

# A patient with acute heart failure and concomitant ACS

## ACCA Masterclass 2017

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# Presentation

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- **42yo man**
- **Admitted just before midnight, acutely short of breath with chest tightness**
- **Unwell for 2 months previously**
  - Chest tightness on exertion
  - Worsening SOB on exercise
  - Intermittent palpitations

# PMH

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- **Chronic obstructive pulmonary disease**
- **TB many years ago**
- **2 previous pneumothoraxes (drained)**
- **No family history of heart disease**
- **4-5 pints beer/day (70 units/week)**
- **Ex-smoker (40/day, stopped 5 years ago)**

# Medication

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- **Phyllocontin forte 400mg bd**
- **Inhalers**
  - Salbutamol
  - Seretide 250
  - Spiriva

# Examination

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- **SOB at rest**
- **Not cyanosed**
- **RR 26/min**
- **HR 170/min irregular (atrial fibrillation)**
- **BP 110/60**
- **JVP +6cm**
- **HS normal**
- **Basal fine inspiratory crackles bilaterally with widespread wheeze**

# ECG

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x2773  
Born 08

12/02/2013 23:41:51

Rate 198 . Atrial fibrillation with rapid V-rate.....A-rate 447  
PR . Right axis deviation.....QRS axis (100,269)  
QRSD 83 . Borderline T abnormalities, lateral leads.....T flat/neg, I aVL V5 V6  
QT 251  
QTc 456

*[Handwritten signature]*  
Fast AF -  
- LVH

--AXIS--

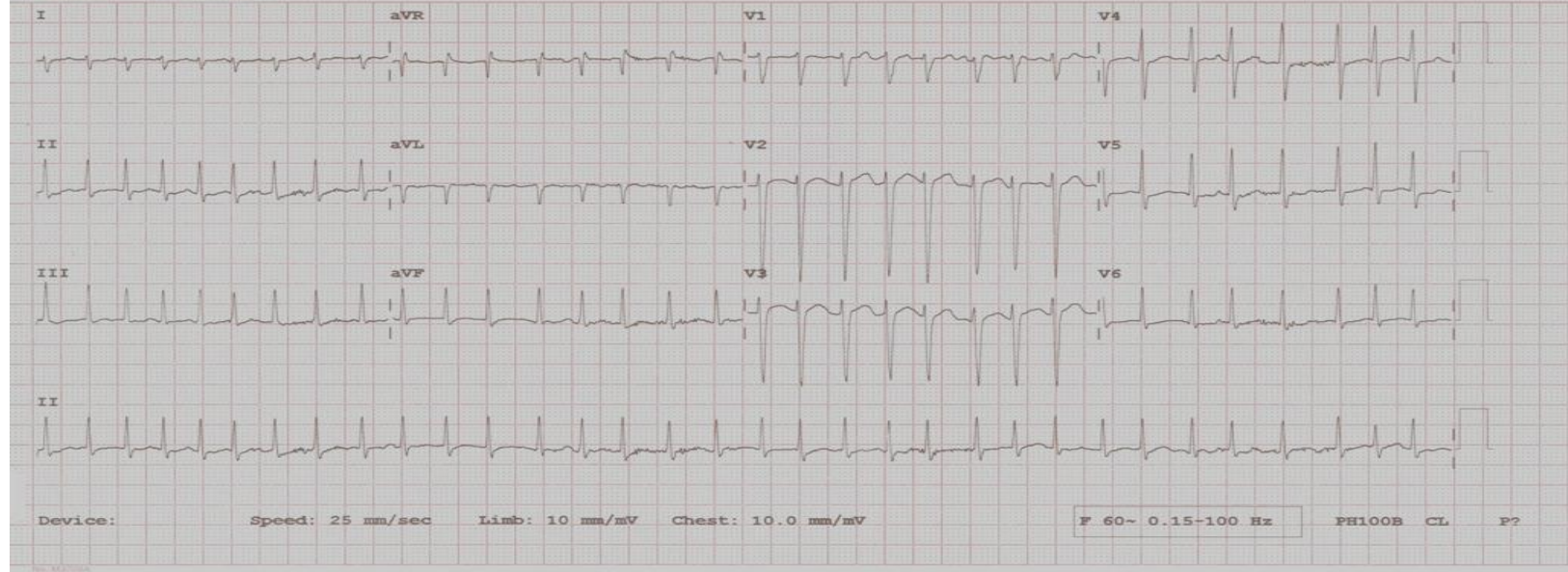
P  
QRS 103  
T

- ABNORMAL ECG -

Unconfirmed Diagnosis

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# CXR

SCOTLAND, MATTHEW  
PID: X277394  
08/03/1970  
042Y  
M

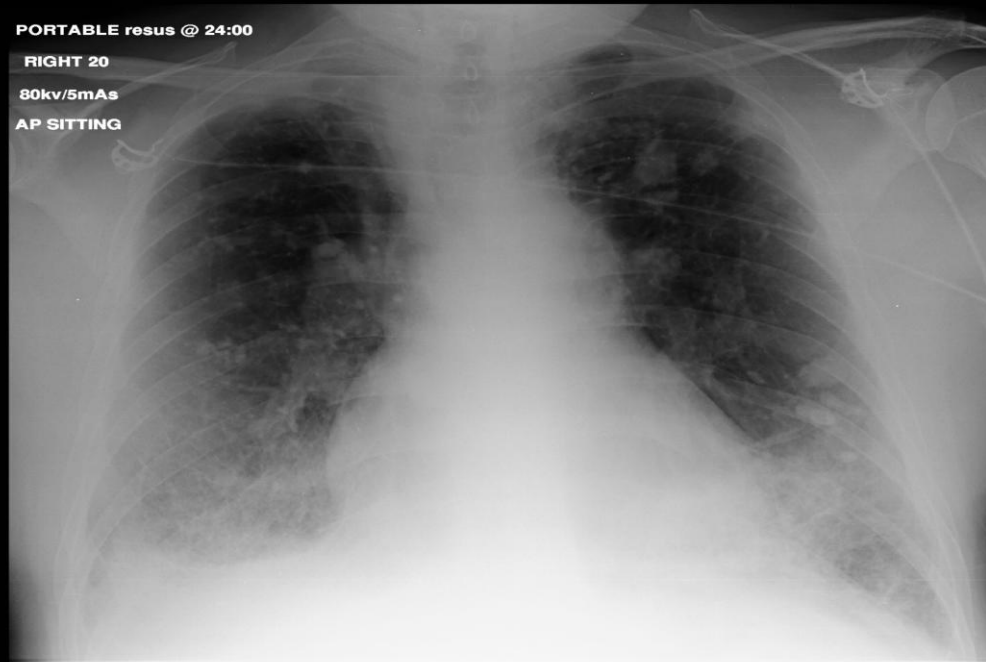
12/02/2013  
23:58:46

PORTABLE resus @ 24:00

RIGHT 20

80kv/5mAs

AP SITTING



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# Blood Results

- **ABG on admission (room air)**
  - pH 7.4, pO<sub>2</sub> 9.2, pCO<sub>2</sub> 3.8, Sats 92%
- **Hb 13.8, WCC 7.1 (N4.6), Plts 432, MCV 81.6**
- **Na 138, K 5.1, Urea 4.2, Creat 94, eGFR>60**
- **Bili 14, ALP 58, ALT 28, Alb 40**
- **CRP 12**
- **hsTnT 52**
- **INR 1.2**
- **TSH 1.67**



# Initial Management

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- **Medical assessment unit made a diagnosis of “AF with rapid rate response causing LVF”**
- **IV Furosemide 40mg**
- **No Beta blocker in view of history of asthma**
- **Central line placed and IV Amiodarone commenced**
- **Anticoagulated with Enoxaparin 1.5mg/kg**
- **Transferred to CCU for further management**

# CCU Ward round (day 2)

- **Minimal improvement in HR (160/min)**
- **Cold and clammy**
- **RR 36, BP 129/112**
- **U+E unchanged, ALT 3307, INR 1.6, CRP 18**
- **On 28% FiO<sub>2</sub>:-**
  - pH 7.29, pO<sub>2</sub> 14.9, pCO<sub>2</sub> 3.3, HCO<sub>3</sub> 12.0, BE -12.6
- **Chest: Very wheezy, bilateral crackles**
- **Digoxin added (IV as unable to take orally)**
- **Urgent bedside echocardiogram**

# Echo (1)

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# Echo (1)

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# Echo (1)

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# Ongoing management (day 2)

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- **Globally poor LV function**
  - ? Ischaemic (no RWMA)
  - ? Alcoholic,
  - ? Rate related,
  - (?? Coronary embolus)
- **Further IV furosemide (80mg)**
- **First dose Ramipril 1.25 mg given**
- **BP fell 90/50, felt faint, but still passing urine**

# VF arrest 2248h



# Ongoing management (day 2)

- VF arrest 2248hrs
- 1x 150J biphasic shock
- Reverted to sinus rhythm at 122/min
- BP low (85/55)
- Repeat hand held echo in Sinus Rhythm - still poor LV function
- Resident discussed with me at home as he wanted to contact Harefield for transplant assessment
  - Continue Amiodarone IV
  - Repeat K low 3.2 – replaced IV centrally
  - Ivabradine added 5mg bd (no BB as still v wheezy)



# CCU day 3

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- **By mid afternoon HR 70, BP 108/75**
- **Passing urine – U&E stable**
- **Clinically much improved, less SOB**
- **Normal RR, less wheezy, fewer crackles**
- **Repeat ECG – widespread T wave inversion**
- **Ramipril 1.25mg od continued**
- **Ivabradine increased to 7.5mg bd**
- **Listed for coronary angiography**

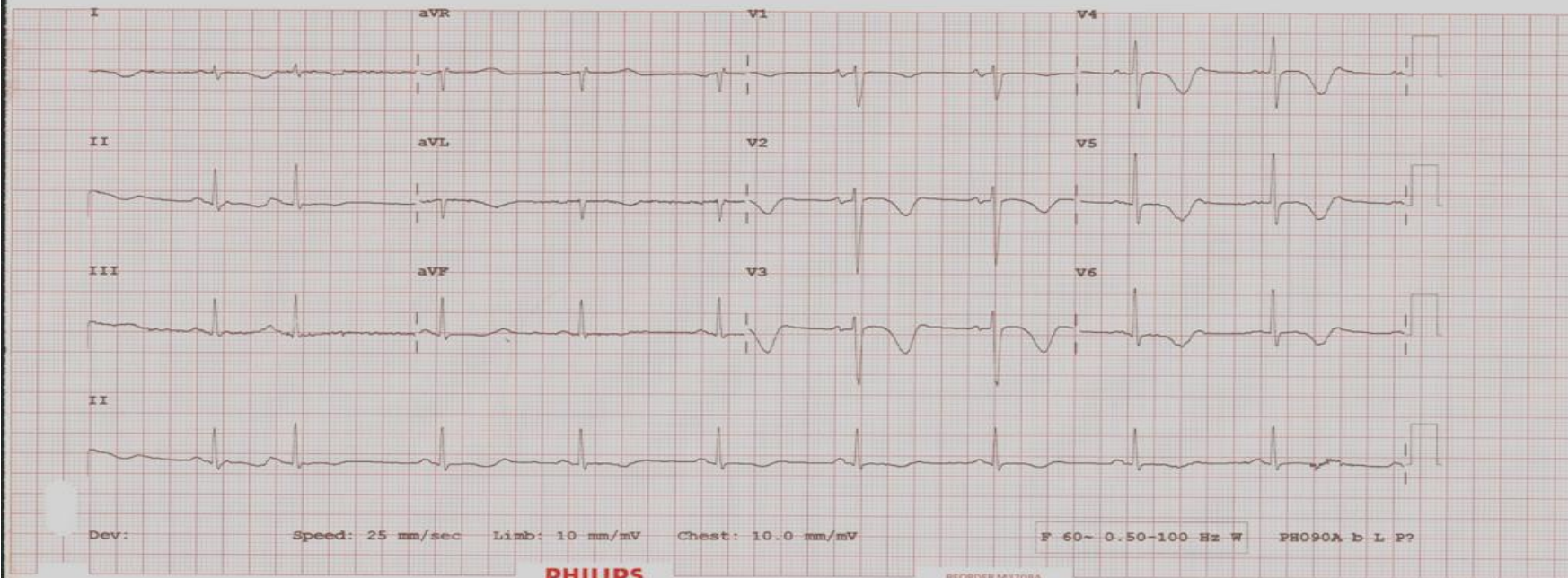
# ECG day 4

Rate 57 . SINUS RHYTHM.....normal P axis, V-rate 50- 99  
PR 148 . ATRIAL PREMATURE COMPLEX.....SV complex w/ short R-R interval  
QRS 92 . RIGHT AXIS DEVIATION.....QRS axis (100,269)  
QT 508 . BORDERLINE T ABNORMALITIES, DIFFUSE LEADS.....T flat/neg  
QTc 495 . BORDERLINE PROLONGED QT INTERVAL.....QTc >475ms

--AXIS--  
P 76  
QRS 100  
T 209

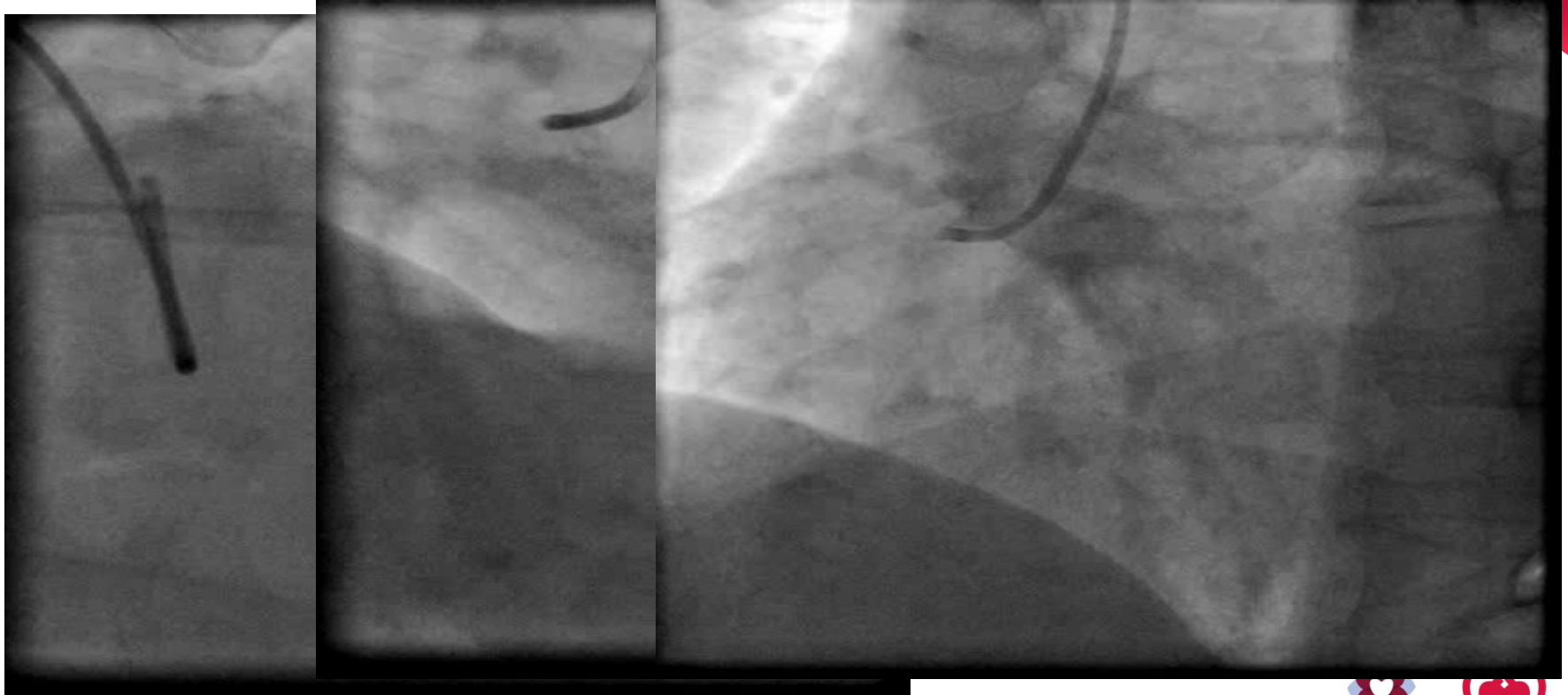
- ABNORMAL ECG -

Unconfirmed Diagnosis



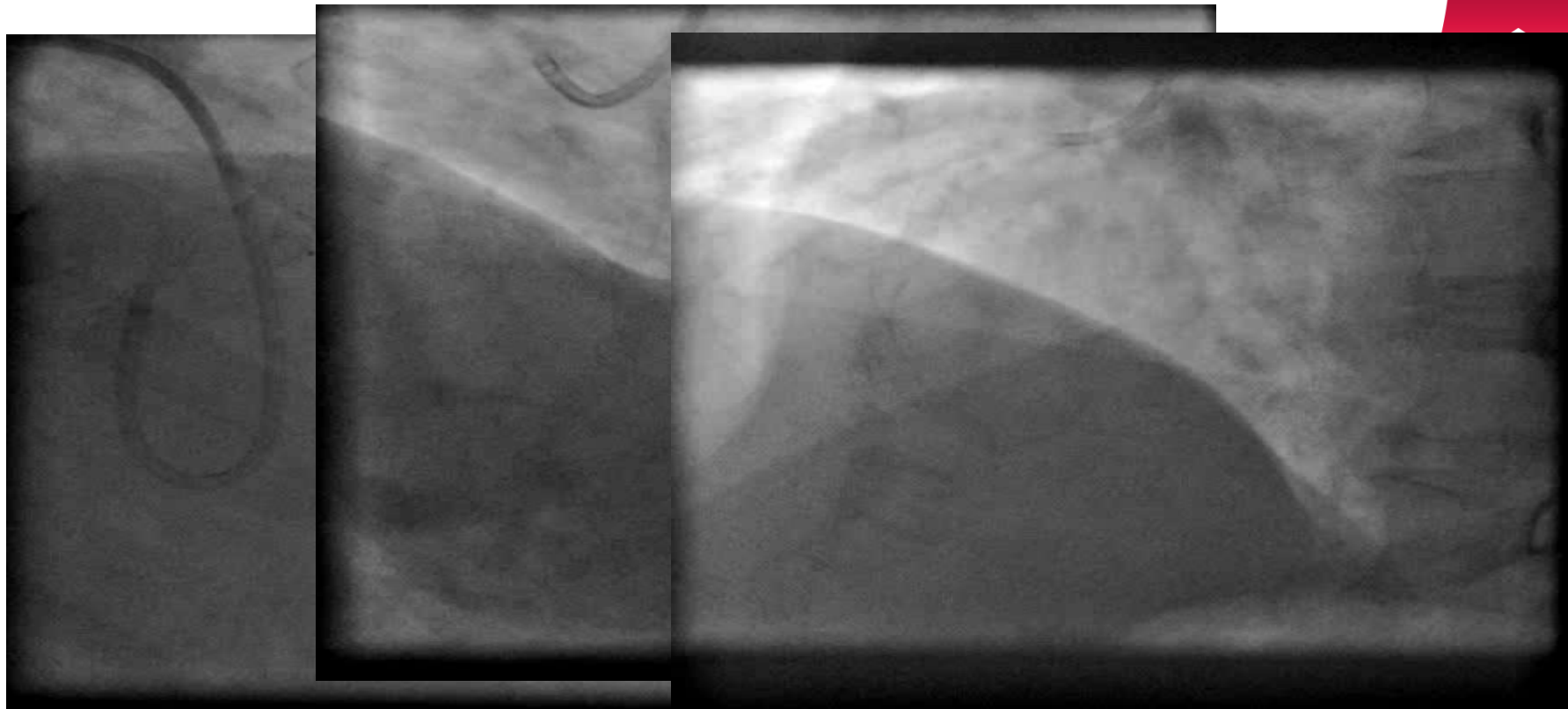
# Coronary angiography day 4

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# PCI LAD/Cx/RCA (day 6)

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# Ongoing management (day 6)

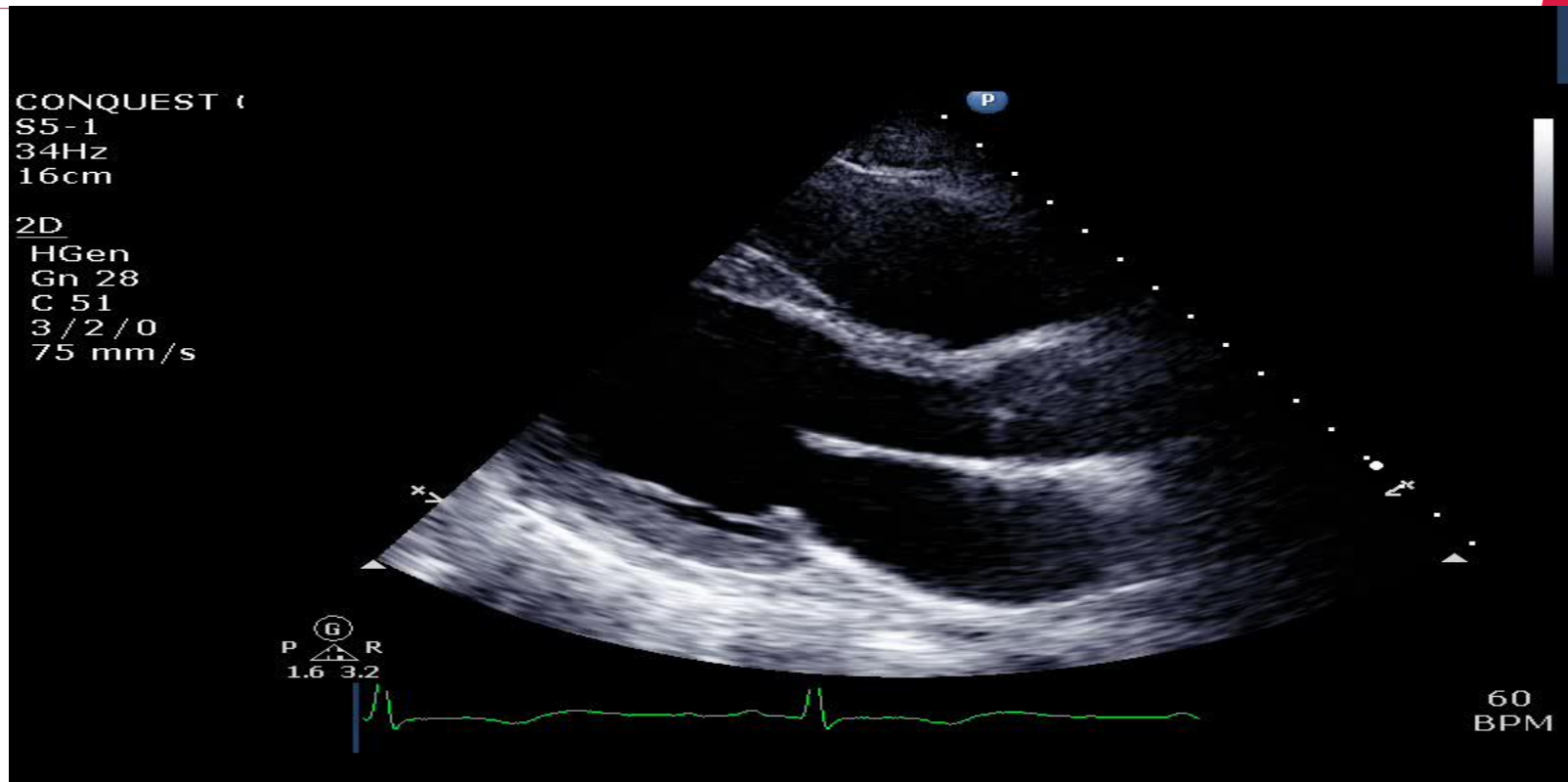
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- **HR 60, BP 110/70**
- **Chest clear!**
- **Abnormal LFTS normalised**
- **Ramipril 2.5mg od, Furosemide 40mg od, Eplerenone 12.5mg od, Ivabradine 7.5mg bd, Aspirin 75mg od, Clopidogrel 75mg od**
- **Repeat echocardiography**

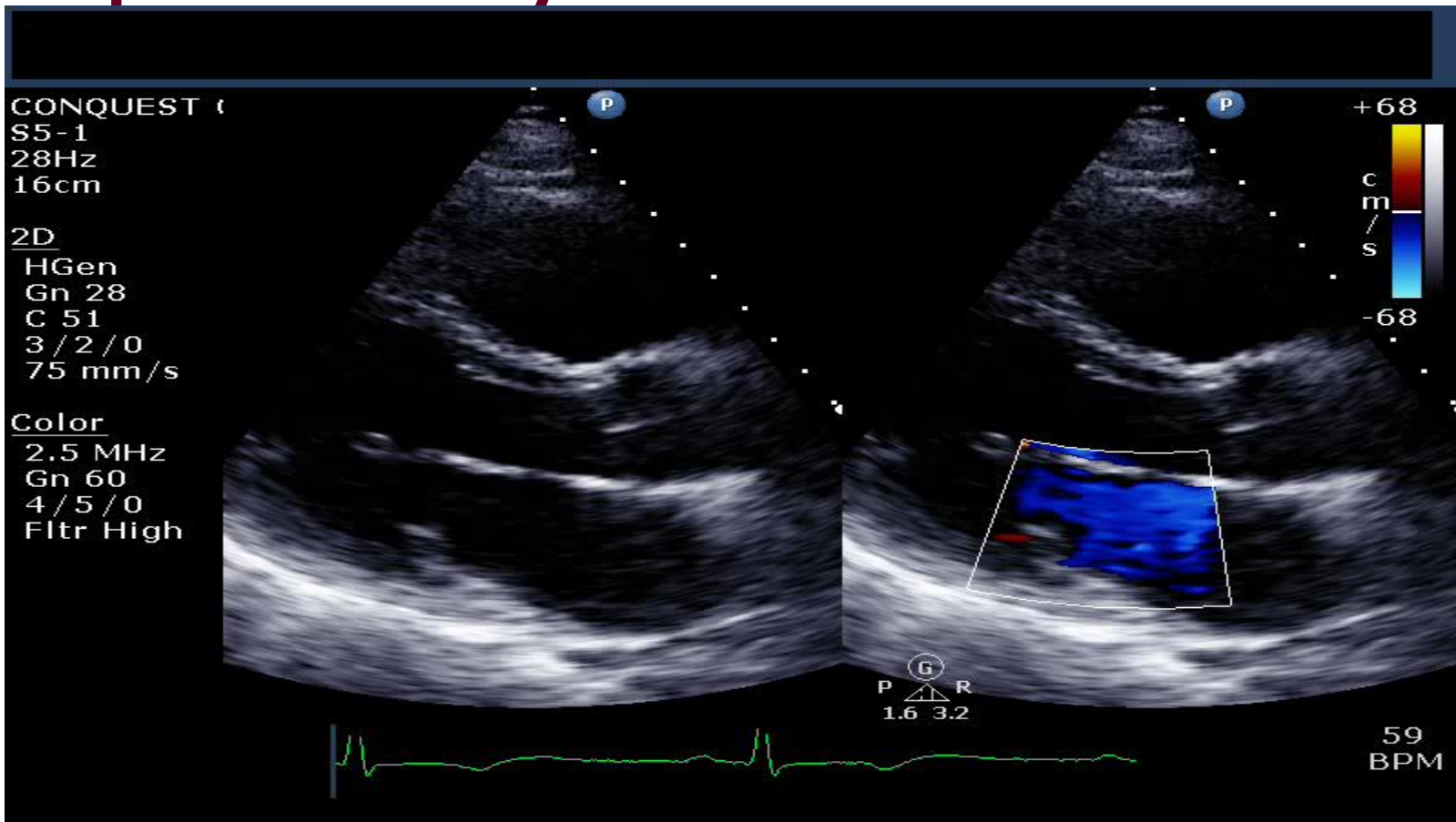
# Repeat Echo day 6

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# Repeat Echo day 6



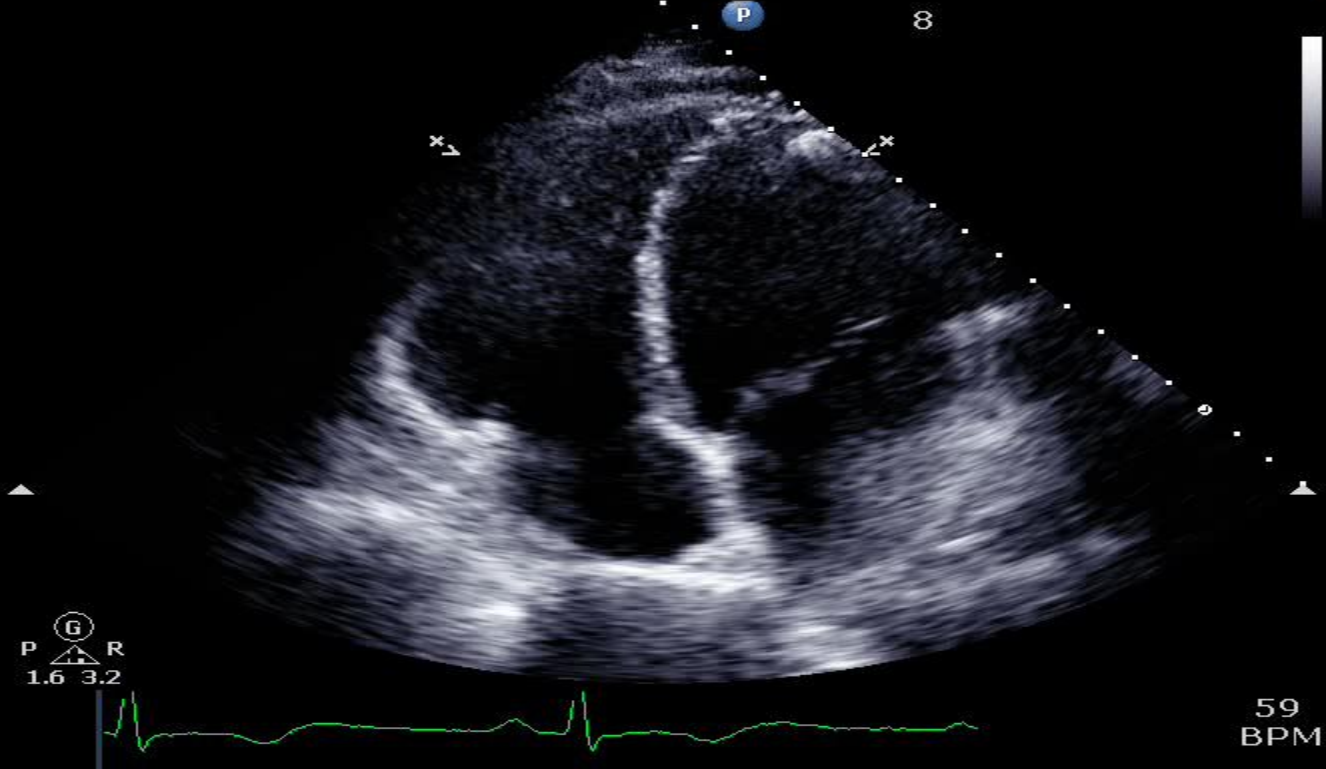
# Repeat Echo day 6

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CONQUEST (S5-1)  
26Hz  
19cm

2D  
HGen  
Gn 43  
C 51  
3/2/0  
75 mm/s

P G R  
1.6 3.2



59  
BPM





# Progress

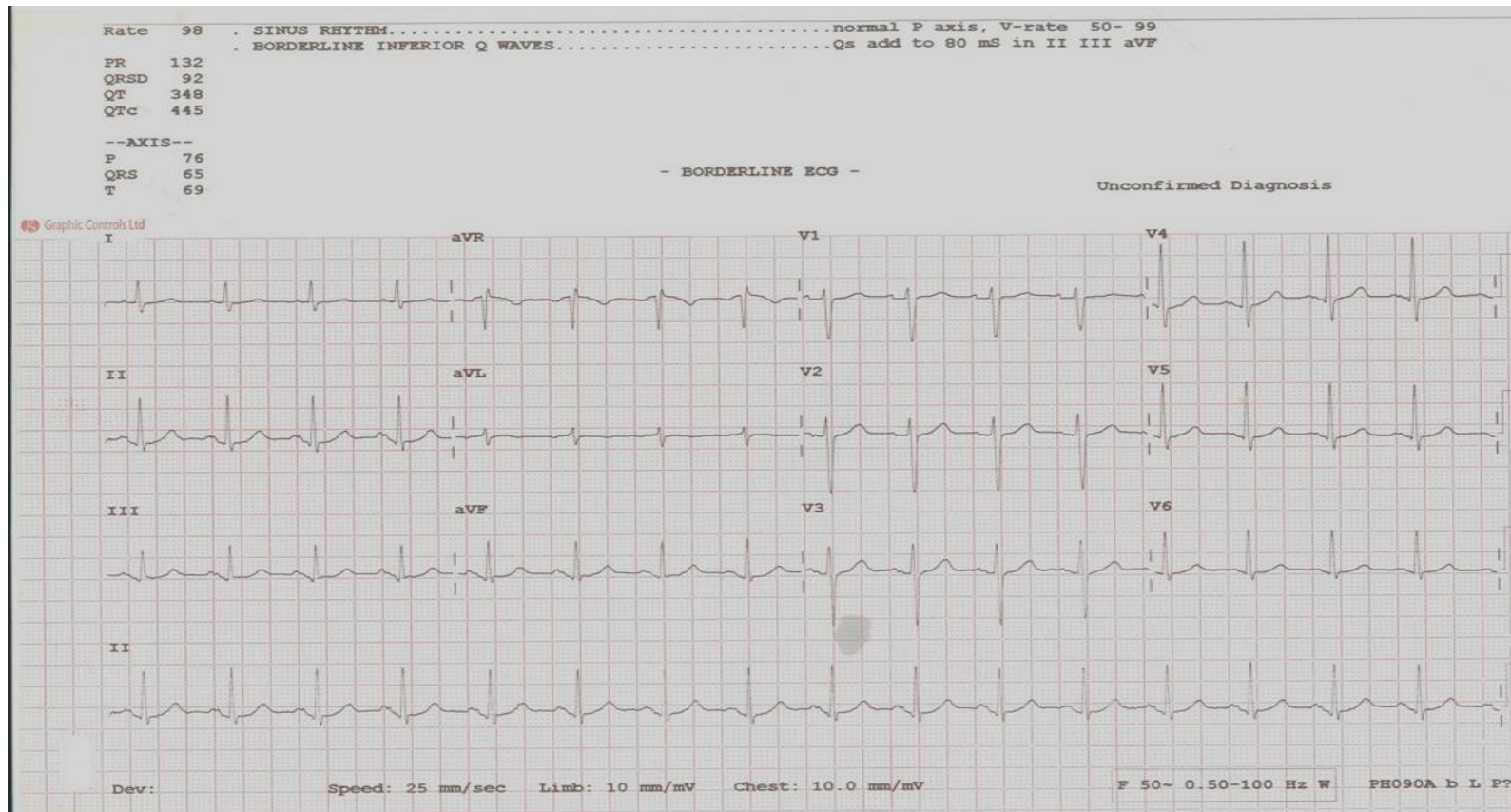
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- **Discharged day7**
- **CT chest as out patient**
- **Beta blocker commenced as OP(no wheeze)**
- **Furosemide stopped**
- **Very well at 3 and 6 month FU**
- **Reformed character – has given up alcohol!**

# ECG at Follow up

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# Discussion points

- **Early DC Cardioversion (before the cardiac arrest)?**
- **Use of Digoxin acutely**
- **Significance of modest Tn rise in AF with rapid HR**
- **Off-label use of Ivabradine in the acute heart failure patient with hypotension and sinus tachycardia**
- **Role for IABP at any stage??**
- **What was the cause of the LV dysfunction**
  - ? Excessive HR combined with 3 vessel disease
  - Only very small hsTnT rise (52)
  - ? Any contribution from excess alcohol (cause of AF?)
  - Very rapid recovery suggests acute myocardial stunning

# CT – lung apices

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