



The Hong Kong College of Anaesthesiologists

Final Fellowship Examinations

Paper II - Investigations

25 April 2022 (Monday)

Online

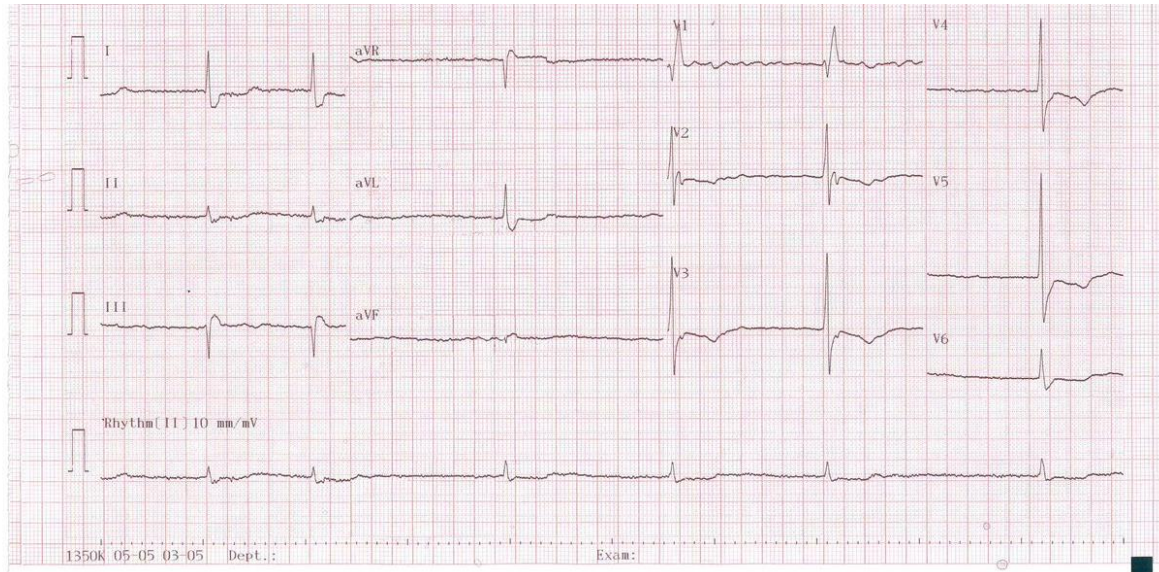
Question 1

A 68-year-old man who had a mitral valve replacement done was found to have continuous drain output in ICU. An investigation had been done as shown below:

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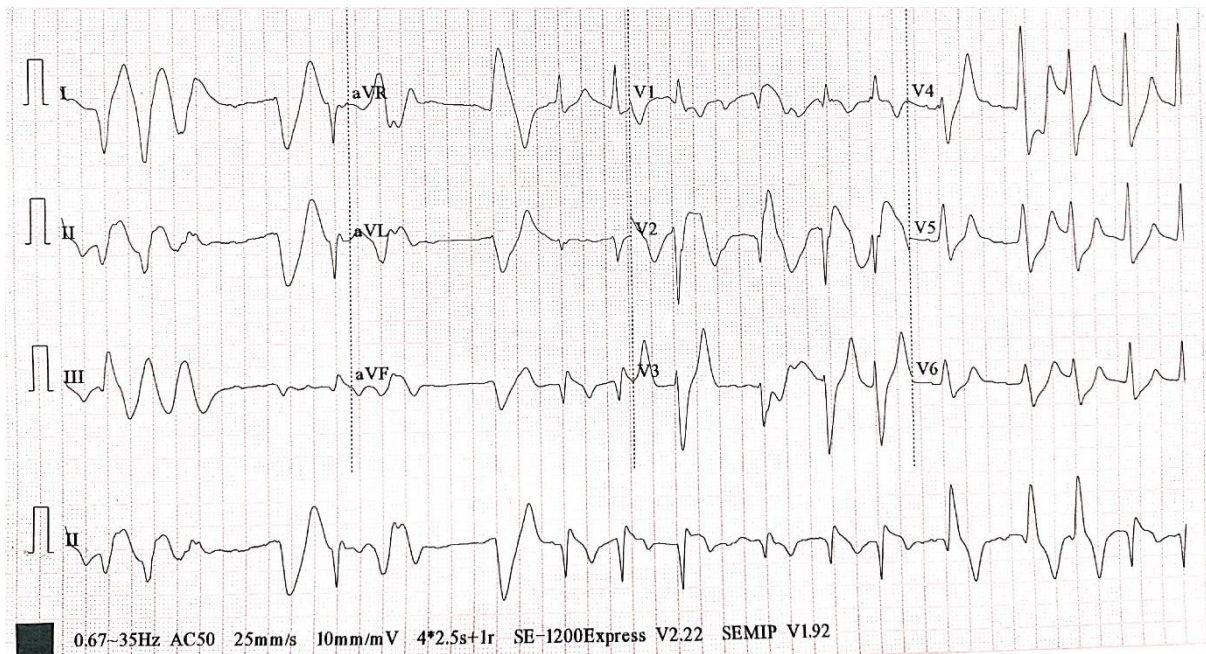
- (a) What was the cause of the bleeding? (1 mark) Justify your diagnosis. (1 mark)
 (b) What should be the therapeutic treatment for this patient? (1 mark)

Question 2



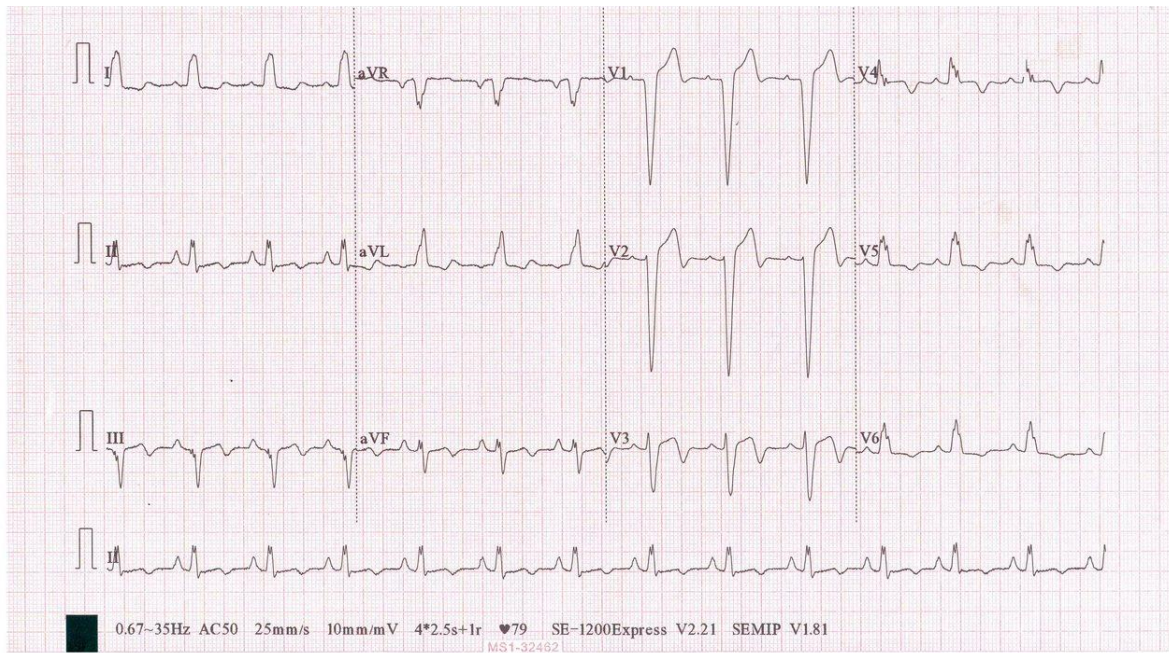
- (a) List **TWO** ECG abnormalities. (2 marks)
- (b) What medication can cause the above ECG abnormalities? (1 mark)

Question 3



- (a) List **THREE** ECG abnormalities. (3 marks)
- (b) What causes the ECG abnormalities? (1 mark)

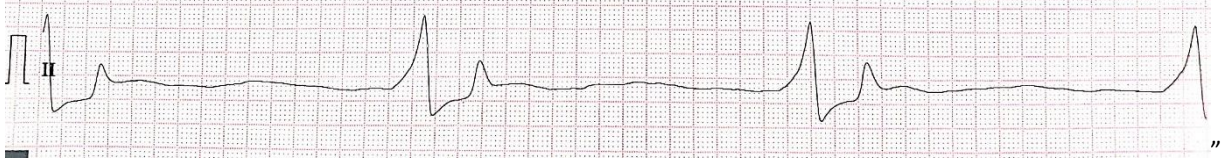
Question 4



List **TWO** ECG abnormalities. (2 marks)

Question 5

A 45-year-old diabetic man is brought to the hospital for unconsciousness. The following is his cardiac monitoring stripping on arrival to the hospital and blood test results.



Parameters	Values	Normal range
Sodium	116 mmol/L	134-143 mmol/L
Potassium	9.1mmol/L	3.5-5.0 mmol/L
Urea	38.6 mmol/L	3.1-8.1 mmol/L
Creatinine	385 µmol/L	50-90 µmol/L
Glucose	24.8 mmol/L	
Beta-hydroxybutyrate	12.5 mmol/L	<0.3 mmol/L
Serum osmolarity	291 mOsm/Kg	275-295 mOsm/Kg
Urine sodium	27 mmol/L	
Urine osmolality	519 mmol/Kg	

He is just intubated and ventilated with bag valve resuscitator using high flow oxygen. His SpO2 is now 100%, blood pressure 100/50mmHg and heart rate 45/min with adrenaline infusion.

- (a) What drug injection will you give this patient urgently now? (1 mark)
- (b) Name **THREE** treatment options after the above drug was injected? (3 marks)
- (c) What is the cause of the hyponatraemia? (1 mark) What is the biochemical mechanism? (1 mark)
- (d) What is the corrected sodium level? (1 mark)

Question 6

A 75-year-old man, who had a right lower lobe lobectomy for lung carcinoma two years ago, is booked for an emergency internal fixation of the fracture right femur. He was hospitalized in the medical ward for confusion but sustained a fall last night in the toilet of the medical ward. Central nervous system infection and intracranial pathologies had been ruled out by lumbar puncture and imaging. The following is his blood result on the day of hospitalization,

	Day of admission	Reference
Sodium (mmol/L)	148 mmol/L	134-145 mmol/L
Potassium (mmol/L)	3.7 mmol/L	3.5-5.0 mmol/L
Chloride (mmol/L)	109 mmol/L	97-107 mmol/L
HCO ₃ (mmol/L)	33 mmol/L	24-34 mmol/L
Albumin (g/L)	15 g/L	35-40 g/L
Urea (mmol/L)	12.8 mmol/L	3.1-8.1 mmol/L
Creatinine (μmol/L)	36 μmol/L	60-100 μmol/L
Total calcium (mmol/L)	2.59 mmol/L	2.2-2.55 mmol/L
Phosphate (mmol/L)	0.86 mmol/L	0.78-1.05 mmol/L

- (a) What is the most likely cause of confusion? (1 mark) Justify your diagnosis. (1 mark)
(b) Name **FOUR** treatment options on his cause of confusion. (4 marks)

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