QUIZ

JCM 8 July 2026

PYNEH

Case 1

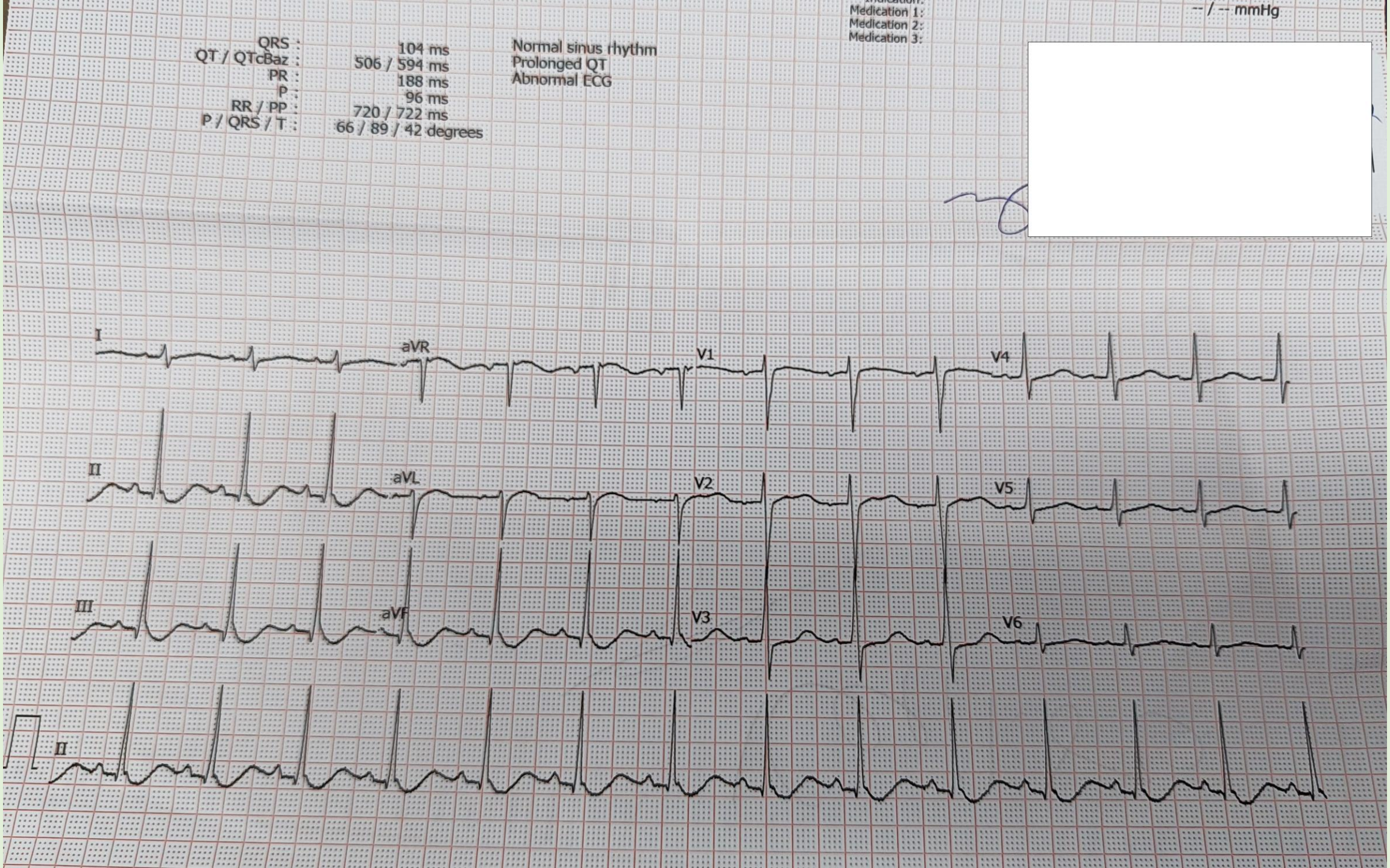
A 38yo male with good past health presented to A&E with generalized weakness and palpitations.

(1a) His vitals were normal. Please comment on the ECG:

- ST depression over inferior leads (II, III aVF)
- Long QTc

Medication 1:
Medication 2:
Medication 3:
-- / -- mmHg

QRS :	104 ms	Normal sinus rhythm
QT / QTcBaz :	506 / 594 ms	Prolonged QT
PR :	188 ms	Abnormal ECG
P :	96 ms	
RR / PP :	720 / 722 ms	
P / QRS / T :	66 / 89 / 42 degrees	

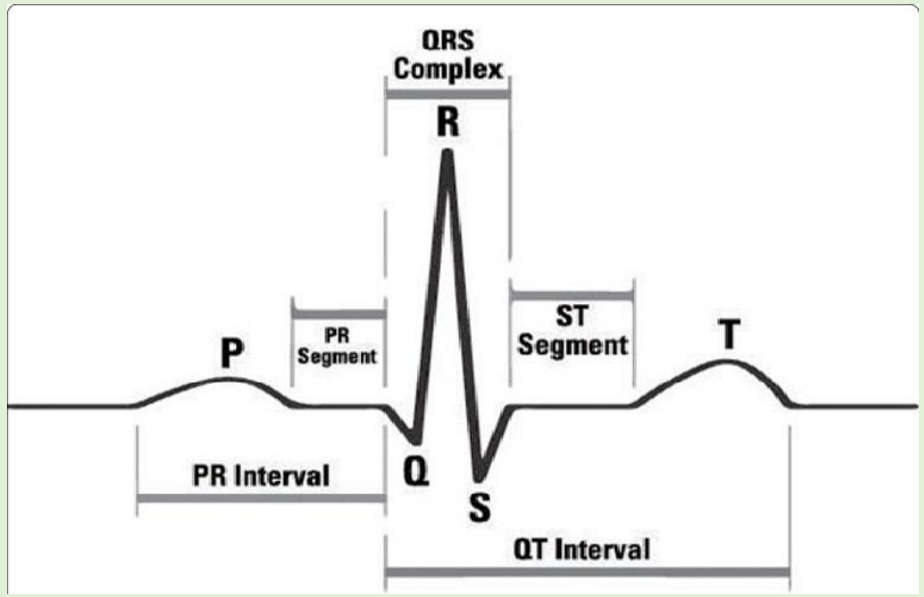


(1b) What cardiac activity is represented by the QT interval?

From ventricular contraction to relaxation

(1c) What is the normal limit of QTc?

440ms



(1d) What is the pathophysiology of congenital long QT syndrome at cellular level?

Mutation or Defective in a potassium channel (or rarely sodium channel)

(1e) Please name 3 groups of drugs that may increase QT.

- Macrolides antibiotics
- Quinolones antibiotics
- Proton pump inhibitors
- Anti-arrhythmic drugs that block K or Na channels
- Antidepressants/antipsychotics
- GI stimulants

(1f) Name two kinds of electrolyte disturbance that may resulted in long QT.

Hypo K/Mg/Ca

The potassium level of this patient was 1.6 mmol/dL.

(1g) Name 2 GI causes

Persistent vomiting & villous adenoma

(1h) Name 3 endocrine causes

- Conn's syndrome (primary aldosteronism)
- Periodic paralysis
- Cushing

(1i) Name a class of non-therapeutic drug of abuse that may cause hypo-K.

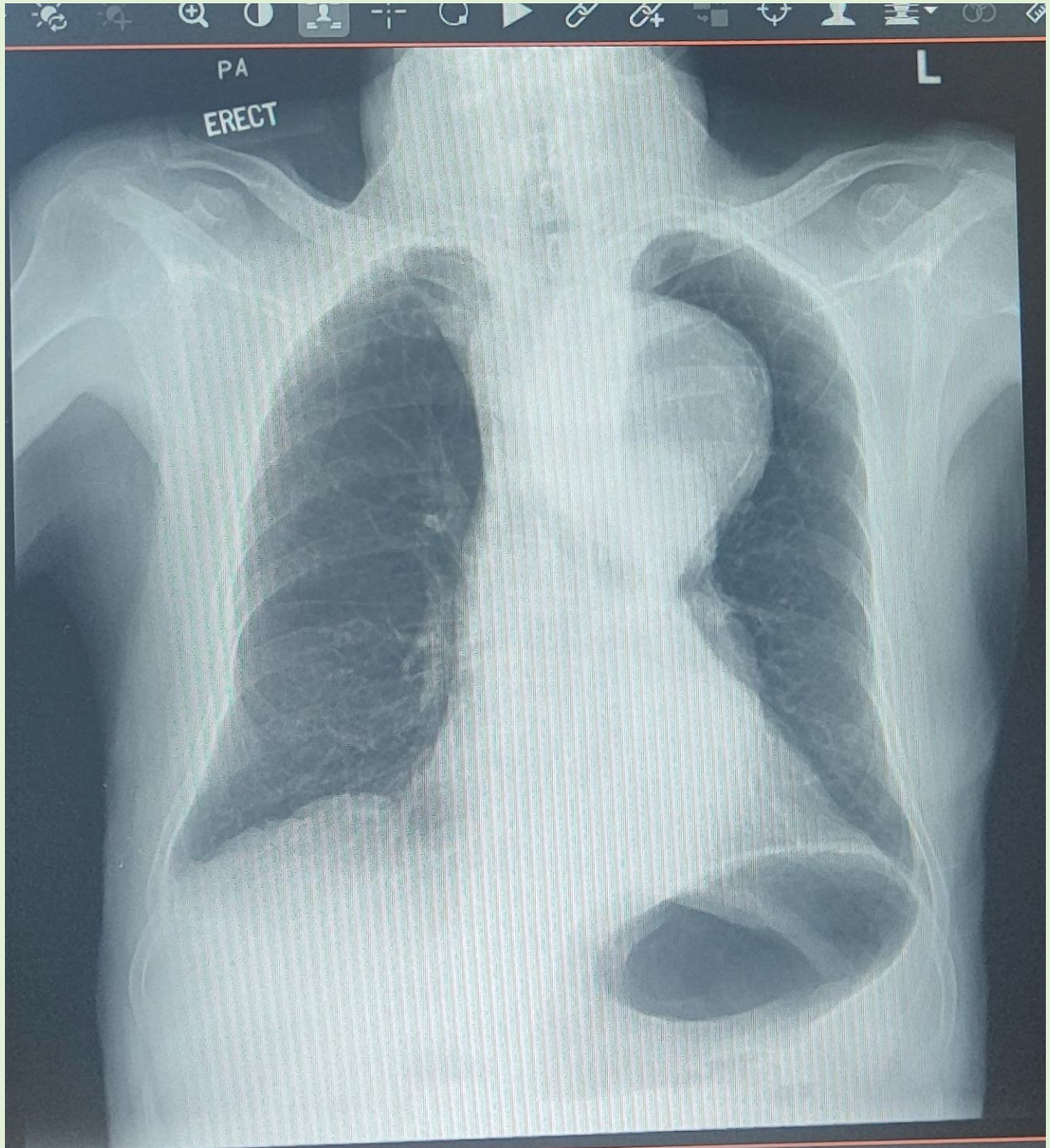
Diuretic/emetic abuse for weight reduction

Case 2

An 83yo male presented with left chest pain for 2 hours.

Vitals

- BP 189/110
- P=68
- RR 12
- GCS 3 4 5
- Pain score 1/10



(2a) Describe the CXR findings

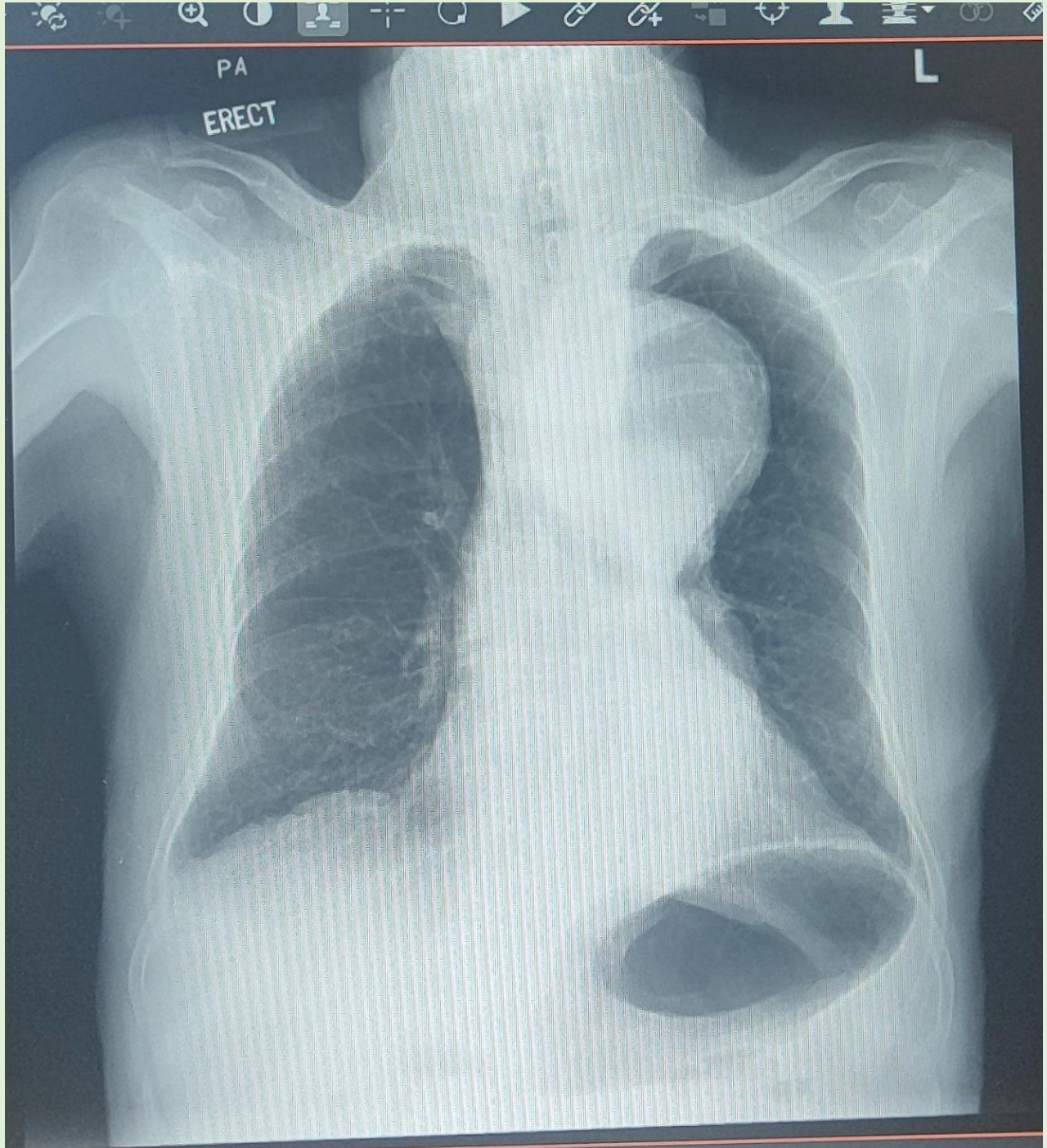
Widen mediastinum; Bulging at aortic arch with calcified atherosclerotic plague lining

(2b) What is your diagnosis?

Aortic aneurysm or dissection

(2c) Is there any evidence of leaking on CXR?

No



(2d) What medical treatment would you offer to this patient in A&E before admission?

Control of BP with IC labetalol or nitroprusside

(2e) While waiting for admission, he complained sudden onset of neck swelling. What is your suspicion?

Leaking of ruptured aortic dissection

(2f) With relatively stable vital signs, what imaging study should be done to confirm your suspicion?

Emergency contrast CT scan

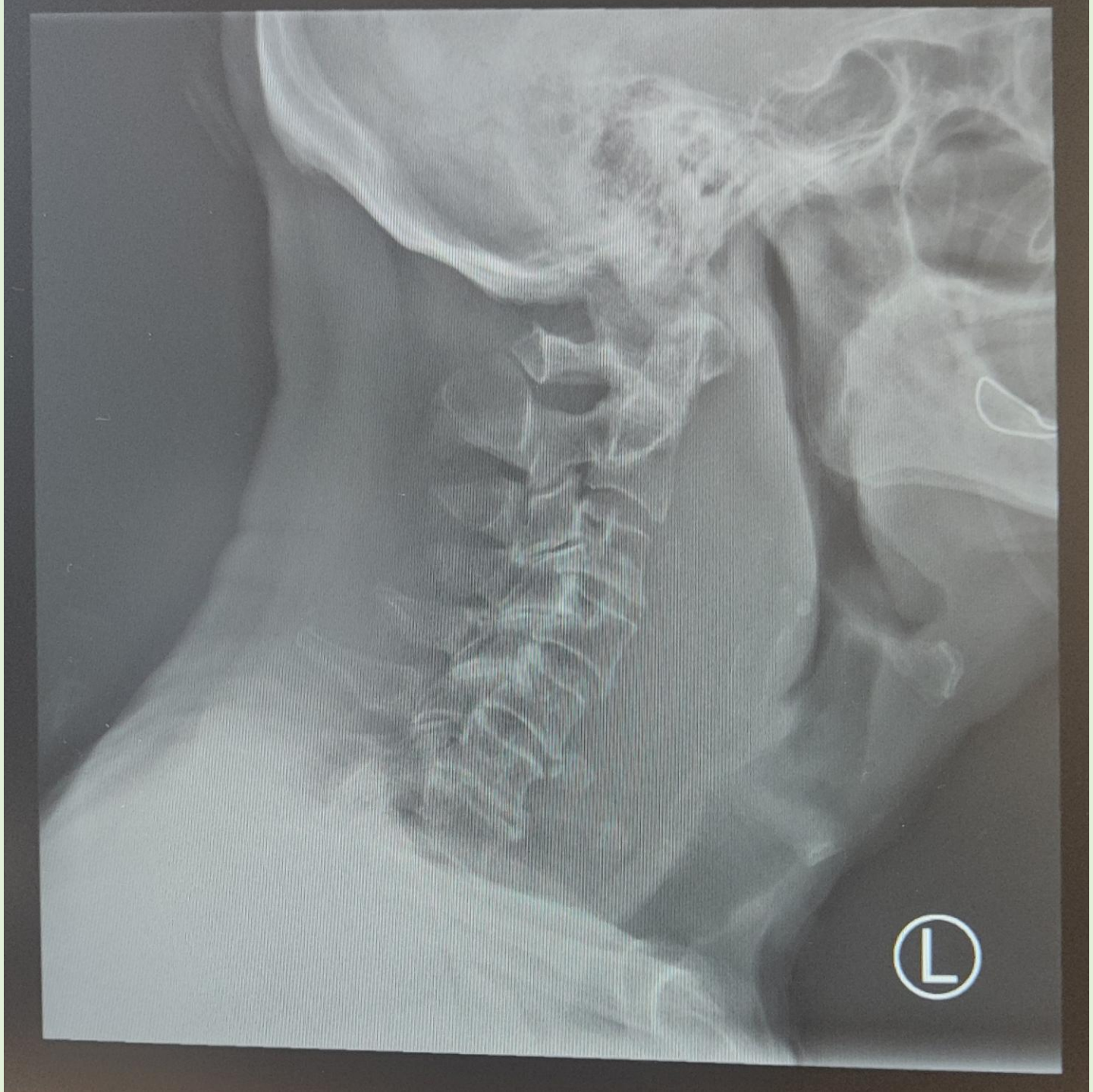
(2g) A lateral neck soft tissue X-ray was taken. Please comment on the abnormal finding.

Soft tissue thickening at prevertebral space at level of whole C-spines

(2h) Is the finding compatible with leaking?

Please explain.

Yes. Leaking into mediastinum make go up into prevertebral areas.

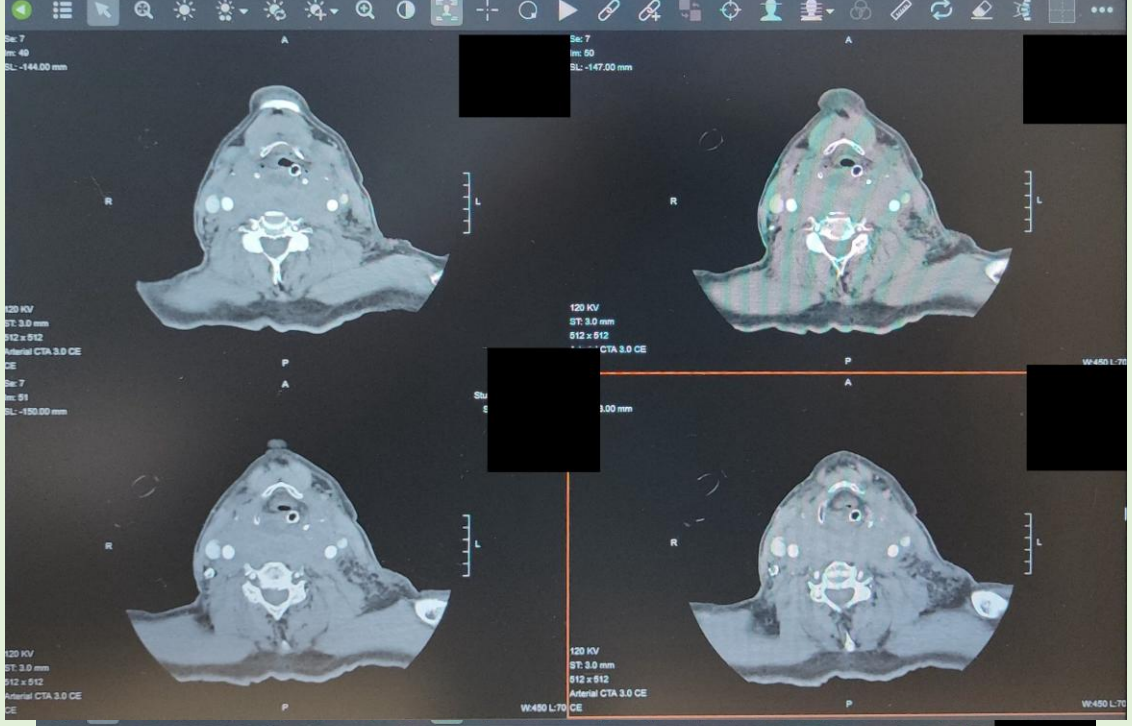


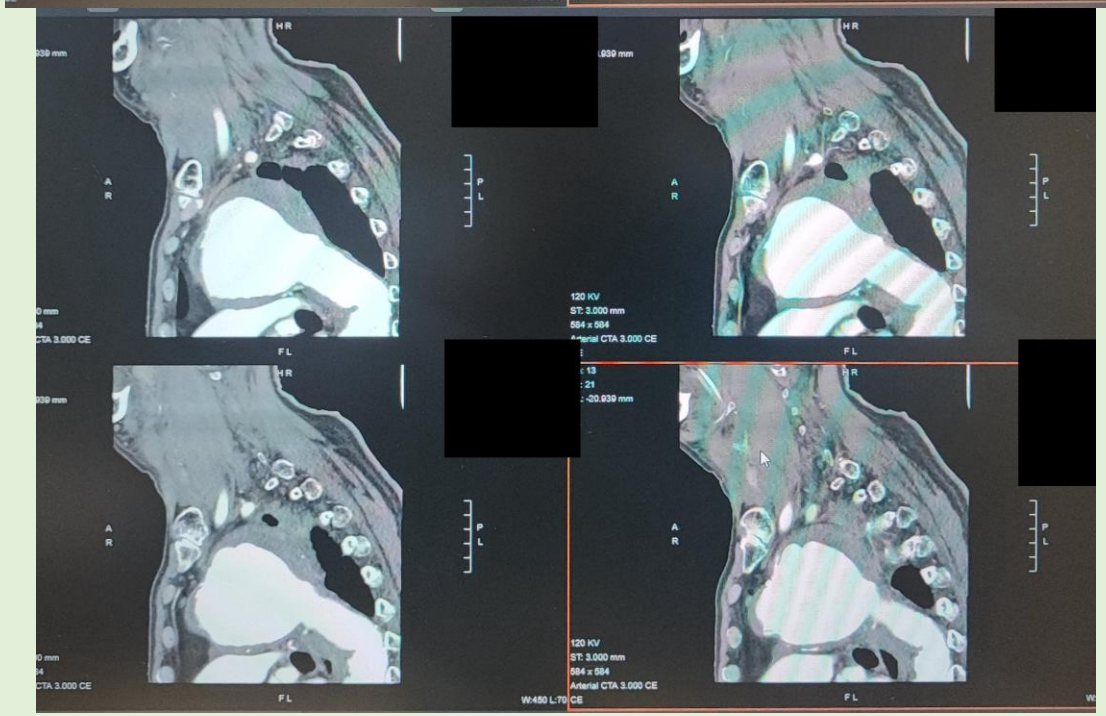
CT scan of neck and chest was done.

- Upper: transverse sections at the neck
- Lower: Sagittal sections at aorta

(2i) Please comment on the CT scan findings.

- Fluid collection at prevertebral area at the neck
- Dissection flap at aortic arch

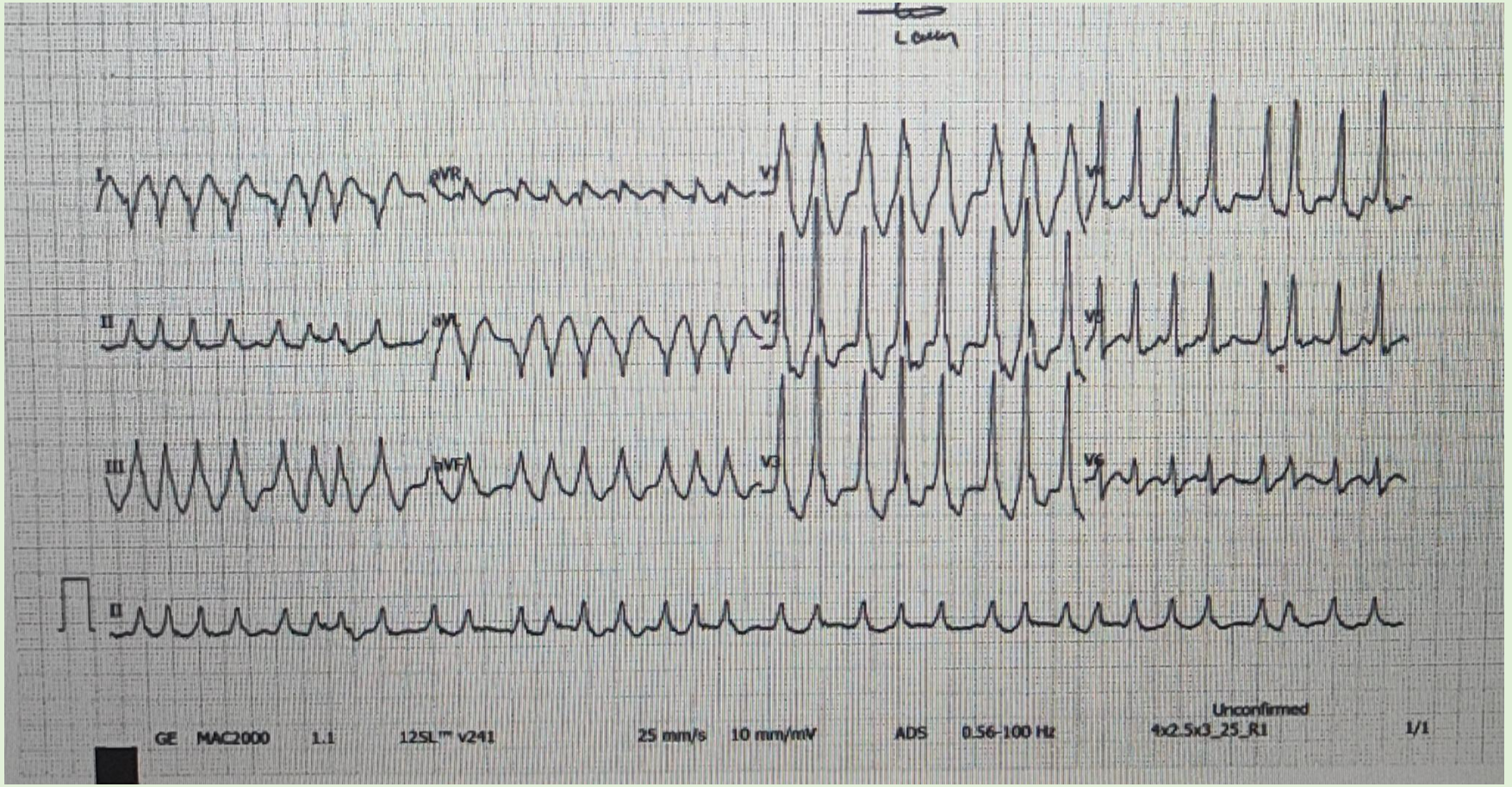




Case 3 A 51yo male presented with fast palpitation.

(3a) What is the arrhythmia? Atrial fibrillation with aberrant conduction

(3b) What is your suspected diagnosis? WPW syndrome



The vitals: BP 178/98, HR 190, SpO2 99% with 2L/min nasal cannula

(3c) What anti-arrhythmic treatment would you give if he has a past history of WPW syndrome?

- Procainamide infusion

(3d) What is the advantage of this drug over Amiodarone and Calcium channel antagonists?

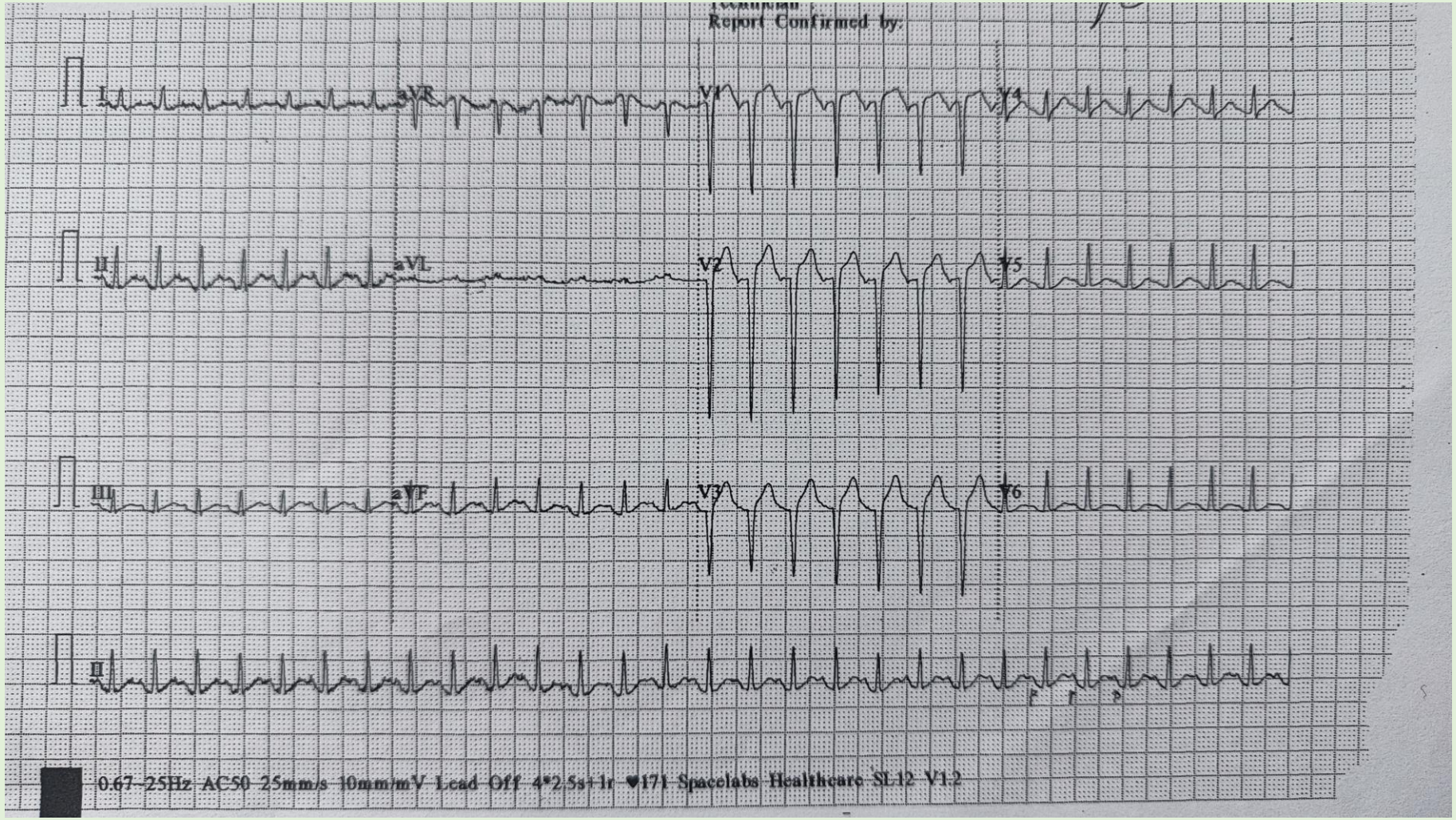
This drug block accessory pathway more than AV nodal tissue, thus reducing the risk of paradoxical VF.

Case 4

- A 36yo lady presented with SOB and generalized weakness.

Vitals:

- BP 171/97
- Pulse 170/min
- Temp 39.3 C
- RR 24/min



(4a) What is the arrhythmia?

Sinus tachycardia

(4b) Give 4 possible causes for the arrhythmia.

- Fever
- Dehydration
- Anxiety
- Pain
- Thyrotoxicosis
- Drug effect (like theophylline, anti-cholinergics or beta-agonists)
- Toxins (sympathomimetics)

- The patient has a history of thyrotoxicosis and defaulted follow up 6 months ago. She recently got a flu.

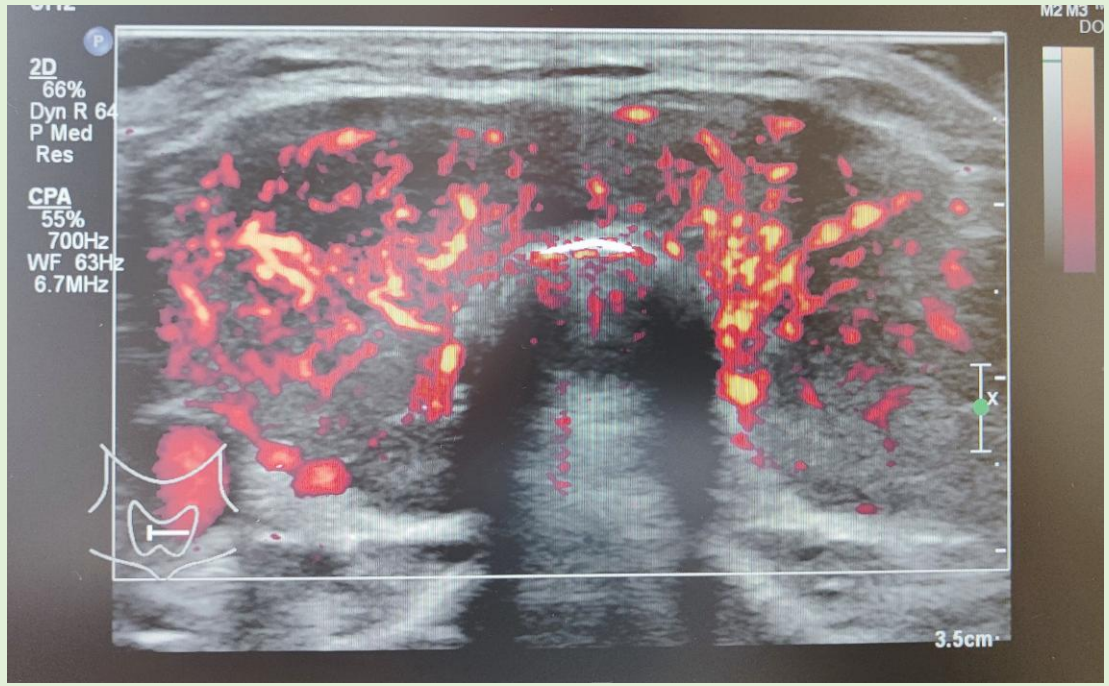
(4c) What is the likely diagnosis?

- Thyroid storm

(4d) Bedside USG thyroid was done.

What is the finding?

Hypervascularity



The patient appeared toxic and restless.

(4e) Please outline your emergency management for this patient.

- Rehydration if indicated
- Treat hyperthermia (Panadol, physical cooling and benzodiazepines)
- Sedation with benzodiazepines if necessary
- Propranolol for tachycardia
- Propylthiouracil (PTU) should be the first anti-thyroid drug
  - Carbimazole could be another choice, less preferred
  - Potassium iodide should be given after PTU
- Treat precipitating factors such as infection
- ICU admission

Case 5

A 61yo female presented to A&E with massive hemoptysis. She had a history of metastatic Ca lung, which was newly diagnosed recently.

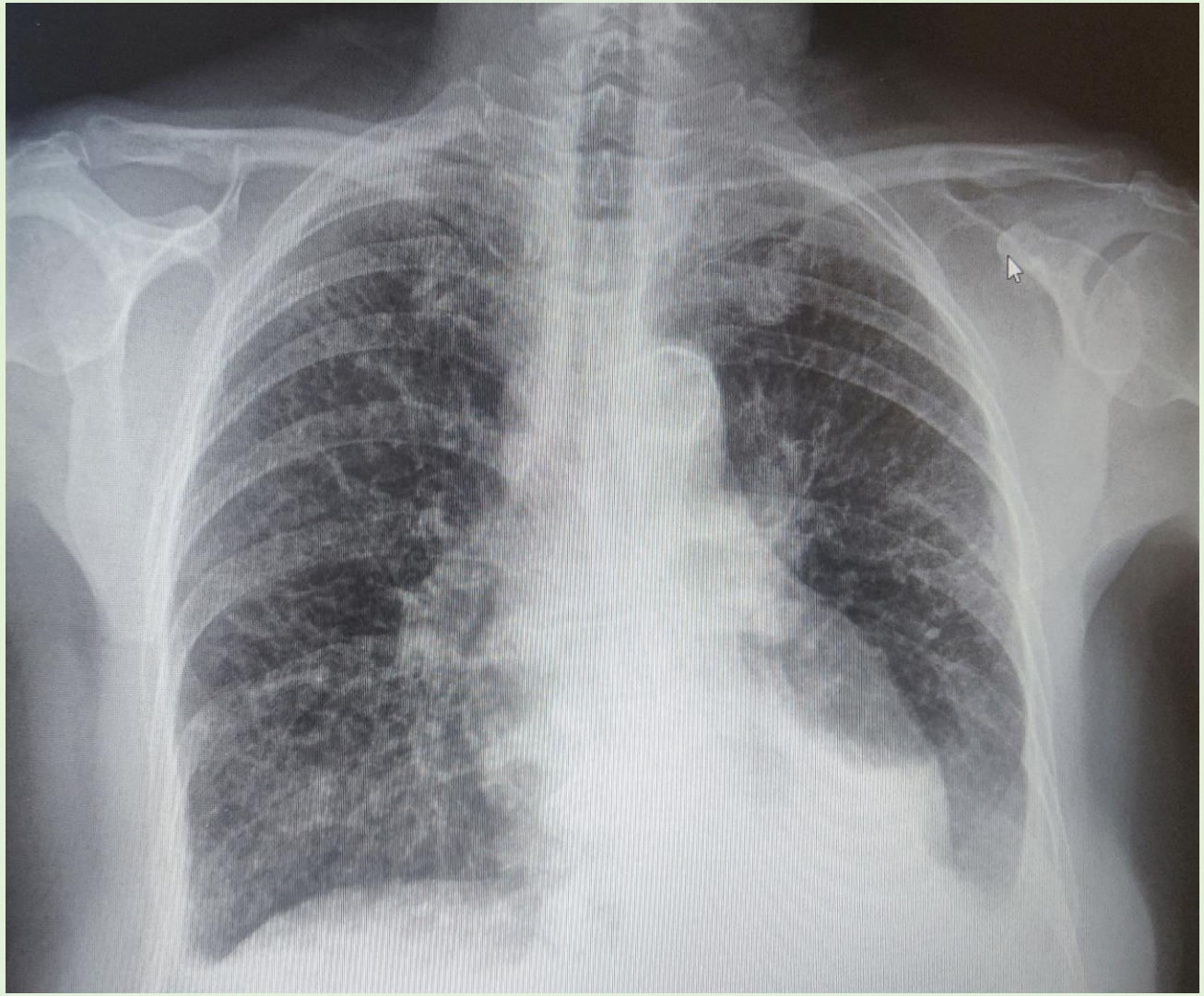
Her vitals:

- BP 108/67
- P 119/min
- RR 24/min
- SpO2 98% with non-rebreathing oxygen mask
- Temp 37.2 C

(5a) Name the abnormal findings from her CXR.

(As much as you can imagine)

- Bilateral multiple nodules compatible with carcinomatosis
- Bilateral blunting of CP angle with fluid level on L side (Pleural effusion)
- Lytic lesions over left ribs



She continued massive hemoptysis and a repeated CXR showed significant increased lung marking over LEFT side.

(5b) Quantify “massive” hemoptysis.

>100ml per hour

(5c) Which side will you lie the patient laterally?

Left decubitus position

5(d)Please outline your other management strategy in the ED stepwise.

- Airway protection: intubation / single lung intubation / bronchial blocker
- Ventilation support: mechanical ventilation
- Circulatory support: IVF, Blood product, IV transamin, clotting factors replacement
- Endoscopic, intervention radiological or surgical treatment for the causes

Thank you