

Health Care of the Elderly



Adam Feather for Simply Revision

‘Geriatric Giants’ – ‘I’saacs

- Intellectual Impairment – dementia / delirium
- Instability = falls
- Immobility ‘off legs’
- Incontinence
- Iatrogenesis
- ‘Insufficiency’ = ‘Failures’
- ‘Incurables’ – neurodegenerative, malignancy

Case (1)



Case (1)

An 81-year-old man presents to his GP with a 6-week history of increasing weakness and 'heaviness' in his legs. Over the past few days he has also noticed difficulties passing urine. On examination he looks pale and has obvious weight loss. He has no obvious lymphadenopathy but has signs of a left sided pleural effusion. Abdominal exam reveals a palpable bladder but no other organomegaly. DRE reveals a hard, irregular prostate with reduced anal sensation

Neurological assessment shows bilateral nystagmus, past pointing and slurred speech. There are no cranial nerve palsies or papilloedema.

Upper limb examination – nil else of note

Lower Limbs – hypertonia, hyper-reflexia with bilateral extensor plantars

A sensory level is defined just above the inguinal ligaments

Case (1)

His presentation and sensory level suggest a lesion at which spinal level?

A.T10

B.T12

C.L1

D.L2

E.L3

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Case (1)

In this case the nystagmus, past pointing and slurred speech are MOST likely caused by:

- A. Hypercalcaemia
- B. Auto-antibodies
- C. Hyponatraemia
- D. Cerebral infarction
- E. Intra-cerebral metastases

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Case (1)

The MOST essential investigation at this point would be:

- A. CT scan of the thoraco-lumbar spine
- B. MRI scan of the thoraco-lumbar spine
- C. Plain x-ray of the thoraco- lumbar spine
- D. Corrected calcium
- E. PSA

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From the examination findings which of the following procedures is MOST essential to perform?

- A. Arterial blood gases
- B. Intravenous access for blood transfusion
- C. Urinary catheterisation
- D. Blood cultures
- E. Pleural aspiration

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The MOST essential treatment at this point would be:

- A. Intravenous hydrocortisone
- B. Oral Dexamethasone
- C. Radiotherapy
- D. Chemotherapy
- E. TURP

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Which of the following treatments is likely to be required in this case?

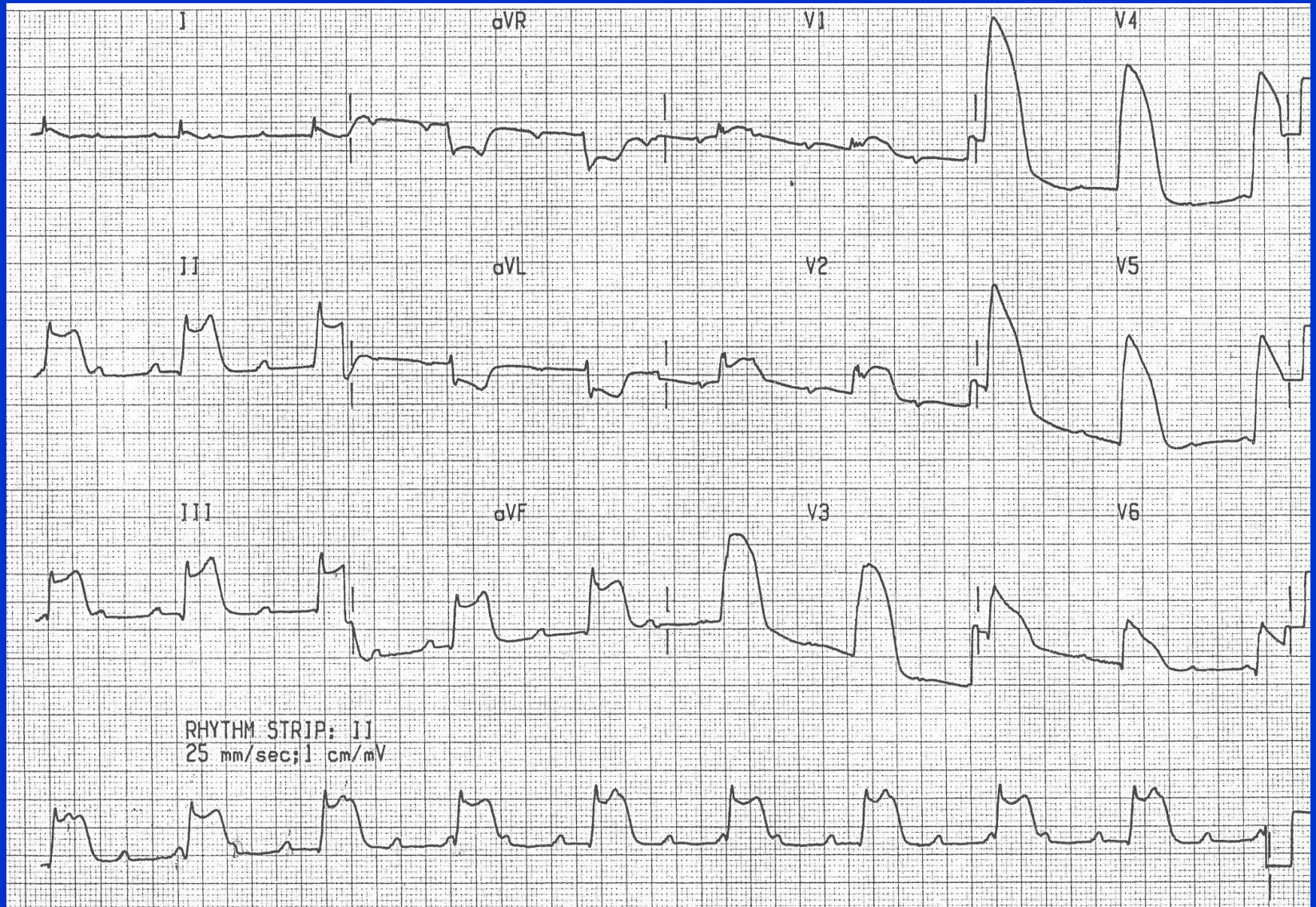
- A. Tamsulosin
- B. Trastuzumab
- C. Doxazosin
- D. Lapatanib
- E. Cyproterone

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Case (2)



Case (2)

An 84-year-old man presents in the ED with a 3 –4 hour history of severe central chest pain.

Of note he is a lifelong smoker, weighs 100kg (height 1.75cm) and has had poorly controlled hypertension for the past 5 years.

The next most important single investigation would be a / an:

- A. ECG
- B. Troponin
- C. CXR
- D. FBC
- E. Echocardiogram
- F. Creatinine kinase

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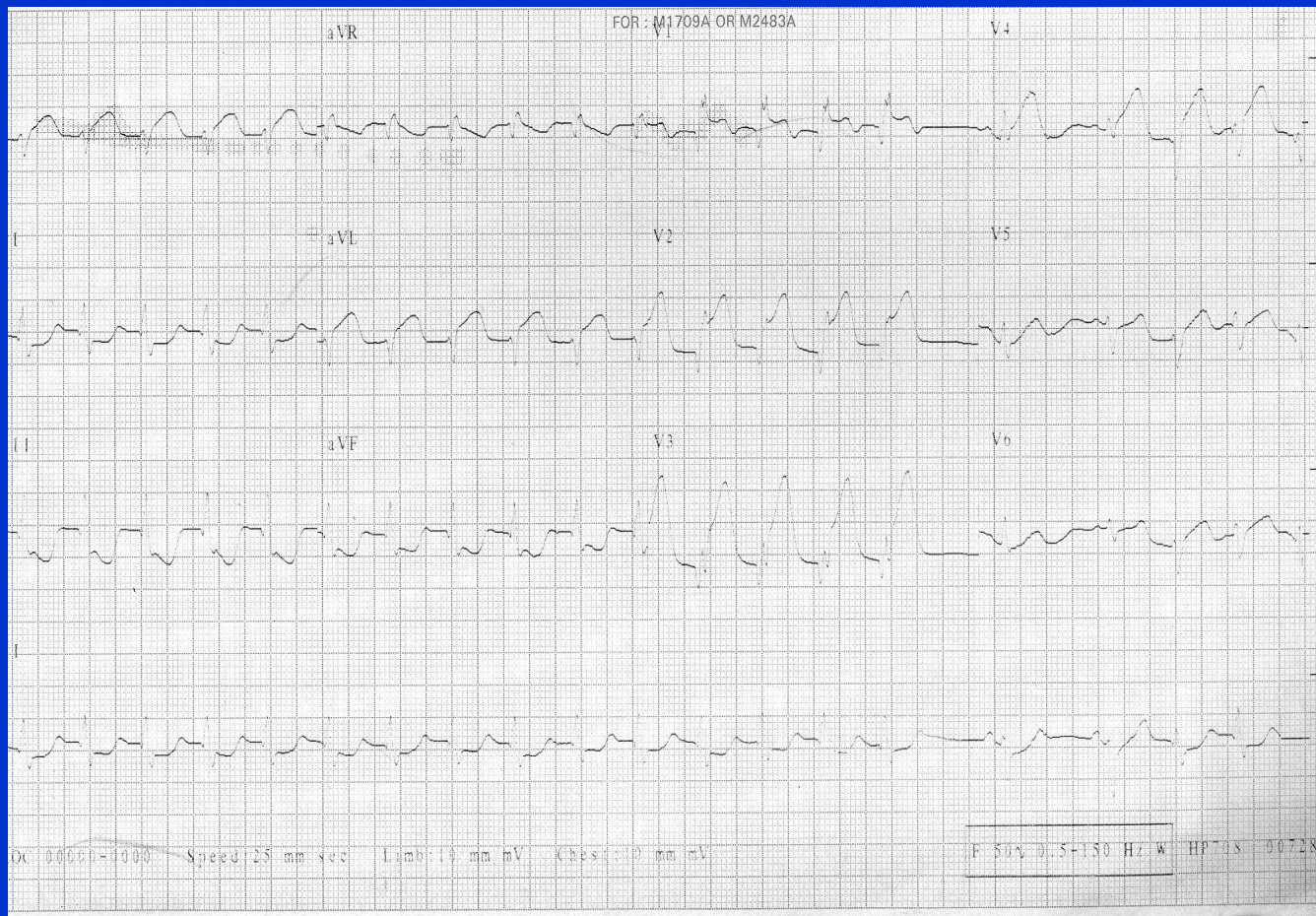
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Case (2)

He has a routine set of blood tests and an ECG performed that is shown below.



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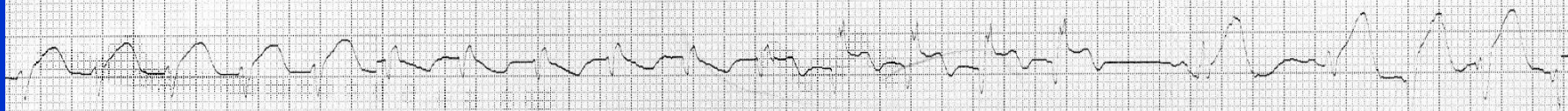
The best description of the ECG abnormalities is

- A. Acute Inferior MI
- B. Acute Anterior MI
- C. Acute Inferoposterior MI
- D. Acute Anterior MI with high lateral extension
- E. Acute Posterior MI
- F. Acute Inferoposterolateral MI

aVR

FOR: M1709A OR M2483A

V4

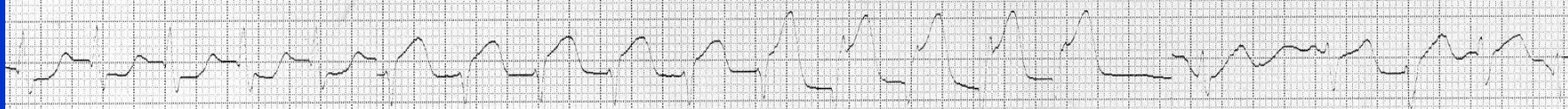


I

aVL

V2

V5

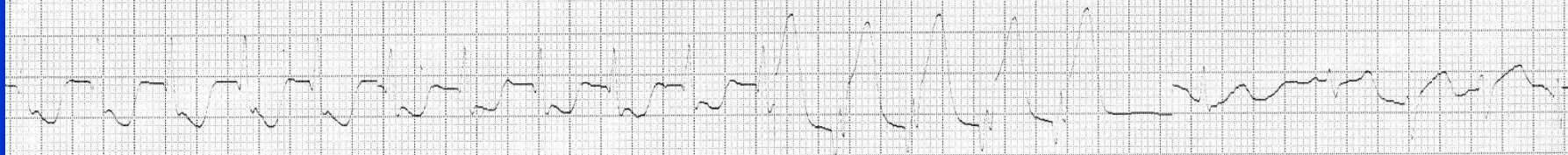


II

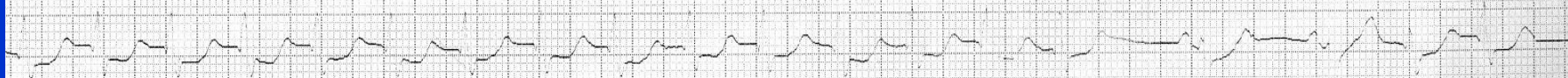
aVF

V3

V6



I



DC 00000-1000 Speed 25 mm/sec Limb 10 mm/mV Chest 100 mm/mV

F 50V 0.5-150 Hz W HP708 00728

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Case (2)

The most likely site of the vascular occlusion is in the:-

- A. Left anterior descending artery
- B. Right main coronary artery
- C. Right posterior descending artery
- D. Left circumflex coronary artery
- E. Right marginal artery
- F. Left main coronary artery

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Case (2)

On examination – He is pale and clammy with peri-orbital xanthelasma.

Vitals: BP 100/60, HR 120 regular, CBG 13.6mmol/l, O₂ sats 89% on 2l/min, RR 23bpm

Chest – bibasal crackles

CV: JVP +6cm, HS I+II+III

No peripheral oedema

Abdo – No Bruits, No AAA, Nil else of note

All PPP

CNS/PNS – Nil of note

Case (2)

Given the clinical findings, which of the acute interventions is contra-indicated at this time?

- A. Aspirin
- B. Clopidogrel
- C. tPA
- D. LMWH
- E. Atorvastatin
- F. Ramipril

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Case (2)

The most likely cause of his hypoxia is:

- A. Lobar pneumonia
- B. Idiopathic pulmonary fibrosis
- C. Acute exacerbation of COPD
- D. Pulmonary oedema
- E. Bronchiectasis

Case (2)

In the first 24 hours he is given the following medications:-

- Aspirin and clopidogrel
- Bisoprolol
- Ramipril
- GTN (infusion)
- Furosemide
- tPA and LMWH
- Atorvastatin
- Insulin infusion

Case (2)

In the morning after his admission he develops a wheezy dry cough. Which of the medications he was given is the most likely cause?

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- B. Bisoprolol
- C. Atorvastatin
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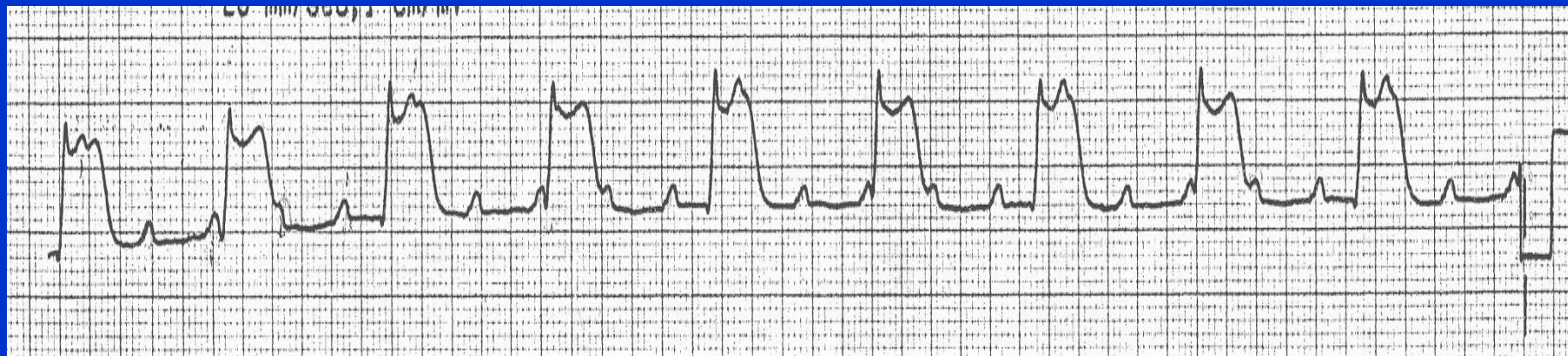
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Case (2)



On the morning ward round the above rhythm strip is obtained. The best description of this rhythm is:

- A. Sinus arrhythmia
- B. Mobitz type 1
- C. Mobitz type 2
- D. 2:1 second degree heart block
- E. Complete heart block



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Case (2)

Despite these regular medications, and the addition of amlodipine, he continues to complain of shortness of breath and central chest 'discomfort'.

Whilst awaiting transfer for PCI, which further single intervention would you add for his on-going chest pain?

- A. Diltiazem
- B. Furosemide
- C. Nicorandil
- D. abciximab
- E. Ivabradine

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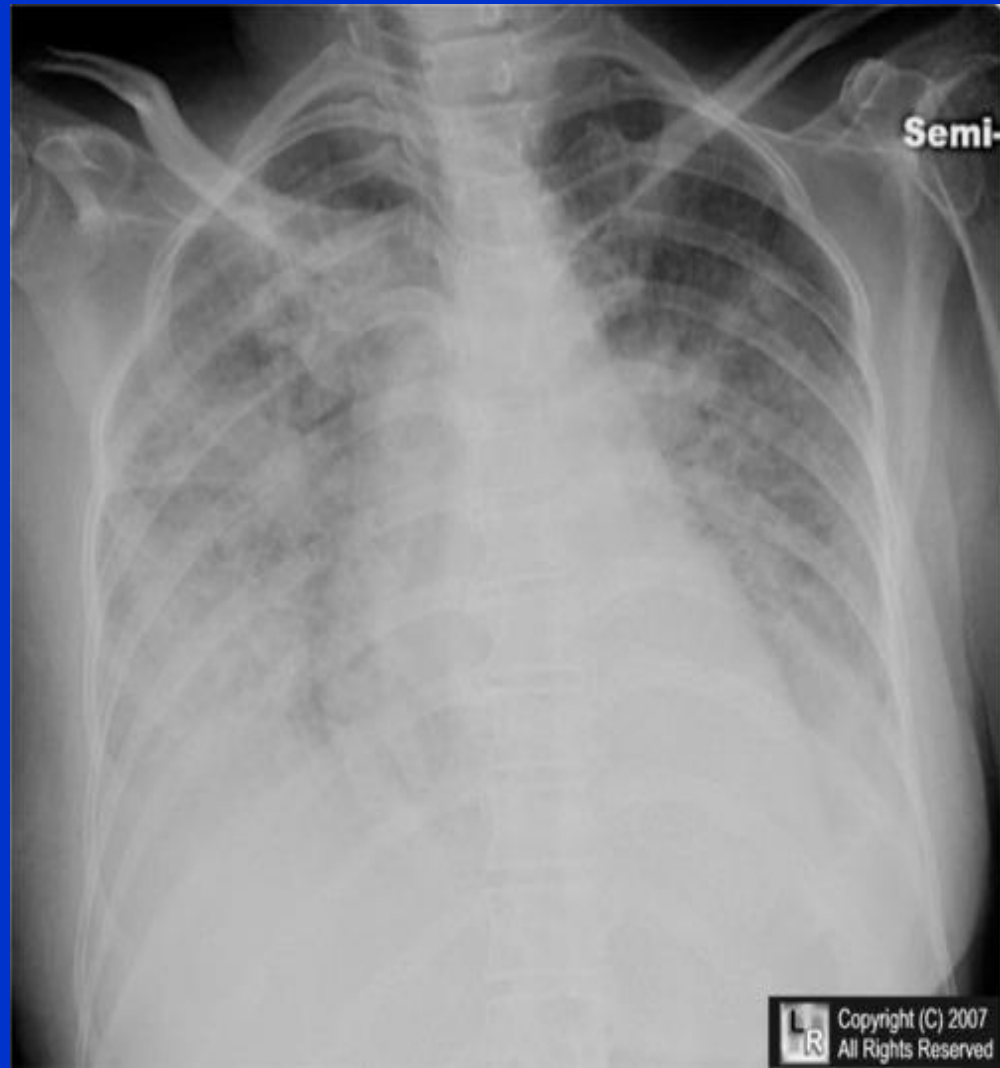
He continues to feel unwell and short of breath despite maximising his medications.

Vitals: BP 130/70, HR 110, O₂ sats 84% on 2l/min

His chest radiograph is shown opposite.

The next best single intervention would be:

- A. Furosemide
- B. Dobutamine
- C. Dopamine
- D. GTN infusion
- E. Metolazone



<http://www.learningradiology.com/caseoftheweek/caseoftheweekpix2007-1/cow267lg.jpg>

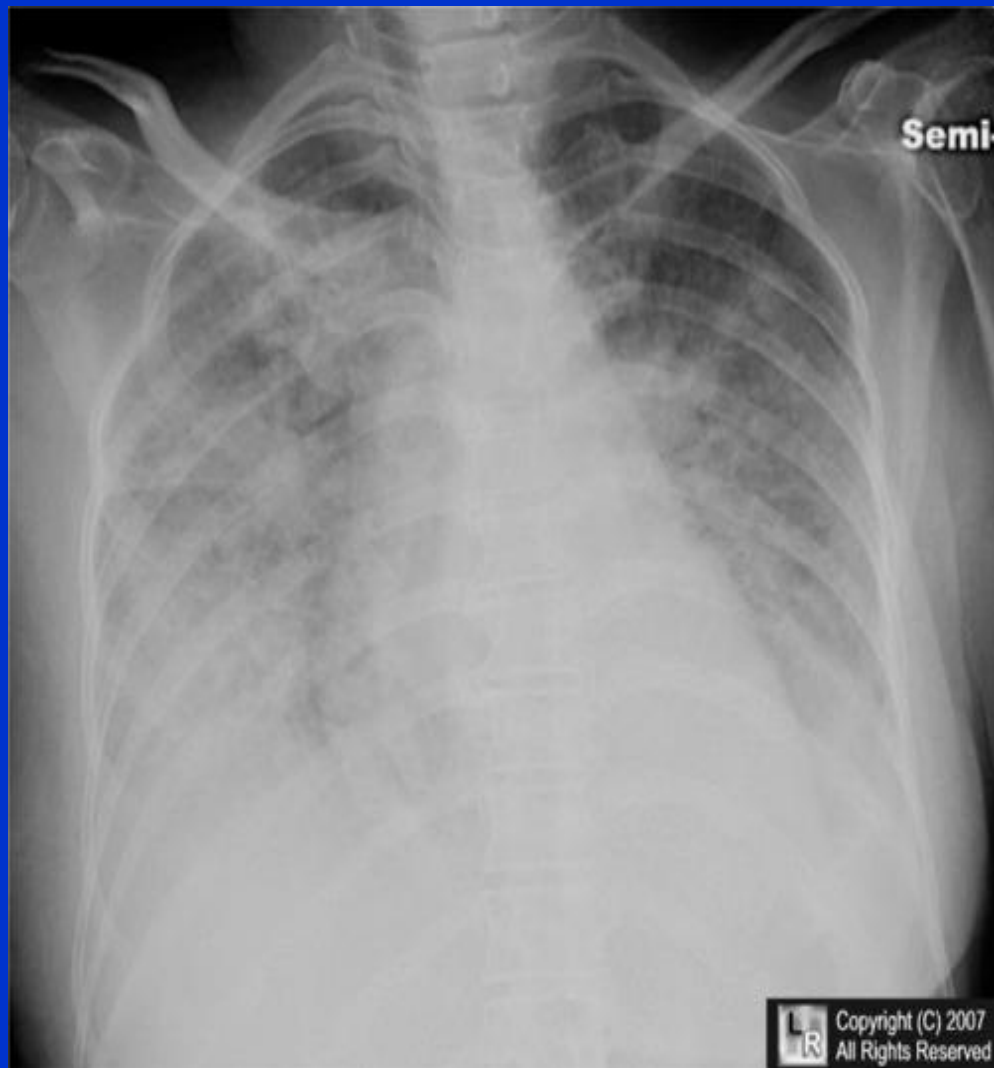
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Case (2)

On examination he looks clammy, 'grey' and unwell.

Vitals: BP 110/78, HR 120 regular, O₂ sats 93% on 5l/min, RR 22 / min.

Chest: Bilateral crackles to the mid zones

CV JVP +8cm, HS I+II+III+ 4/6PSM at the apex.

Abdo – NAD

LL – No oedema / DVT

Case (2)

The most likely cause of the heart failure and new pansystolic murmur (PSM) is:

- A. Aortic stenosis
- B. Atrial septal defect
- C. Ventricular septal defect
- D. Localised pericarditic rub
- E. Acute Mitral valve endocarditis

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Case (2)

Despite maximal medical therapy he continues to deteriorate and dies that evening on CCU, less than 24 hours after admission.

In view of the circumstances of his death:

- A. A death certificate can not be issued
- B. A hospital post mortem is obligatory
- C. A coroner's post mortem is obligatory
- D. A death certificate can be issued immediately
- E. A death certificate can be issued but a cremation paper can not be completed without discussion with the coroner.

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If a death certificate is issued, it should read:

- A. 1a – Left ventricular failure
 1b – Acute myocardial infarction
 1c – Hypertension
 2 – obesity, hypercholesterolaemia

- B. 1a – Acute LVF
 1b – Acute STEMI
 2 - ↑ BP

- C. 1a – Left ventricular failure
 1b – Acute myocardial infarction
 2 – Hypertension; obesity; hyperlipidaemia

- D. 1a – IHD
 1b – hypertension
 1c – Hyperlipidaemia
 2 - Obesity

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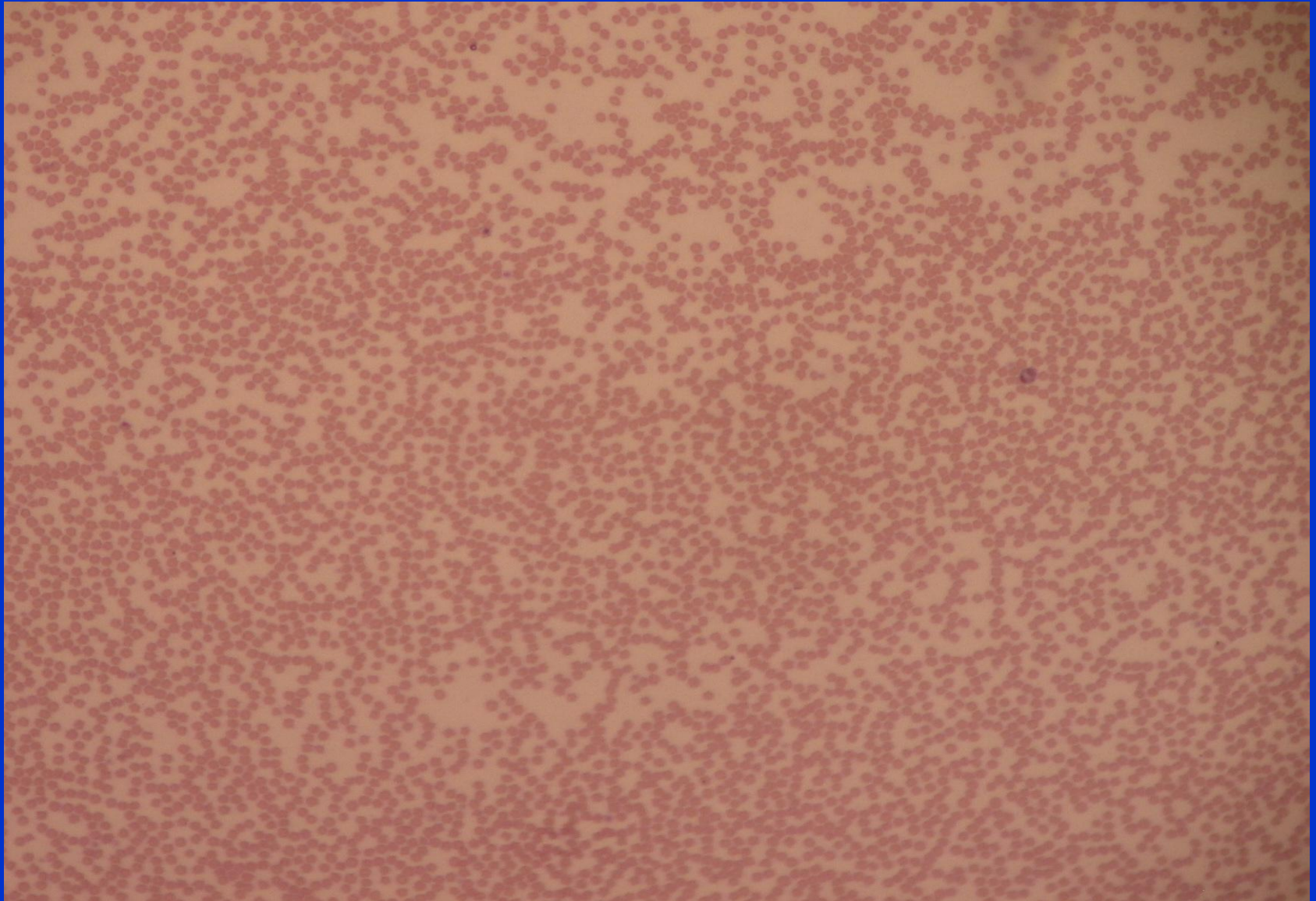
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- D. 1a – IHD
 1b – hypertension
 1c – Hyperlipidaemia
 2 - Obesity

Case (3)



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An 81-year-old woman presents in the ED with an 8-hour history of fever, rigors and vomiting. Of note she completed her 2nd cycle of chemotherapy for metastatic breast cancer, 5 days ago.

Her initial blood tests reveal:

FBC: Hb 6.4g/dl, MCV 99fl, WCC $0.23 \times 10^9/L$ [neutrophils 64%, Lymphocytes 31%], Platelets $39 \times 10^9/L$.

U&Es: Na⁺ 148 mmol/l, K⁺ 5.9mmol/l, Urea 15.6mmol/l, Creatinine 111μmol/l

RBG: 11.6mmol/l

Case (3)

Ideally - this patient should be treated:

- A. In a shared bay on a general medical or oncology ward.
- B. With reverse barrier nursing in an isolation room.
- C. In an intensive care setting.
- D. With barrier nursing in a side room.
- E. By transfer to a specialist tertiary referral centre.

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Case (3)

On examination she looks unwell and is slightly confused.

BP 105/70, HR 133bpm, Temp 39.3°C, CBG 5.4mmol/l, RR – 22 / min, O₂ sats 98% on nasal prongs

CVS, RS, abdom exams otherwise unremarkable.

CNS/PNS – Moving all 4 limbs, no meningism, no rashes.

Case (3)

Which one of the following biochemical abnormalities is most likely to be the cause of her confusion?

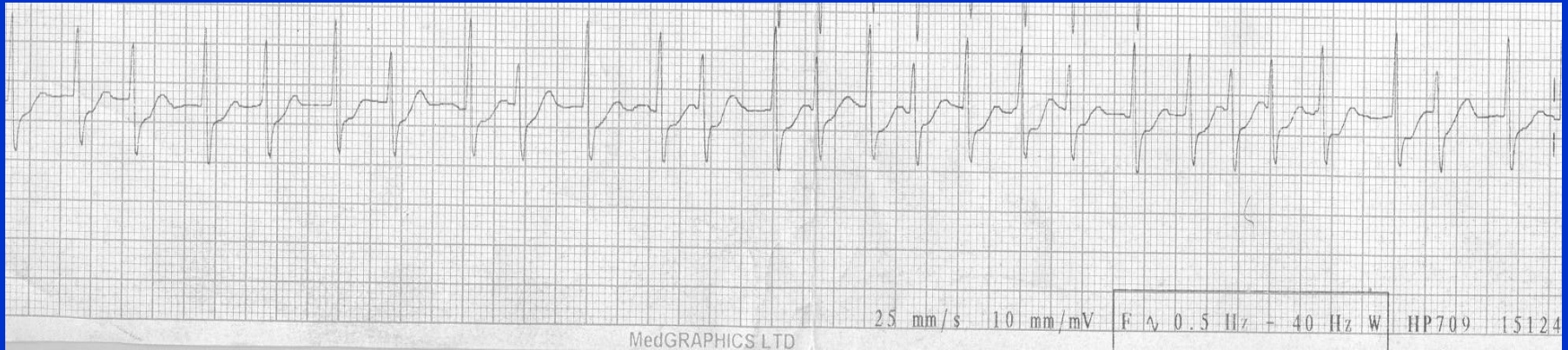
- A. Na^+ 148mmol/L
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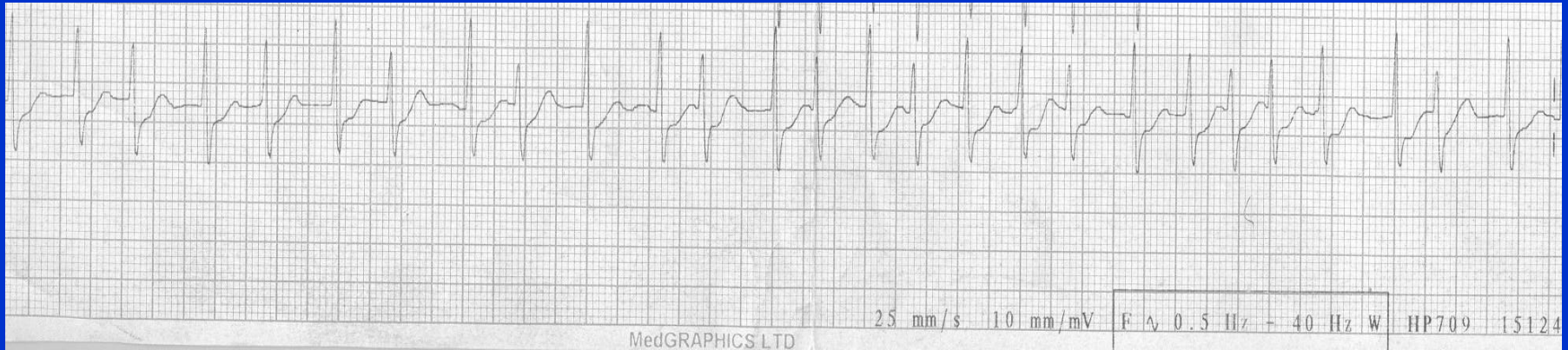
Case (3)



An ECG rhythm strip is obtained (shown above).
The best single treatment would be:

- A. Metoprolol
- B. Verapamil
- C. Digoxin
- D. Adenosine
- E. Ivabradine

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Case (3)

In view of the examination and investigation findings she is given 4 units of blood. Her BP is now 110/70 mmHg and her urine output has been 24, 21 and 31ml over the last 3 hours. She is guestimated to be 50Kg.

Which of the following fluid regimes would be most appropriate over the next 24 hours?

- A. 1 litre
- B. 3 litres
- C. 6 litres
- D. 10 litres
- E. 12 litres

Case (4)

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She is started on Intravenous antibiotics for 'serious gram negative sepsis'.

Which of the following are more commonly associated with gram positive sepsis?

- A. Biliary sepsis
- B. Diverticulitis
- C. Cellulitis
- D. Hospital acquired pneumonia
- E. Urinary tract infections

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Which combination of antibiotics would be most desirable in this patient?

- A. Benzylpenicillin and flucloxacillin
- B. Augmentin and metronidazole
- C. Amoxycillin and Clarithromycin
- D. Piperacillin and Gentamicin
- E. Cefuroxime and Metronidazole

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Case (3)

In view of this presentation which of the following therapeutic interventions may be added to this patient's medications?

- A. Infliximab (aTNF)
- B. Filgrastim (G-CSF)
- C. Abciximab (aGIIb/IIIa)
- D. EPO (Erythropoetin)
- E. Cetuximab (aEGF)

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Case (4)



Case (4)

An 87-year-old woman presents in the ED having been found on the floor by her neighbour. She had not been seen for two days, hence the neighbour had popped by to see she was alright. She is normally independent but has recently been a 'little forgetful'. Other than hypertension she has no previous medical history of note.

On arrival: Temperature 31.5°C, AMTS 3/10, HR 123bpm, BP 89/57 mm Hg, CBG 14.6mmol/L

urinalysis: Blood ++, Protein ++, Ketones ++, Nitrites - neg, Leucs +++

Chest – right lower zone crackles

CV: HS 1 + 2 + harsh PSM at apex

No oedema / No DVT

Abdo – SNT, BS – sparse

CNS / PNS – Nil focal

Left lower limb – shortened and externally rotated; neurovasc intact

Case (4)

Which other system would you ensure you have assessed and documented?

- A. GYNAECOLOGICAL
- B. JOINTS
- C. MENTAL HEALTH
- D. SKIN
- E. THYROID

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Case (4)

Which one of the diagnoses is NOT supported by the clinical findings?

- A. Aspiration pneumonia
- B. Diabetic keto-acidosis
- C. Fractured neck of femur
- D. Hypothermia
- E. Urinary Tract Infection

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Case (4)

Her CK is 23,000iu/L; Which is the most likely cause of this result?

- A. Acute Myocardial infarction
- B. Acute Kidney Injury
- C. Dermatomyositis
- D. Pulmonary embolism
- E. Rhabdomyolysis

Case (4)

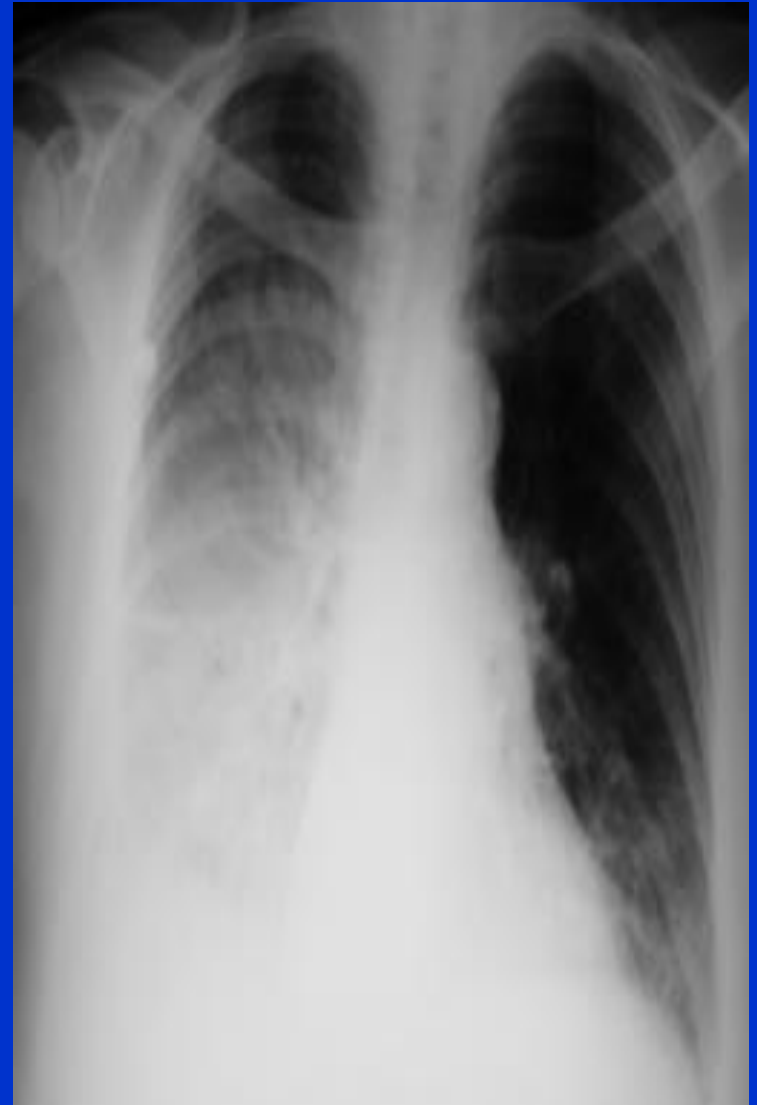
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Case (4)

This is her CXR on admission. Which of the following is the likeliest cause of the chest signs?

- A. Aspiration pneumonia
- B. Bronchial carcinoma
- C. Bronchiectasis
- D. Macleod's syndrome
- E. Tuberculosis



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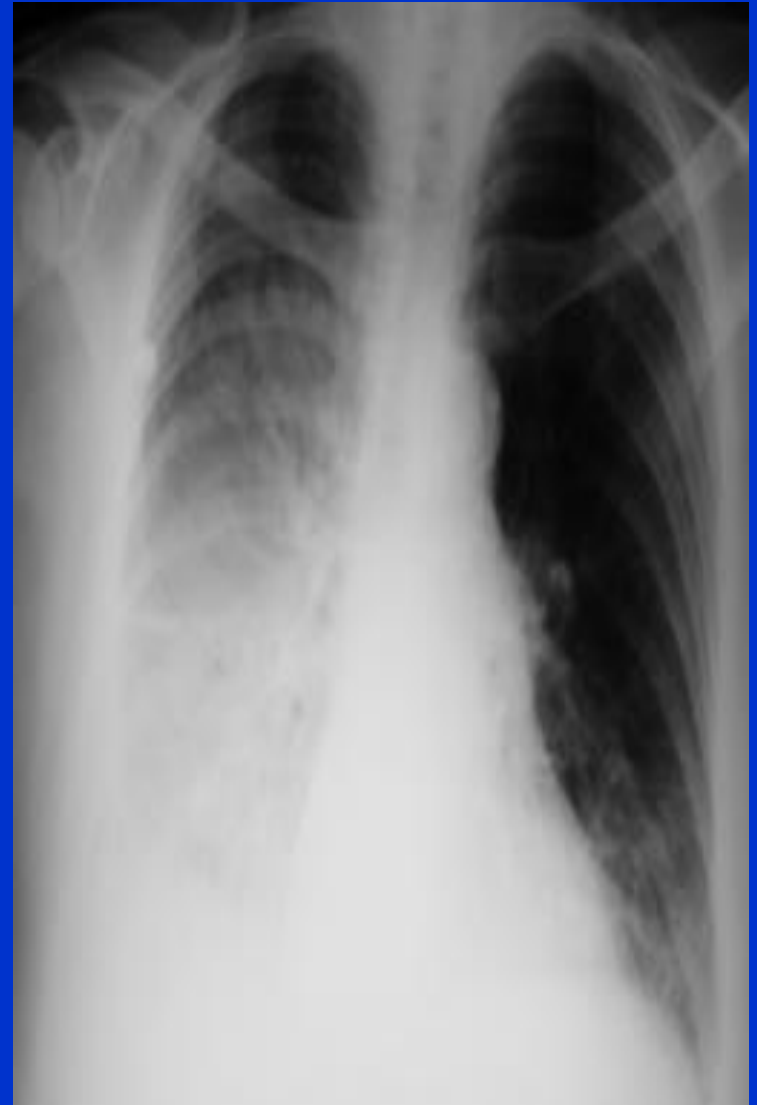
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Case (4)

Her initial arterial blood gases on 10L/min show:

pH 7.06

PaCO₂ 6.8KPa

PaO₂ 12.4KPa

SATS 89%

Bicarb 11.6mmol/L

Base excess – minus14.5

Lactate 8.1mmol/L

Case (4)

What is the principal cause for the pH derangement?

- A. Chronic renal failure
- B. Chronic vomiting
- C. Hypercapnia
- D. Lactic acidosis
- E. Renal Tubular acidosis

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She is seen by the ITU consultant and it is decided that she should be stabilised prior to any necessary surgery. She is intubated and ventilated and treated with inotropes, fluids and IV antibiotics. She has no known allergies

Which of the following combinations of antibiotics would be appropriate?

- A. Trimethoprim and amoxycillin
- B. Benzylpenicillin and flucloxacillin
- C. Ciprofloxacin and cephalexin
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- E. Augmentin and Co-amoxyclav

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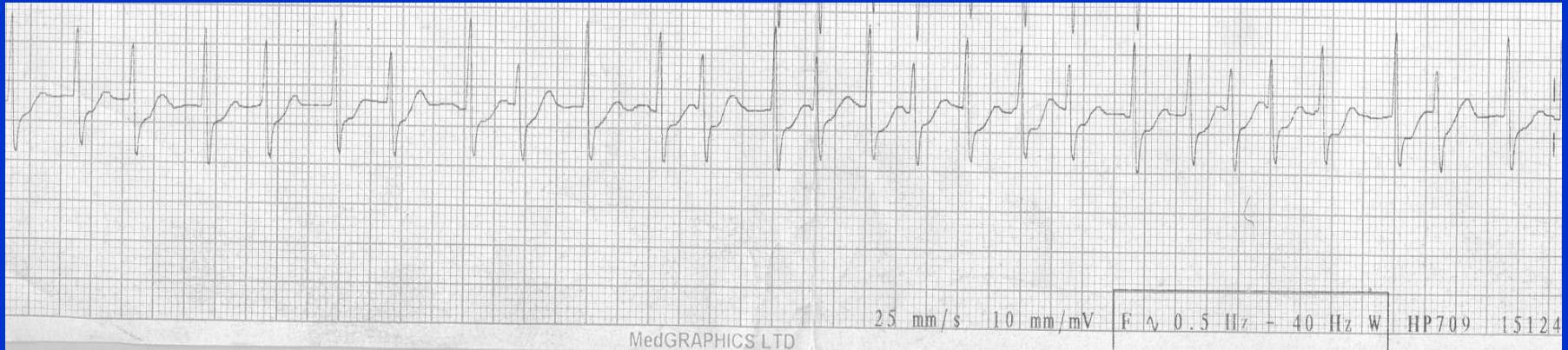
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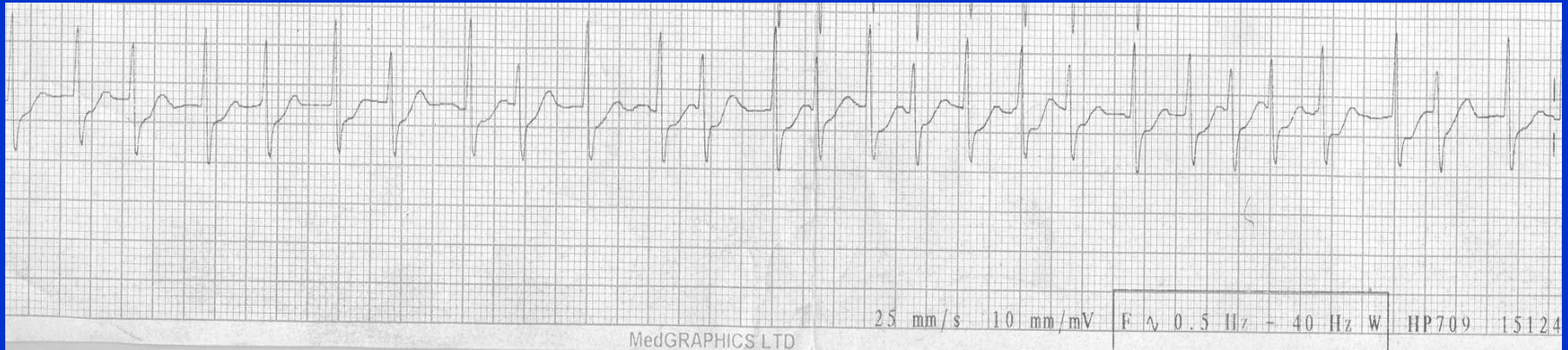
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In view of the examination and investigation findings she is given 4 units of blood. Her BP is now 110/70 mmHg and her urine output has been 24, 21 and 31ml over the last 3 hours. She is guestimated to be 50Kg.

Which of the following fluid regimes would be most appropriate over the next 24 hours?

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- C. 6 litres
- D. 10 litres
- E. 12 litres

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Which combination of antibiotics would be most desirable in this patient?

- A. Benzylpenicillin and flucloxacillin
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In view of this presentation which of the following therapeutic interventions may be added to this patient's medications?

- A. Infliximab (aTNF)
- B. Filgrastim (G-CSF)
- C. Abciximab (aGIIb/IIIa)
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