



A 29 Y/O WOMAN WITH PALPITATIONS

Ambulatory morning report

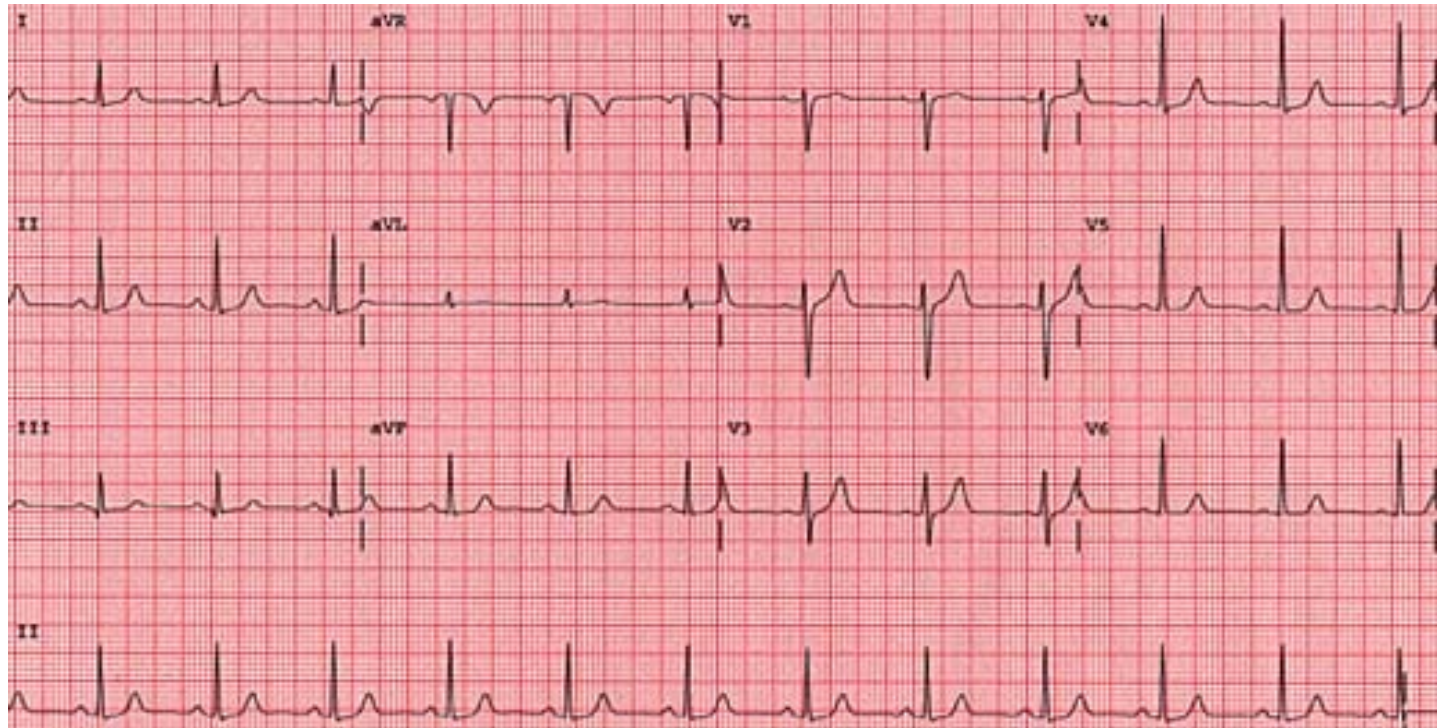
October 5, 2007

QUESTION

- 28 y/o woman
- Seeing you in clinic
- Complains of palpitations
- What do you do?



ECG



ECHO

- EF 60%
- No wall motion abnormalities
- Mitral valve prolapse
- Mild to moderate MR



PALPITATIONS

- Unpleasant awareness of forceful, rapid, or irregular beating of the heart
- Very common – 16% of all complaints to PCP's
- Almost always benign, but concern of serious arrhythmia prompts workup many times
- Extensive DDx



PALPITATIONS - CAUSES

- Cardiac
 - Arrhythmia
 - Valvular heart disease
- Psychiatric
 - Panic attack / anxiety
- Medications
 - Beta blocker w/d
 - Anticholinergics
 - Vasodilators
- Bad habits
 - Cocaine
 - Caffeine
- Metabolic
 - Hyperthyroid
 - Hypoglycemic
- Catecholamines
 - Stress
 - Fever
 - Pregnancy



APPROACH TO PALPITATIONS WORK UP

- No evidence based guidelines
- Look for red flag symptoms and signs
- Start with:
 - History
 - Physical
 - ECG
- Then think about need for further workup
 - Ambulatory monitoring?
 - ECHO?



HISTORY – THINGS TO FIND OUT

- Age
 - Younger / older does not predict cardiac etiology!
- Medication list
- Caffeine intake?
- Presyncope?
- Symptoms suggestive of other etiologies?
- Description of palpitations
 - Tap out rhythm
- Circumstances in which palpitations occur?



DESCRIBING THE SENSATION...

- “Flip flopping” in the chest
 - Heart seems to stop and then restart
 - PAC or PVC
- “Rapid fluttering”
 - Sustained arrhythmia
 - Re entry SVT’s (AVNRT)
 - AFib
- “Pounding in the neck”
 - AV dissociation
 - Re entry SVT’s (AVNRT)



CIRCUMSTANCES ...

- Anxiety / Panic attack
 - Rule out true arrhythmia first!
- Positional
 - AVNRT onset when standing up from bending over
- Syncope / Presyncope
 - Concern for hemodynamically unstable arrhythmia



PHYSICAL EXAM

- Careful cardiac exam
- Jugular venous waves
- Listen for murmurs
 - Mid systolic click and systolic murmur (click-murmur)?
 - Harsh holosystolic at left sternal border that increases with Valsalva?

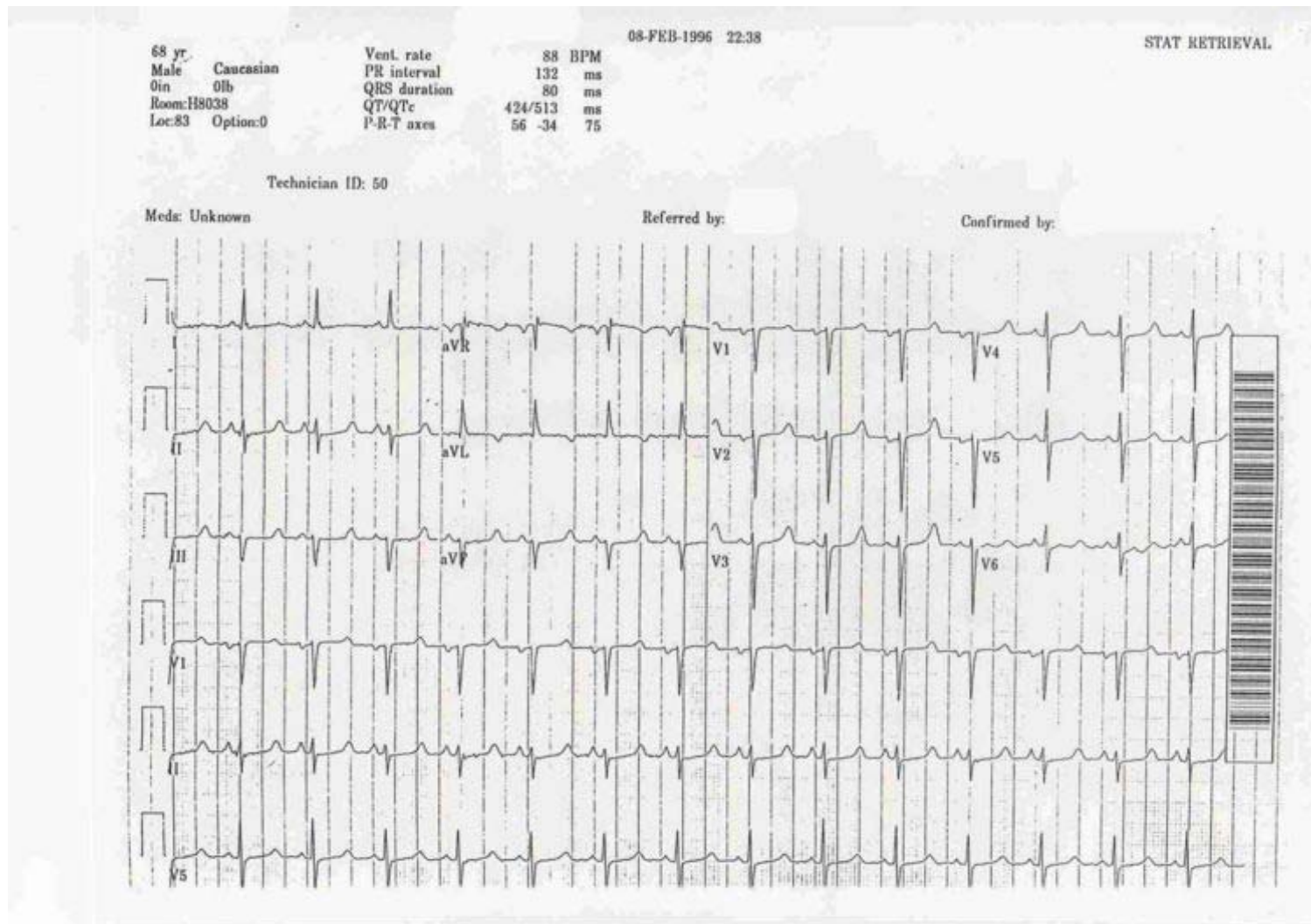


TESTS

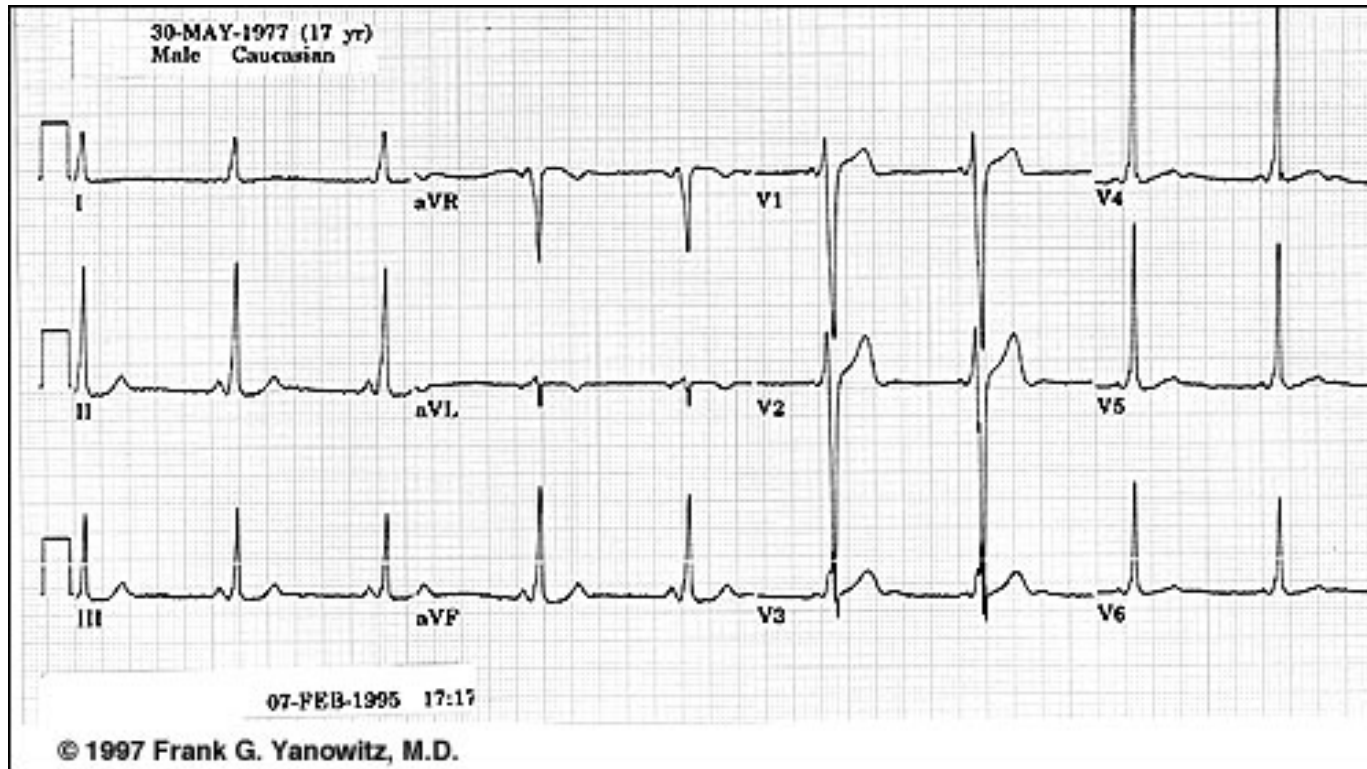
- Lab work
 - No universal recommendations
 - Mostly low yield
 - Consider TSH
 - Consider urine hCG in women



ECG



ECG



WHO SHOULD GET MORE TESTING?

- High risk patients
- Initial H&P / labs / ECG suggestive of arrhythmia
- Psychiatric suspicions



TESTS

- ECHO
 - If H&P suggests structural problem
- Ambulatory Holter monitor
 - 24 hour ECG, saves data continuously
 - Requires pt to keep diary
- Continuous loop recorder (“Event monitor”)
 - Records only when patient hits button
 - More cost effective and efficacious
 - Use for 2 weeks
- EP study



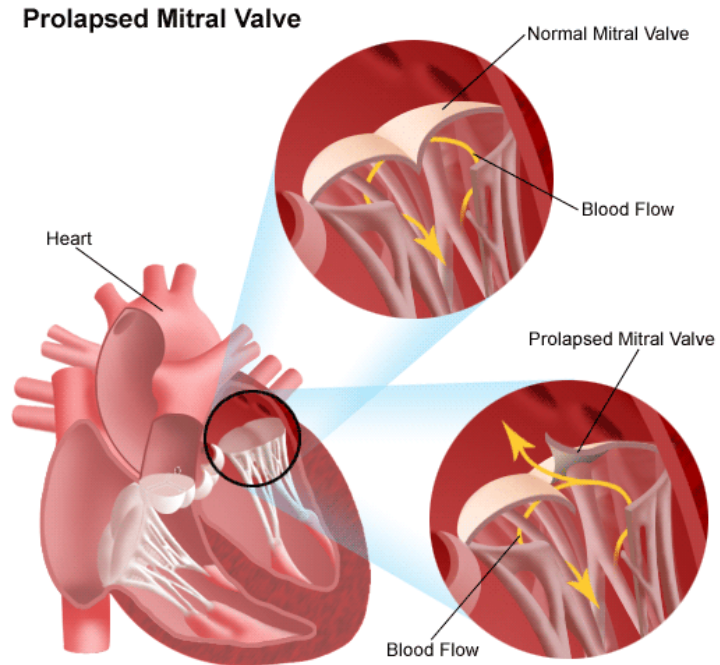
PALPITATIONS - MANAGEMENT

- Sustained arrhythmia
 - Cardiology evaluation
- Premature beats (ectopy)
 - Reassurance
 - Beta blockers if needed
- No cause found
 - Reassurance!



MITRAL VALVE PROLAPSE

- Most common congenital cause of MR in adults and lesion in infective endocarditis
 - Incidence reported anywhere from 1-10% of population
 - Some studies suggest female predominance
- “MVP syndrome”
 - Nonspecific (chest pain, palpitations, panic attack)



MVP - DIAGNOSTICS

- Cardiac auscultation
 - Mid systolic click
 - Mid to late systolic murmur over apex
- ECHO
 - Obtained after suspicious exam



MVP – CLINICAL SIGNIFICANCE

○ Non-arrhythmic

- **Mitral regurgitation**
- **Cerebral emboli**
 - Unclear association
- **Infective endocarditis**
 - General public IE incidence: 1 per 20,000 per year
 - With MVP and MR: 1 per 1920 per year
 - With MVP and no MR: 1 per 20,000 per year

○ Arrhythmic

- **Sudden cardiac death**
 - Unclear true incidence of SCD
 - Rare in isolated MVP: 1.9 per 10,000 per year
 - Uncommon in MVP with MR: 0.9 to 1.9 per 100 per year



MANAGEMENT OF MVP

○ Antithrombotics?

- No consensus given uncertainty of association with cerebral embolic disease

○ Antibiotics?

- Newest guidelines indicate no need for IE prophylaxis for MVP with or without MR

○ Anti arrhythmics?

- Lifestyle modifications and beta blockers for PAC or PVC
- ICD if SCD



2006 ACC / AHA GUIDELINES – MVP

- Routine ECHO's to monitor for MR?
 - No need for routine ECHO's if only mild MR
 - Yearly ECHO's or more often if mod / severe
 - Worsening MR is risk factor for other complications!



PATIENT FOLLOW UP

- Advised to stop using so much caffeine
- Palpitations have decreased
- No further complaints
- Refusing cardiology f/u for now



TAKE HOME POINTS

- Palpitations are usually benign
- Reasonable initial w/u includes ECG and maybe basic lab tests (TSH and urine hcg)
- Most useful diagnostic test is continuous loop recorder (i.e. “event monitor”), 2 weeks is enough
- Mitral valve prolapse, which may be associated with palpitations, is a common congenital abnormality
- No need for IE prophylaxis for MVP with or without MR!

