Heart Failure Case Studies

Minnow Walsh, MD, FACC

Nita Reigle MSN, ACNP-BC, CHFN

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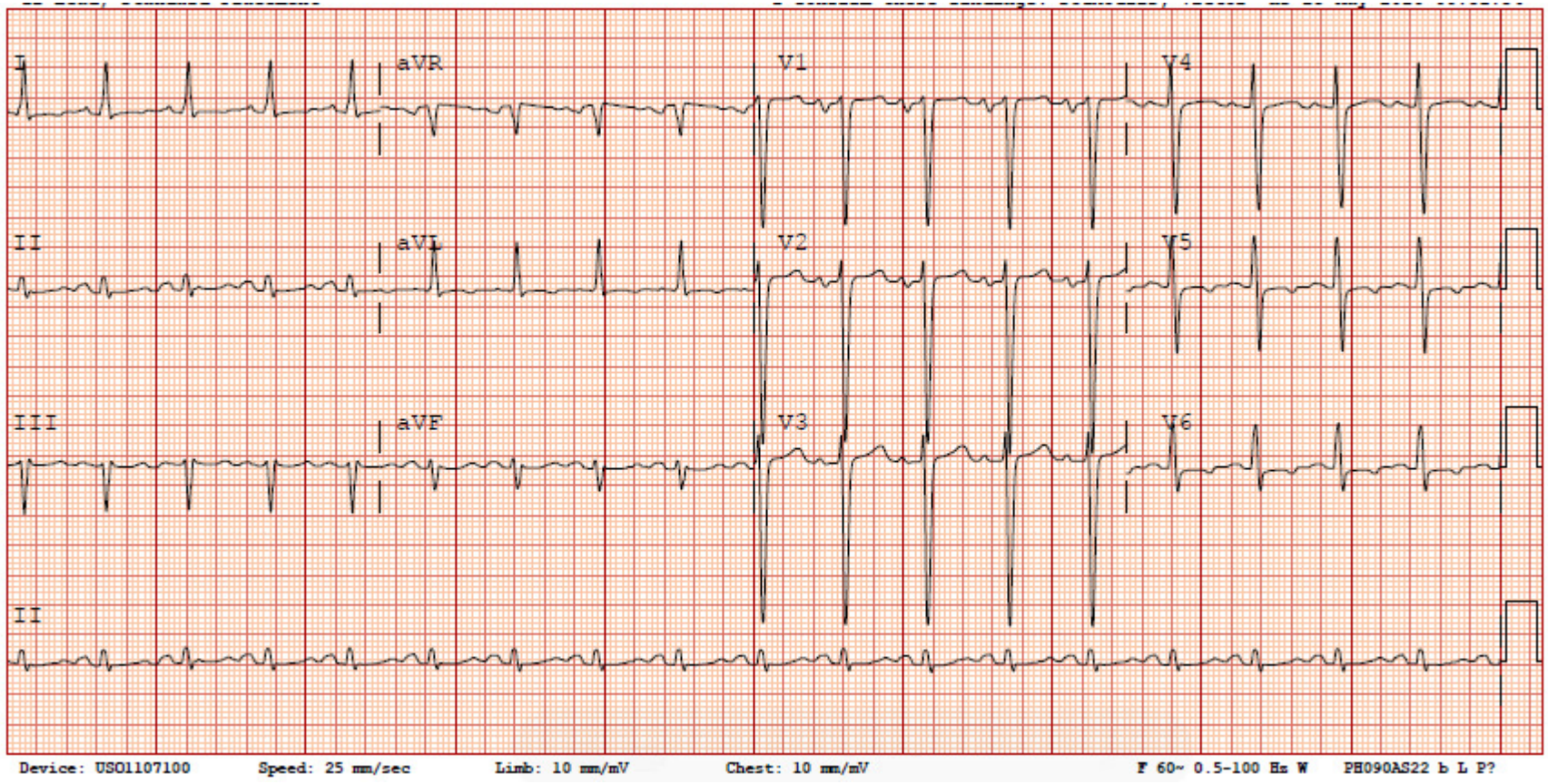
Patient #1

In February Mr. K, a nonsmoker who has no prior medical history, presented to a local prompt care with c/o a cough and dyspnea. He was treated for bronchitis and felt that he improved somewhat. In May his wife noticed that he seemed more fatigued and SOB. He attributed it to some weight gain and his long days of work the previous month (he is an accountant). In early June he started having trouble breathing at night and started sleeping in a recliner most nights. On July 2nd, he awoke with chest pain and SOB and called EMS.

Exam

- BP 160/84, HR 109, RR 18, Sa02 97%
- Weight 235 lbs, height 6 feet, BMI 32
- Normal S1, S2, +S4, no m,r
- +JVD 6 cm at 45 degrees
- Lungs bibasilar crackles
- Abd obese, no HJR
- Extremities warm and dry

ECG in ED


I
aVR
V1
V4
II
aVL
V2
V5
III
aVF
V3
V6
II
Device: USO1107100
Speed: 25 mm/sec
Limb: 10 mm/mV
Chest: 10 mm/mV
F 60~ 0.5-100 Hz W
PH090AS22 b L P?

Diagnostic Tests*

- Na 140/K 3.8/BUN 17/Crt 0.8
- HCT 49/Hgb 16.8
- TSH 3.12
- Troponin I 0.01 (serial Troponins were negative)
- BNP 875
- TTE: global LV dysfunction EF 20-25%, mild MR, LA mildly dilated

**Recommended: CBC, comp chem, Mg, TSH, fasting lipid profile, urinalysis*

Management in the ED

- Diuretic – furosemide 40 mg IV
- Admitted to Acute Cardiology Service

After 3 days hospitalized…

- Discharge medications: lisinopril 10 mg QD, carvedilol 3.125 mg BID, furosemide 40 mg QD, KCl 20 mEq
- Current chemistry: BUN 20/crt 1.0/ Na 139/K 4.0
- Vitals: BP 128/74, HR 78 and NYHA Class II

Questions:

- Should we add an aldosterone antagonist?
- Should we switch him to sacubitril/valsartan?
- Other thoughts for discharge?

Patient #2

Ms. J is an AA 66 year old with a nonischemic cardiomyopathy, HFrEF (25-30%) and NYHA Class III symptoms who you have been managing in your HF clinic for several years. Her HF medications include:

Lisinopril 20 mg daily

Metoprolol succinate 200 mg nightly

Bumetanide 2mg BID

Spironolactone 25 mg daily

Digoxin 0.125 mg daily

Clinic Visit

In clinic today her BP is 132/80 and HR 64

Labs: BUN 39/crt 1.6/Na 135/K 4.1

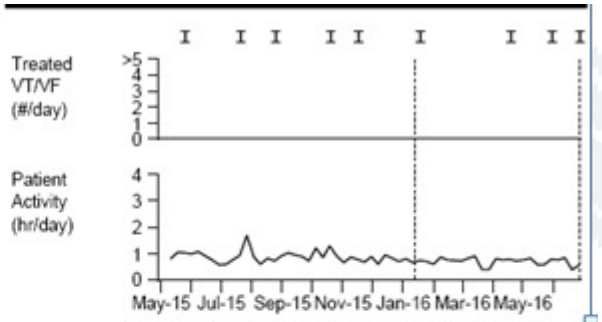
BNP 422

Her exam reveals 1+LE pedal edema, MR (old finding), lungs clear and no JVD.

She continues to report symptoms consistent with NYHA Class III

ICD Interrogation

Treated	
VF	0
FVT (Off)	
VT	0
Monitored	
VT(133-182 bpm)	2
VT-NS (>4 beats, >182 bpm)	7
SVT: VT/VF Rx Withheld	0
Functional	**Last Week**
Patient Activity	0.6 hr/day



Therapy Summary	VT/VF
Pace-Terminated Episodes	0
Shock-Terminated Episodes	0
Total Shocks	0
Aborted Charges	0

Pacing	(% of Time Since 13-Jan-2016)
VS	100.0 %
VP	<0.1 %

OBSERVATIONS (7)

- RRT: battery <= 2.62 V. Replace device soon.
- Alert: RRT, battery voltage low.
- Possible fluid accumulation: exceeded OptiVol Threshold, 14-Jun-2016 -- 18-Jun-2016.
- Night heart rate over 85 bpm for 7 days.
- Patient Activity less than 1 hr/day for 23 weeks.
- 2 monitored VT episodes, longest was 10 sec.
- FVT Detection OFF but some FVT therapies On

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Plan

- Would you make any changes based on this information?

Patient #3

Mr Y is a 70 yo with a history if an ischemic CM, EF <15% on TTE, CABG in 2013 (LIMA to LAD, SVG to proximal RCA), dual chamber ICD

He presents to your clinic with c/o worsening DOE for last few weeks

Medications include: lisinopril 2.5 mg QD, carvedilol 6.25 mg BID, spironolactone 12.5 mg QD, bumetanide 2 mg BID

Exam

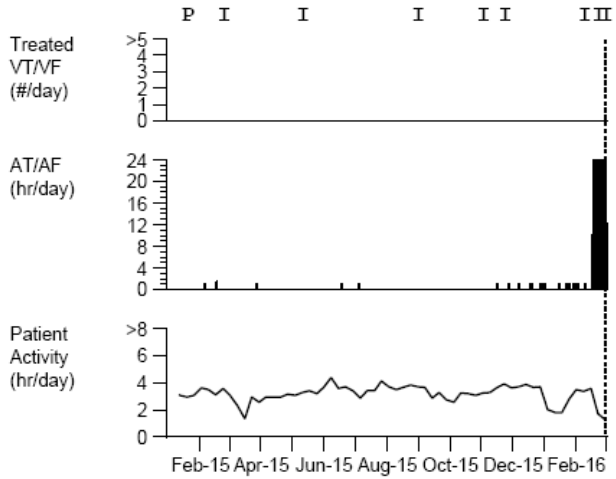
- BP 94/72, HR 101 irreg, irreg
- S1,S2, +SEM at apex. 1+LE edema
- Lungs clear

Device Interrogation

Clinical Status	Since 29-Feb-2016
Treated	
VF	0
FVT (Off)	
VT	0
AT/AF(Monitor)	
Monitored	
VT (Off)	
VT-NS (>4 beats, >188 bpm)	0
High Rate-NS	0
SVT: VT/VF Rx Withheld	0
V. Oversensing-TWave Rx Withheld	0
V. Oversensing-Noise Rx Withheld	0
AT/AF	6
Time in AT/AF	(99.9%)
Longest AT/AF	14 hours

Functional	Last Week
Patient Activity	1.3 hr/day

Cardiac Compass Trends (Jan-2015 to Mar-2016)



Therapy Summary	VT/VF	AT/AF
Pace-Terminated Episodes	0	0
Shock-Terminated Episodes	0	0
Total Shocks	0	0
Aborted Charges	0	0

Pacing	(% of Time Since 29-Feb-2016)
AS-VS	36.6 %
AS-VP	48.8 %
AP-VS	0.7 %
AP-VP	13.9 %

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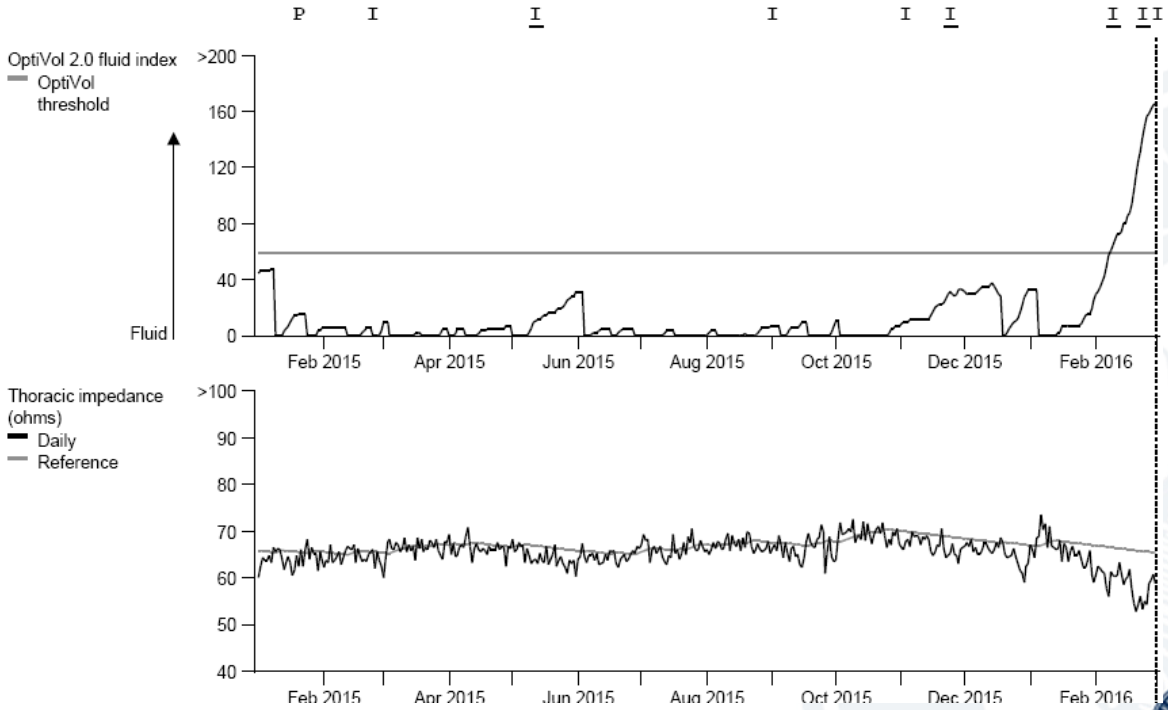
Impedance



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Thoughts

- Treatment of A-fib – rate or rhythm?
- If rate control, what medications?
- When should we consider placement of an LV lead?

Patient #4

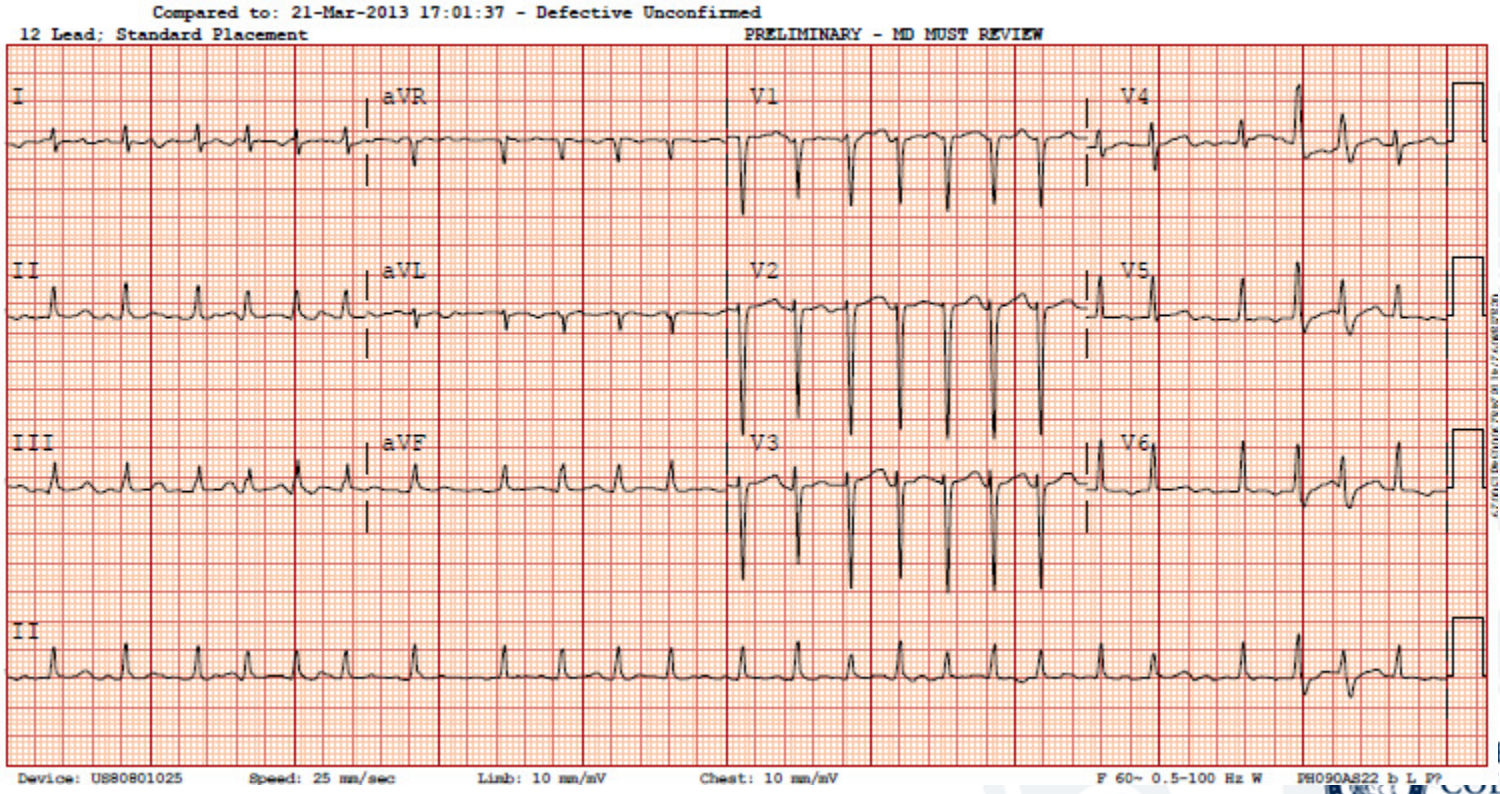
Ms P is a 74 yo with a history of HTN, Type 2 DM, and HFpEF (55-60% on TTE with Grade I diastolic dysfunction)

She presents to the ED with acute SOB and chest tightness

Exam and Labs

- Her BP on admission is 152/88,HR 147, RR 24
- She has bibasilar crackles, S1,S2, +SEM at apex
- Her current medications include valsartan 160 mg, carvedilol 25 mg BID, furosemide 40 mg BID, KCL 40 mEq QD, in addition to her insulin.
- BUN 42/crt 1.9/ Na 138/K 3.9/ glucose 342

ECG in ED



Plan

- Rate control, if so what medication?
- Rhythm control?
- Anticoagulation
- Other considerations

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