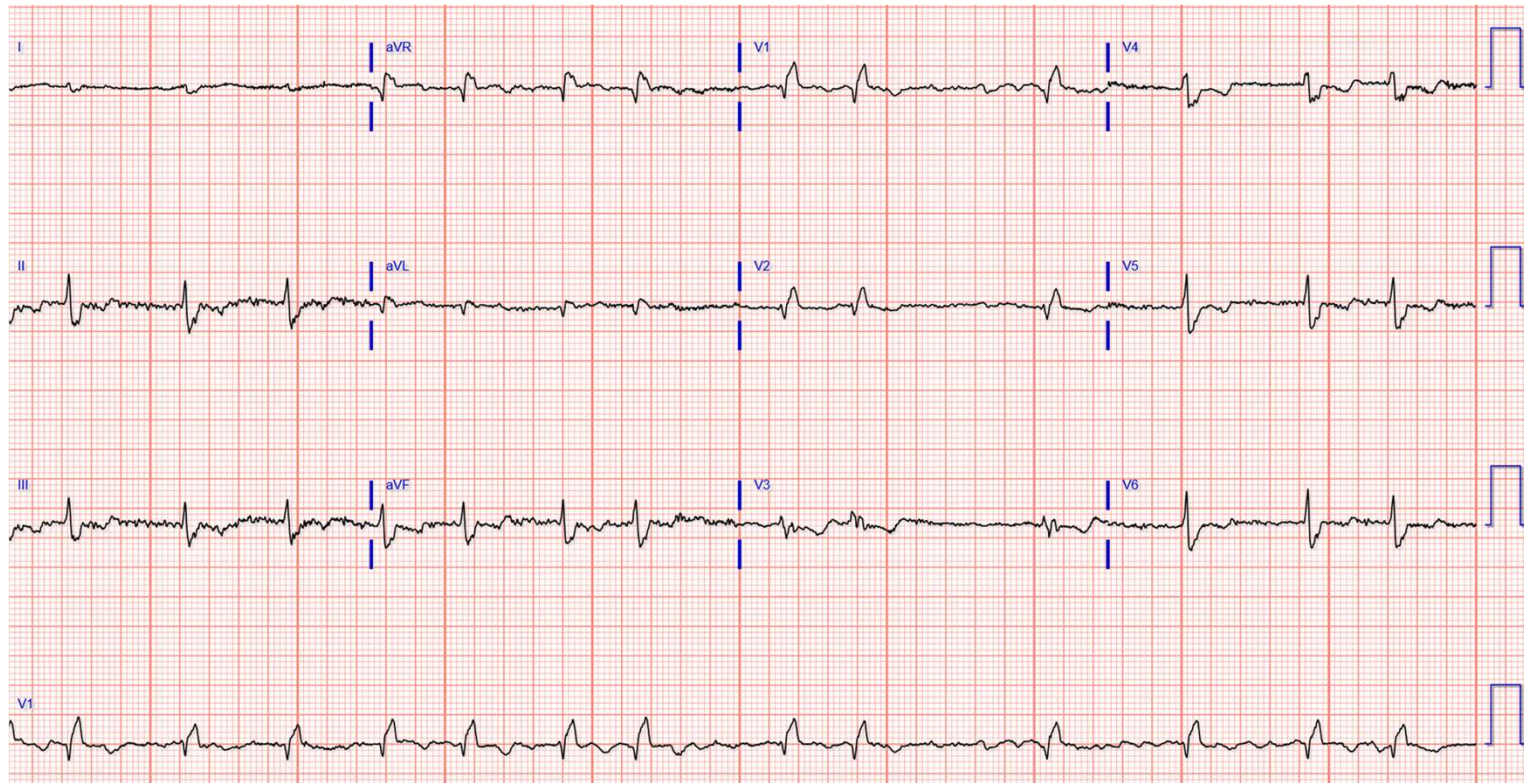


Tachy-Brady Syndrome



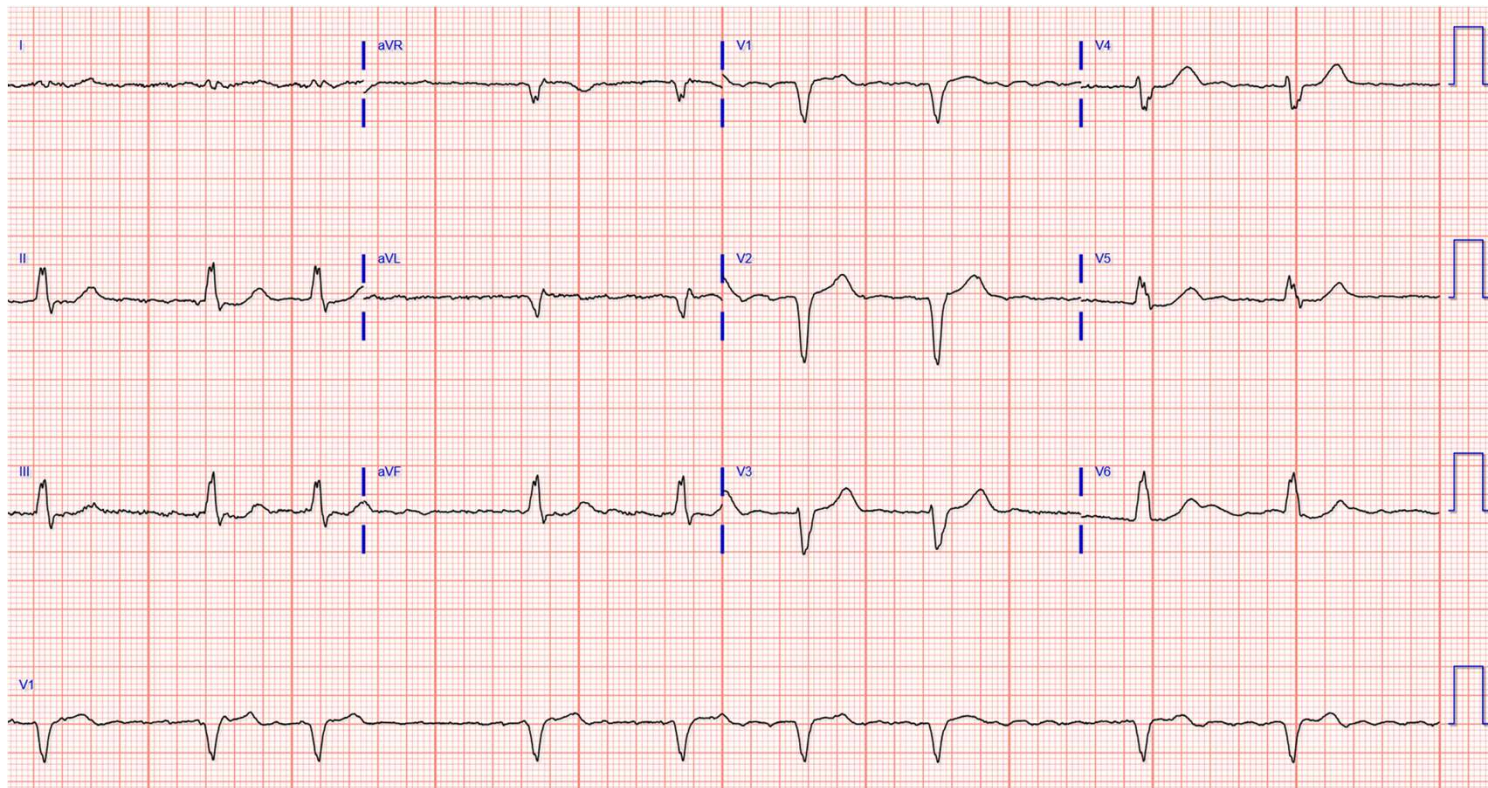
Case IIIa: WHAT IS THE RHYTHM?

84yo F with presents for routine follow up

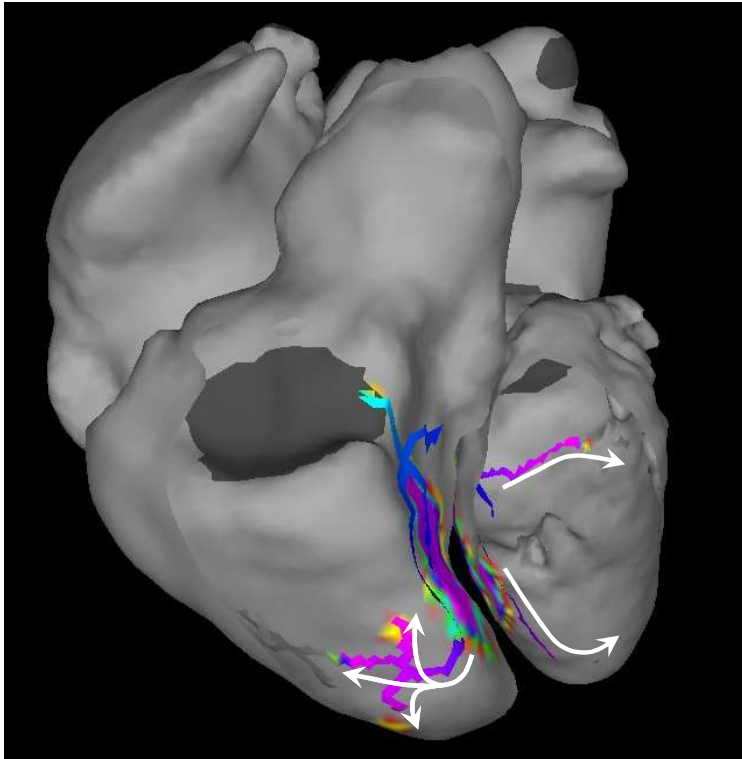


Case IIIb: WHAT IS THE RHYTHM?

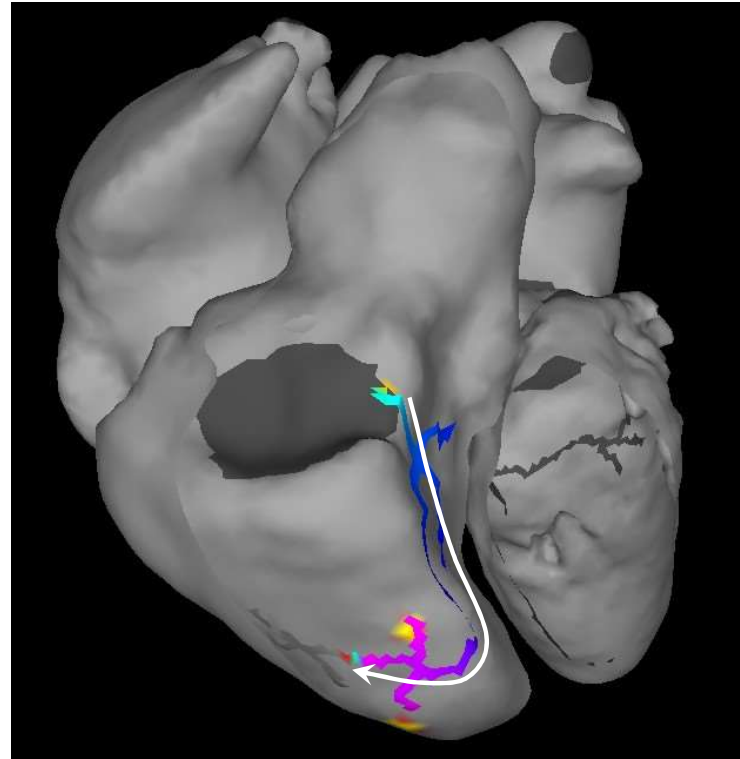
90yo F with presents for routine follow up



What is bundle branch block?



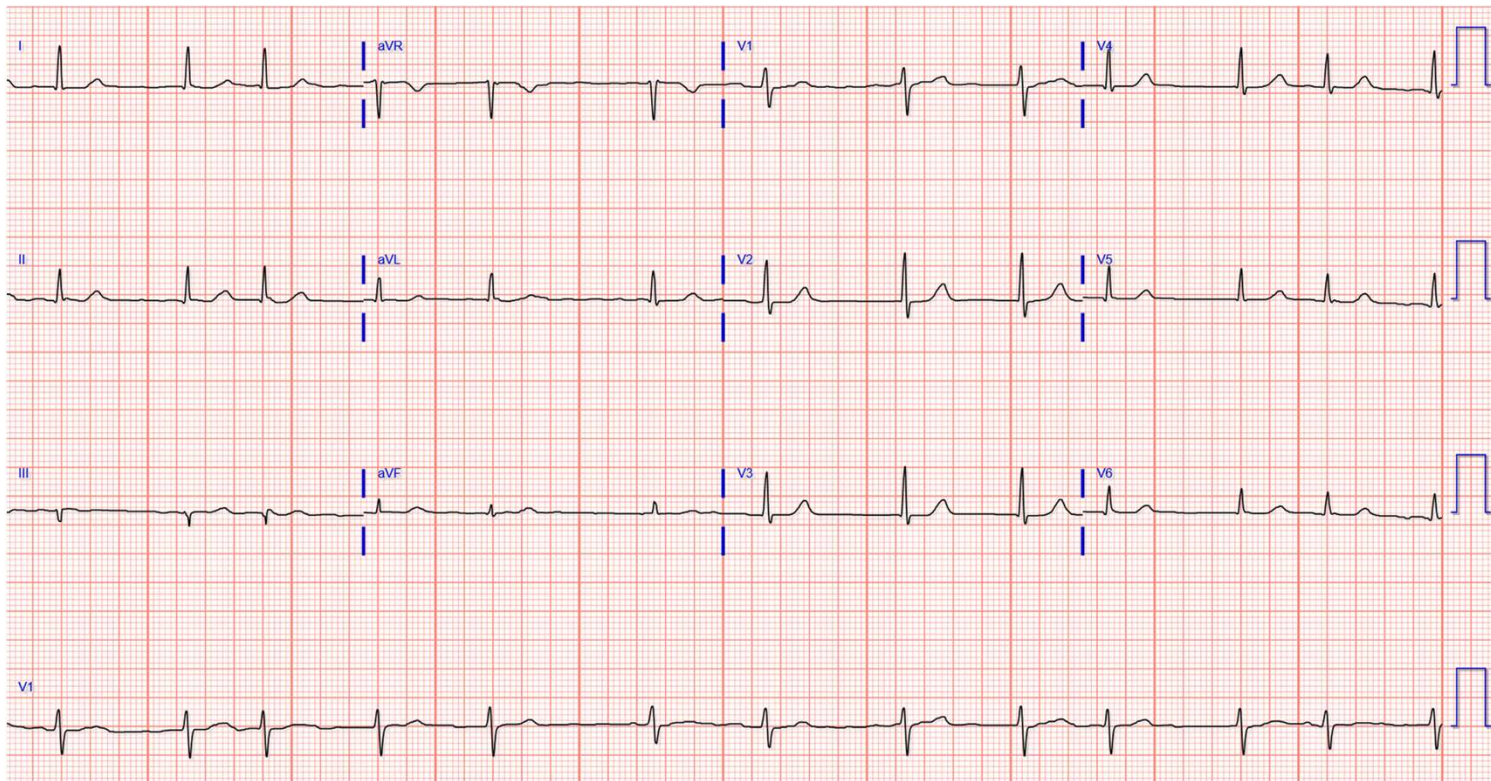
Sinus rhythm



Left Bundle Branch Block

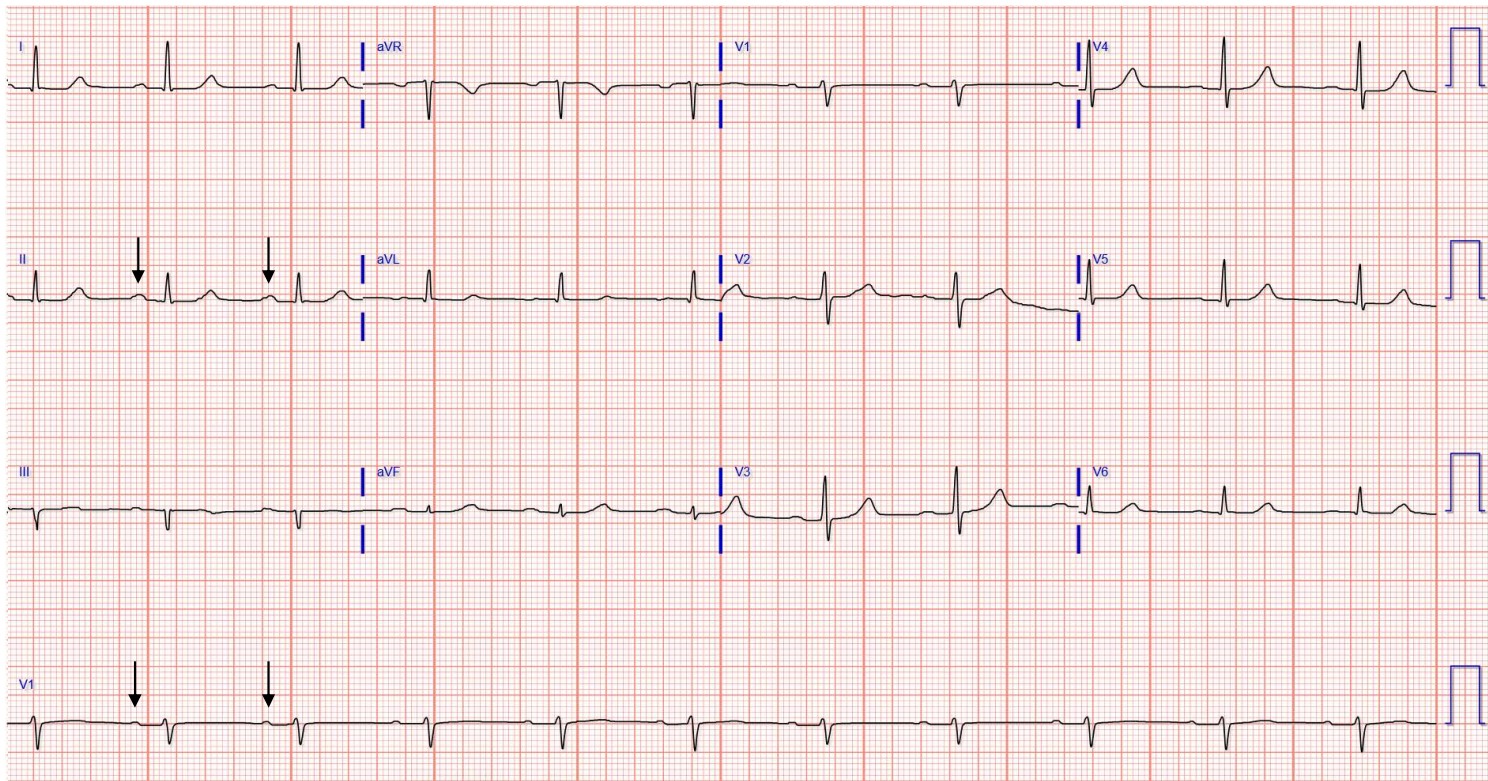
Case IV: WHAT IS THE RHYTHM?

65yo M with paroxysmal AF presents for sotalol admission



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Rhythm vs rate control



Metoprolol

Diltiazem

Amiodarone

Sotalol

Dofetilide

Digoxin

Dronedarone

Flecainide

Propafanone

Rhythm control



1st line: Dofetilide/Sotalol
(Class III antiarrhythmics)

Watch for: Drug-drug interaction & QT prolongation



1st line: Flecainide/Propafenone
(Class I antiarrhythmics)

Pill-in-the-pocket approach or “for young people”
Increased risk for ventricular arrhythmias in structural
heart disease

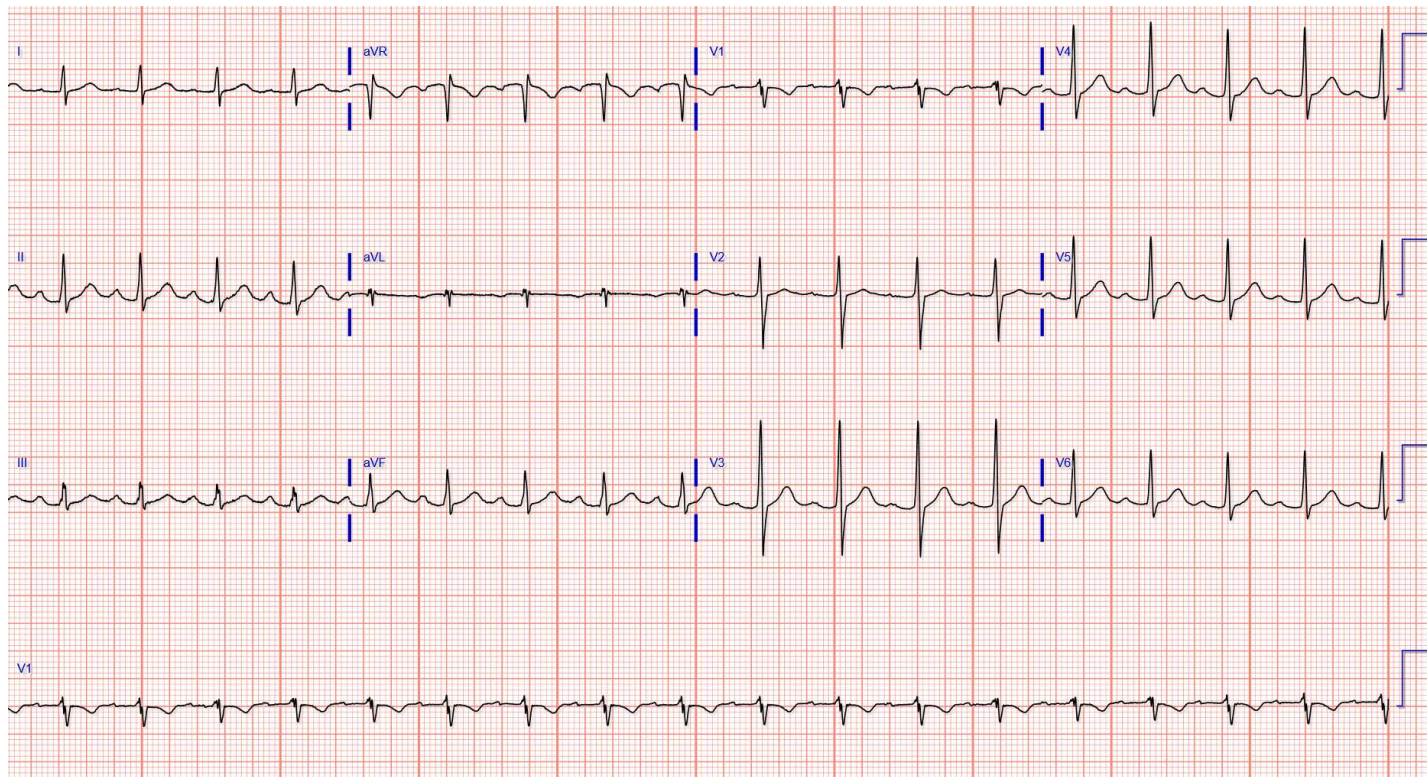


2nd line:
Amiodarone/Dronedarone

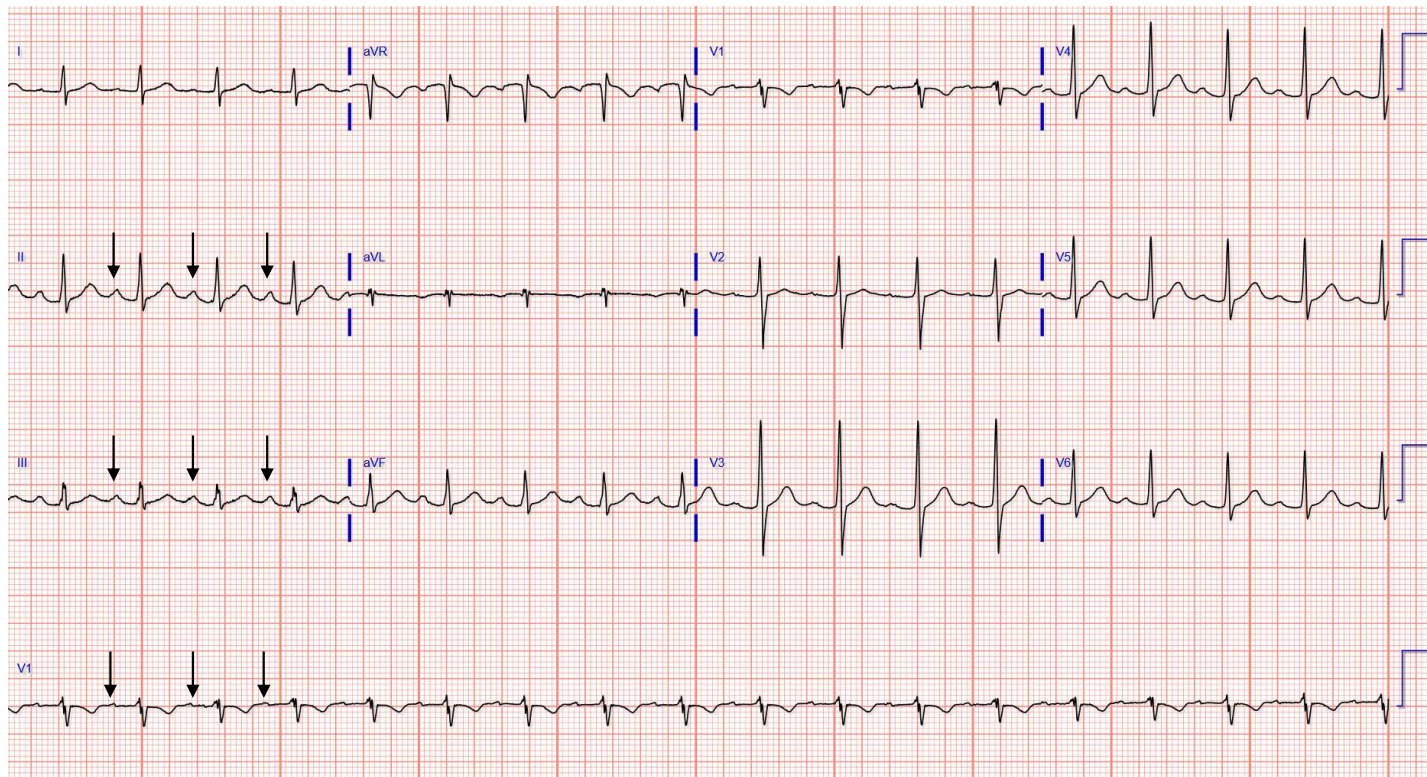
Caution: Lung toxicity, thyroid toxicity, hepatic toxicity

Case V: WHAT IS THE RHYTHM?

46yo F with presents with palpitations

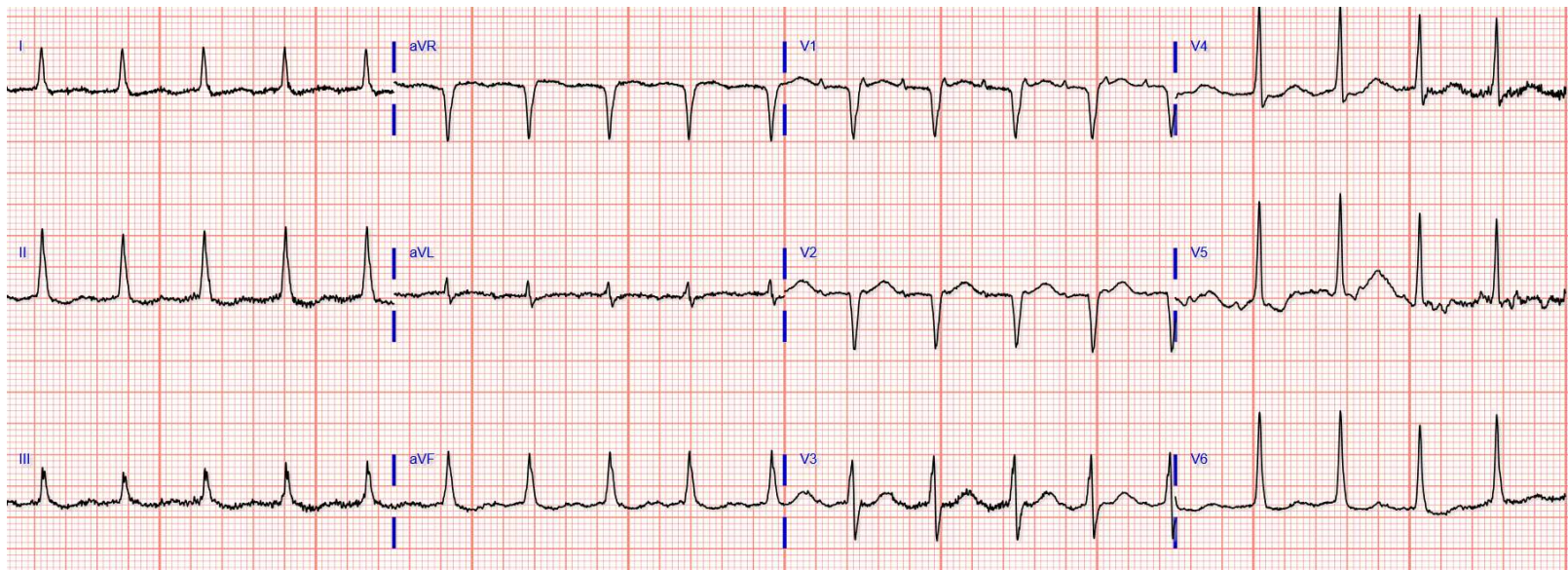


Not everything “FAST” is AFib

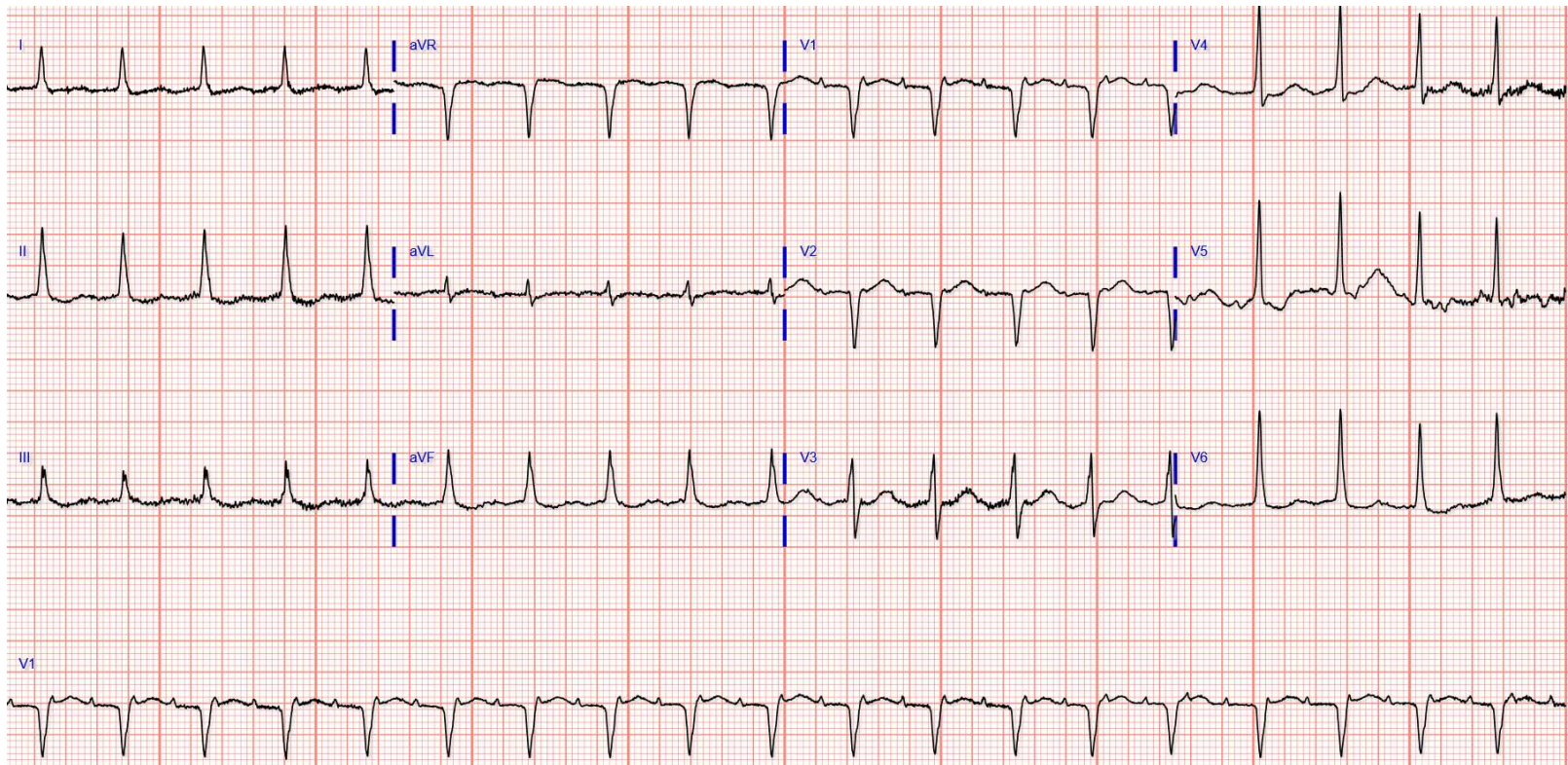


Case VI: WHAT IS THE RHYTHM?

87yo F with presents with shortness of breath

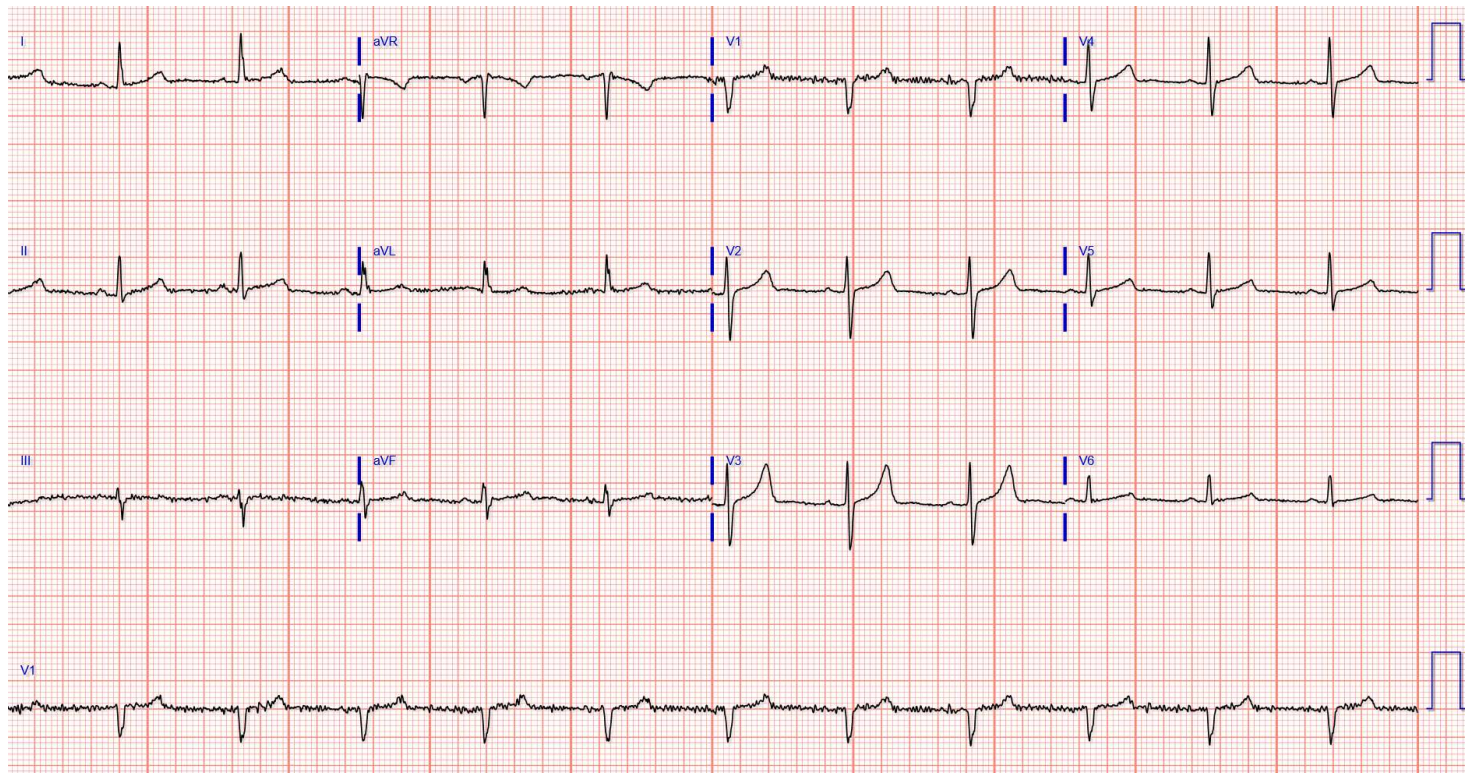


Not everything “FAST” is AFib



Case VII: WHAT IS THE RHYTHM?

57yo M with history of AFib presents for follow up of heart failure



Heart Failure & AFib

- ❑ **AFib with rapid ventricular response can cause tachycardia-induced cardiomyopathy**
 - Reversible cause of heart failure
 - Search for provoking factors

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- ❑ **AFib increases mortality in heart failure with reduced ejection fraction (HFrEF)**
 - Class I indication for catheter ablation

Heart Failure & AFib

- ❑ AFib with rapid ventricular response can cause tachycardia-induced cardiomyopathy
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- ❑ AFib increases mortality in heart failure with reduced ejection fraction
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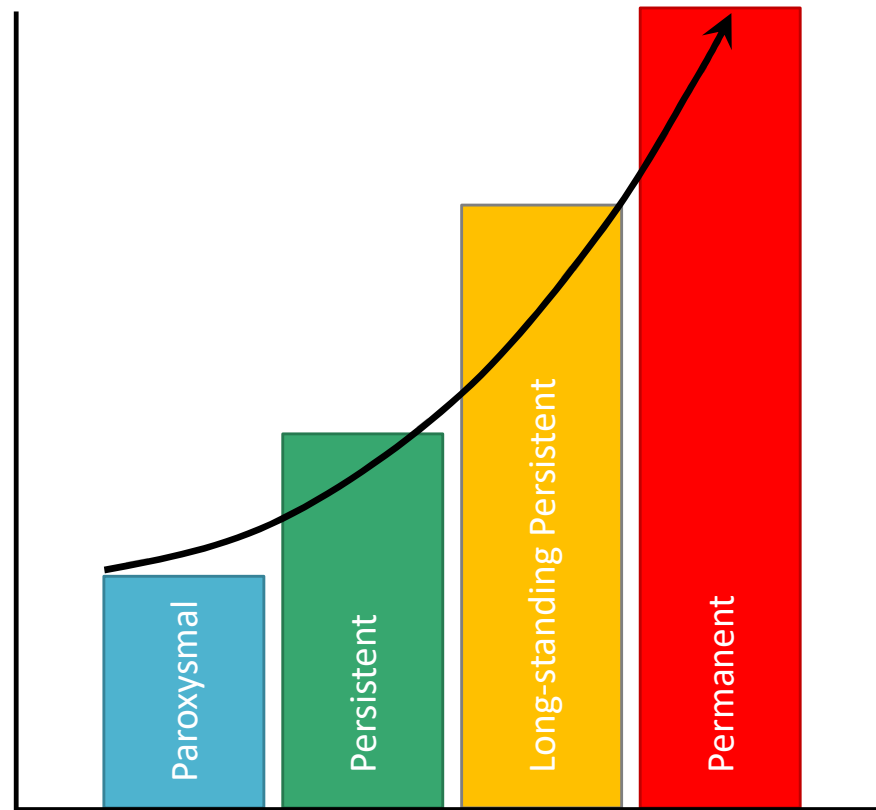
- ❑ **AFib can easily exacerbate heart failure with preserved ejection fraction (HFpEF)**
 - Rhythm control vs. rate control

EP Approach to AFib management


□ AF Burden

EP Approach to AFib management

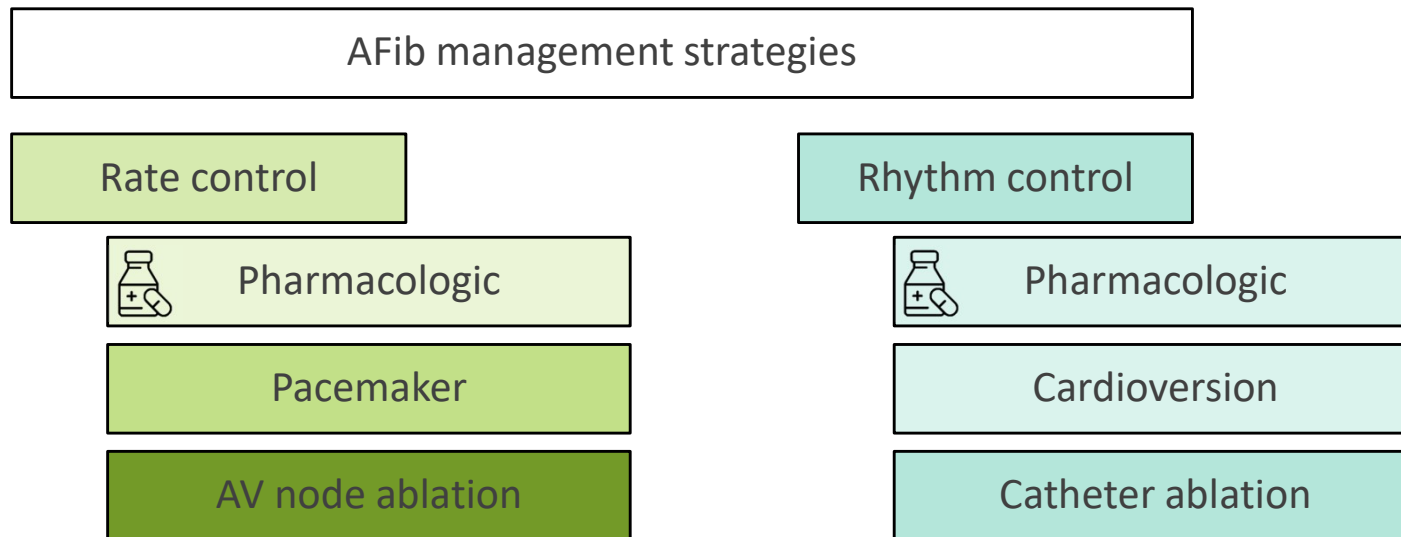
“AF Burden”
Duration/Frequency of
AFib episodes



EP Approach to AFib management

- ❑ AF Burden
 - ❑ Symptom Burden
 - ❑ Candidacy for specific treatment options
 - ❑ Presence of cardiomyopathy/heart failure
- 

EP Approach to AFib management



Summary

- ❑ Convince yourself it is AFib



- ❑ Is AFib is bystander or the primary problem?

- ❑ Patient management: ABC pathway:

Anticoagulation

Better symptom control

Cardiovascular risk factors & comorbidities

Resources

2020 ESC Guidelines for the diagnosis and management of atrial fibrillation

<https://pubmed.ncbi.nlm.nih.gov/32860505/>

Heart Failure with Preserved Ejection Fraction and Atrial Fibrillation: Vicious Twins

<https://pubmed.ncbi.nlm.nih.gov/27855811/>

Left Atrial Anatomy Revisited

<https://www.ahajournals.org/doi/full/10.1161/circep.111.962720>

