

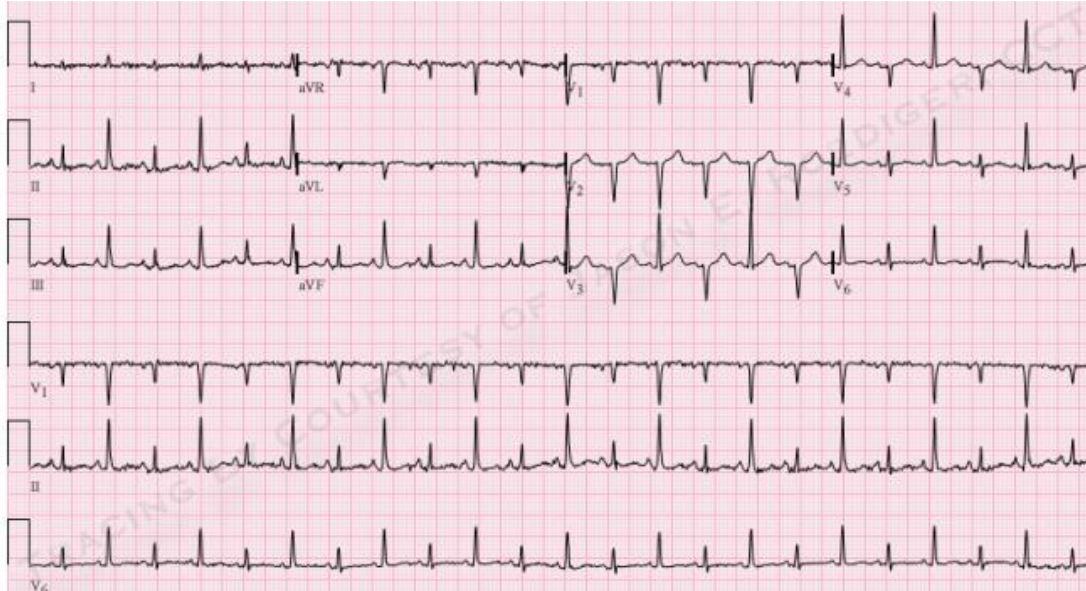
Critical Appraisal of Literature

There are 8 questions in this section, based on the paper by S. Angerman and others (Anaesthesia 2018, 73, 348–355), including its supplemental content (all in one pdf file).

1. Was this a controlled or uncontrolled study? (1 mark)
2. Was the data collected retrospectively or prospectively? (1 mark)
3. Was the design of the study a retrospective or prospective one? (1 mark)
4. What are some of the limitations of this before and after study? (2 marks)
5. Please name one potential confounder to this study not mentioned in the paper. (1 mark)
6. What other factors could have accounted for the observed results apart from the C-MAC and Frova introducer? (1 mark)
7. Why was propensity matching not done in this study? How may it have impacted on the outcome. (2 marks)
8. What is the limitation of patient characteristics given in table 1? (1 mark)

Investigations

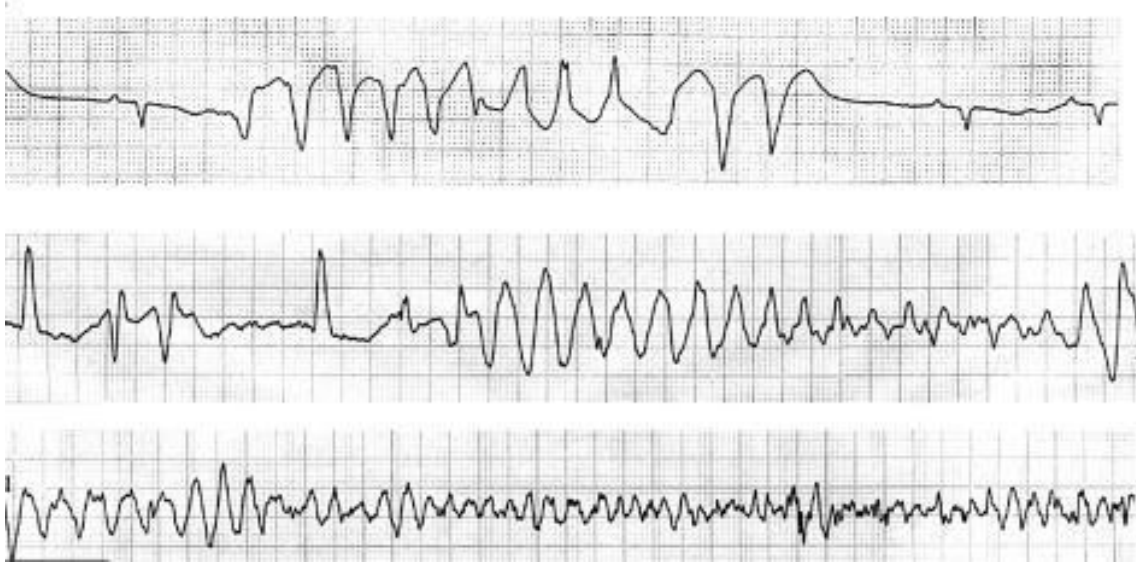
9. A 53-year-old man chronic smoker presents to the emergency department with progressive shortness of breath over 5 days and is hypotensive. He was discharged home a week ago after having undergone an uneventful coronary artery bypass grafting surgery.



- a) What are the abnormalities on this ECG and what is the likely diagnosis? (4 marks)
- b) Suggest 4 initial management plans. (4 marks)

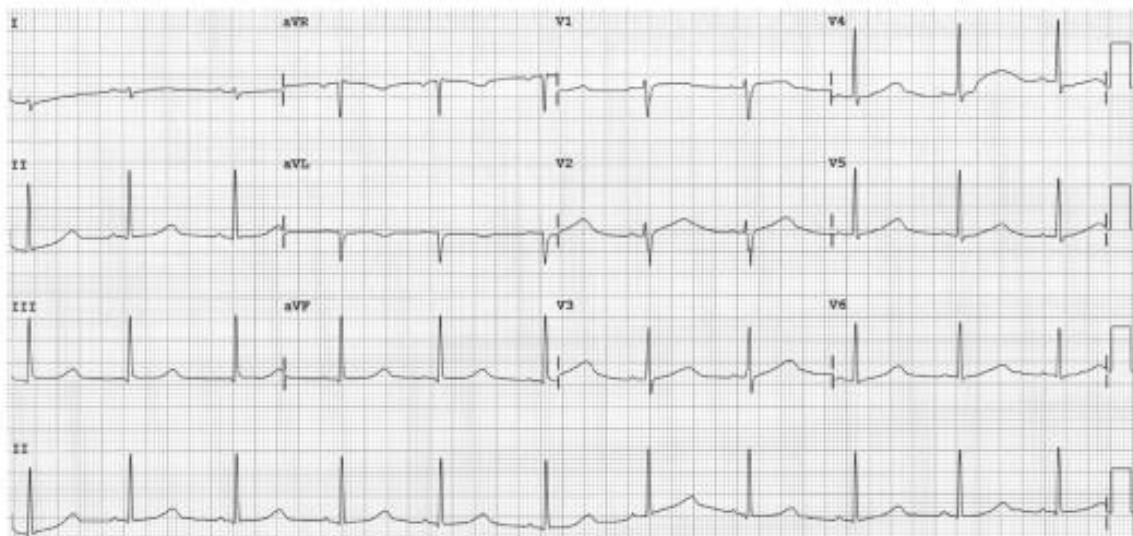
10. A 60-year-old female presented to the emergency department with episodic dizziness & palpitation, he developed a sudden cardiac arrest, requiring 2 minutes of cardiopulmonary resuscitation and a single defibrillation before return of spontaneous circulation. Patient is now awake on oxygen mask and haemodynamically stable.

The ECG rhythm strip at the time of the cardiac arrest:



- a) What does the rhythm strip show? (1 marks)

Subsequent ECG was taken.



HR: 68

PR: 0.16s

QRS: 0.05s

QT/QTc: 0.528s/0.562s

b) What is the abnormality in this ECG? (2 marks)

c) List 5 causes that may lead to this abnormality. (5 marks)

11. A 65-year-old man was booked for an emergency insertion of an external ventricular device of intracranial pressure monitoring. He sustained a fall two days ago with a CT scan showing bilateral frontal haemorrhage. His GCS drop from 14/15 to 10/15 with two episodes of vomiting. He was recently diagnosed to have an anxiety disorder and started on SSRI two months ago. The following were his vital signs and blood test results. His tongue mucosa was dry with decreased skin turgor.

	00:00	02:00	04:00	06:00
Serum Sodium (mmol/L)	120			119
Serum Potassium (mmol/L)	4.1			3.8
Serum Urea (mmol/L)	6.4			5.9
Serum Creatinine (mmol/L)	60			60
Serum Osmolality (mmol/kg)	267			253
Urine Sodium (mmol/L)	145			165
Urine Osmolality (mmol/kg)	819			922
Urine output (ml) (ml per hour)	120	150	150	200

- What is the most likely diagnosis? (1 mark)
- How to differentiate this from the other important differential diagnosis with hyponatremia in neurosurgical patients? (2marks)
- What is the pathophysiological mechanism of the diagnosis? (3 marks)
- What pharmacological treatment should be initiated? (1 mark)

12. A 28-year-old woman is booked for elective laparoscopic bilateral adrenalectomy. She received a total thyroidectomy for her medullary carcinoma of the thyroid five years ago. The following laboratory results are the workup of her adrenal tumour.

Tests	Value	Reference interval
Urine volume (litres)	1.61	
24hr Urine Metanephrine	592	<216 nmol/day
24hr Urine Normetanephrine	1619	<312nmol/day
24hr 3-methoxytyramine	210	<382nmol/day

- a) What is the diagnosis? (1 mark)
- b) What are the possible causes of false-positive results in the above investigation? (2 marks)
- c) What are the preoperative pharmacological treatments? (2 marks)

Radiology

13. History

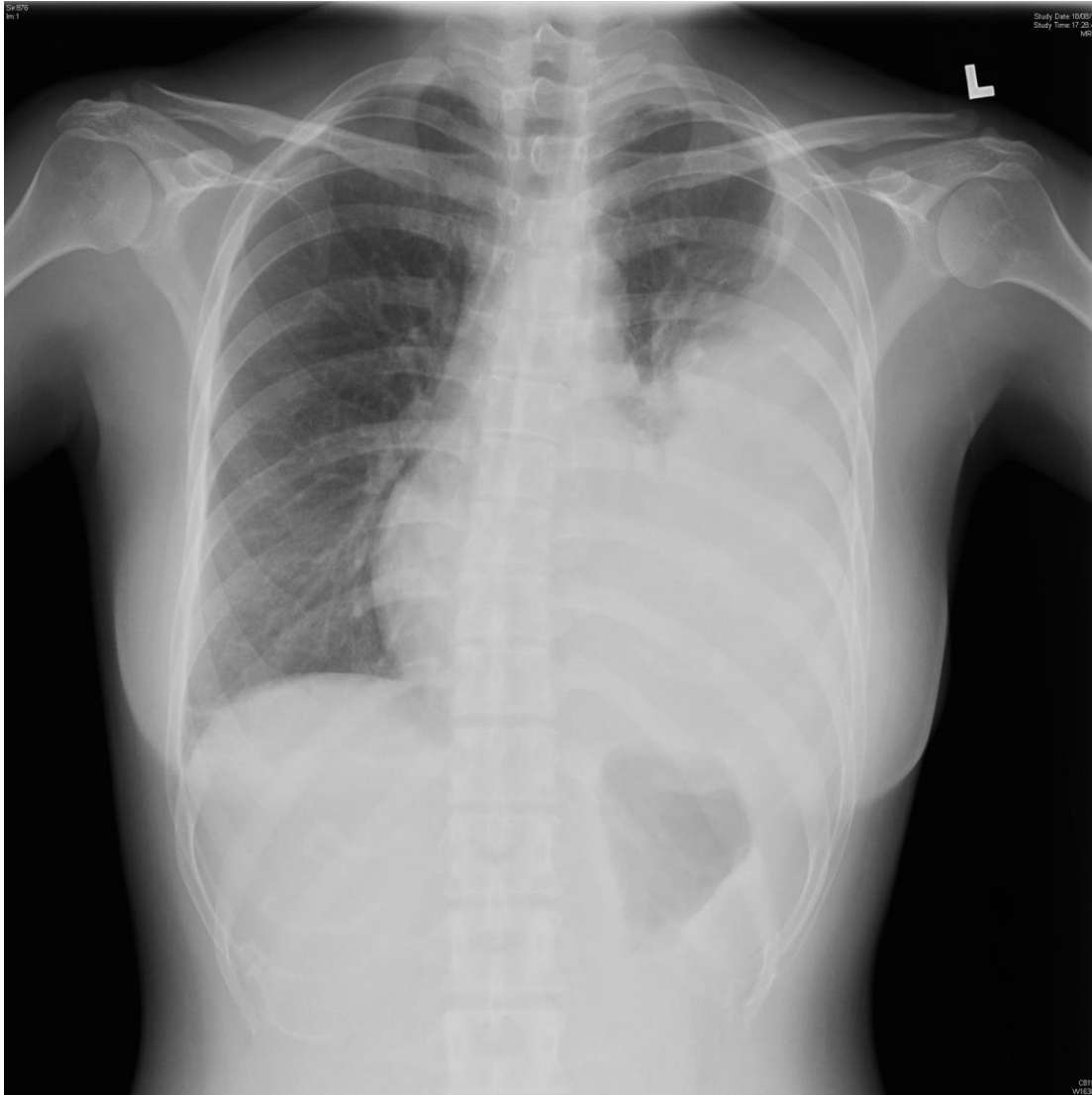
- M/60
- History of hypertension, chronic smoker
- Presented with neck pain and sore throat for 5 days



- Describe two abnormalities. (2 marks)
- What is the diagnosis? (1 mark)
- Name one other investigation you would do? (1 marks)

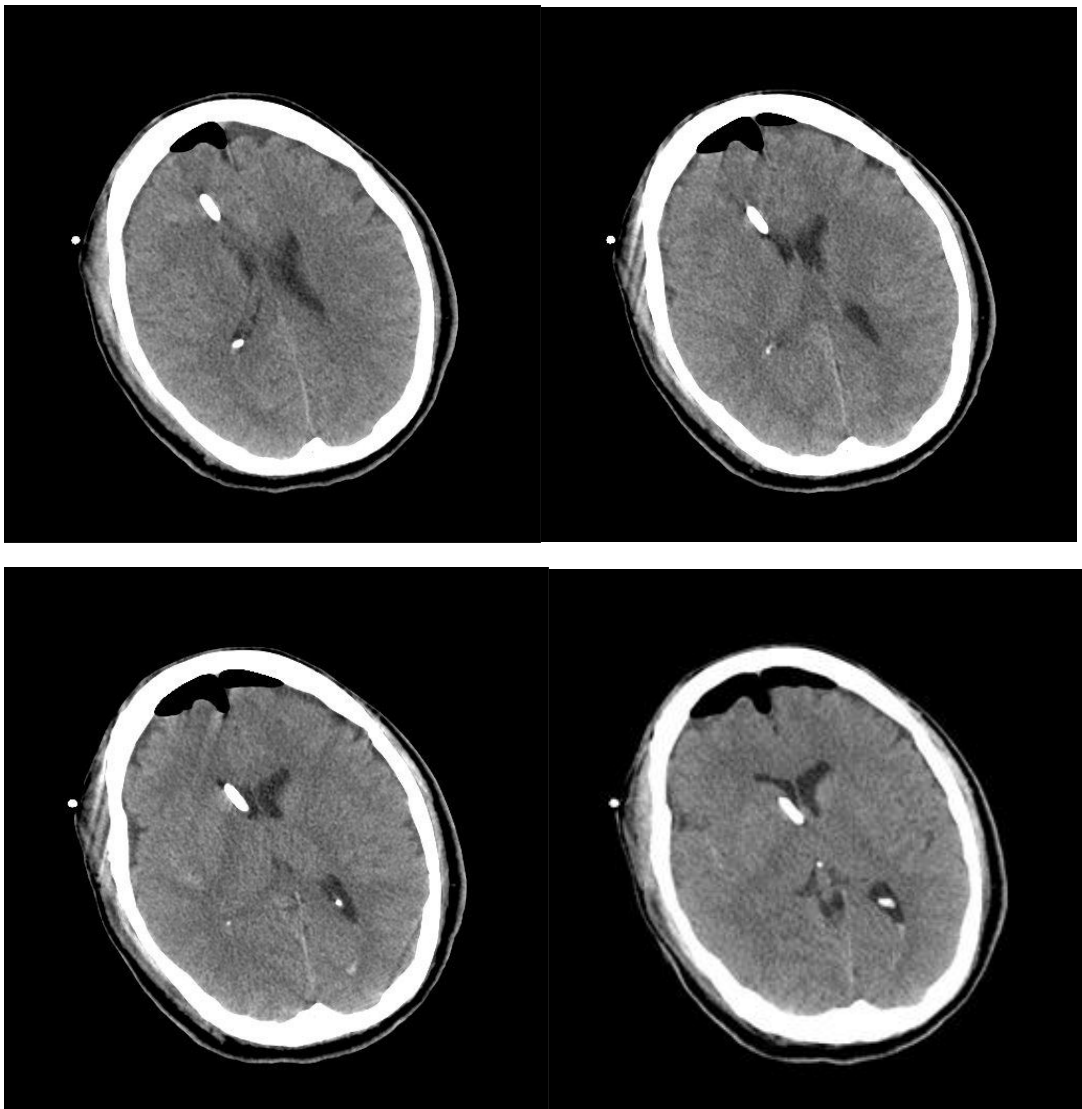
14. History

- F/65
- History of DM, HT, chronic renal failure
- Presented with fever and shortness of breath for 5 days



- Describe two radiological findings. (1 mark)
- List two possible differential diagnoses for this patient. (2 marks)
- List two other imaging techniques you would do. (1 mark)

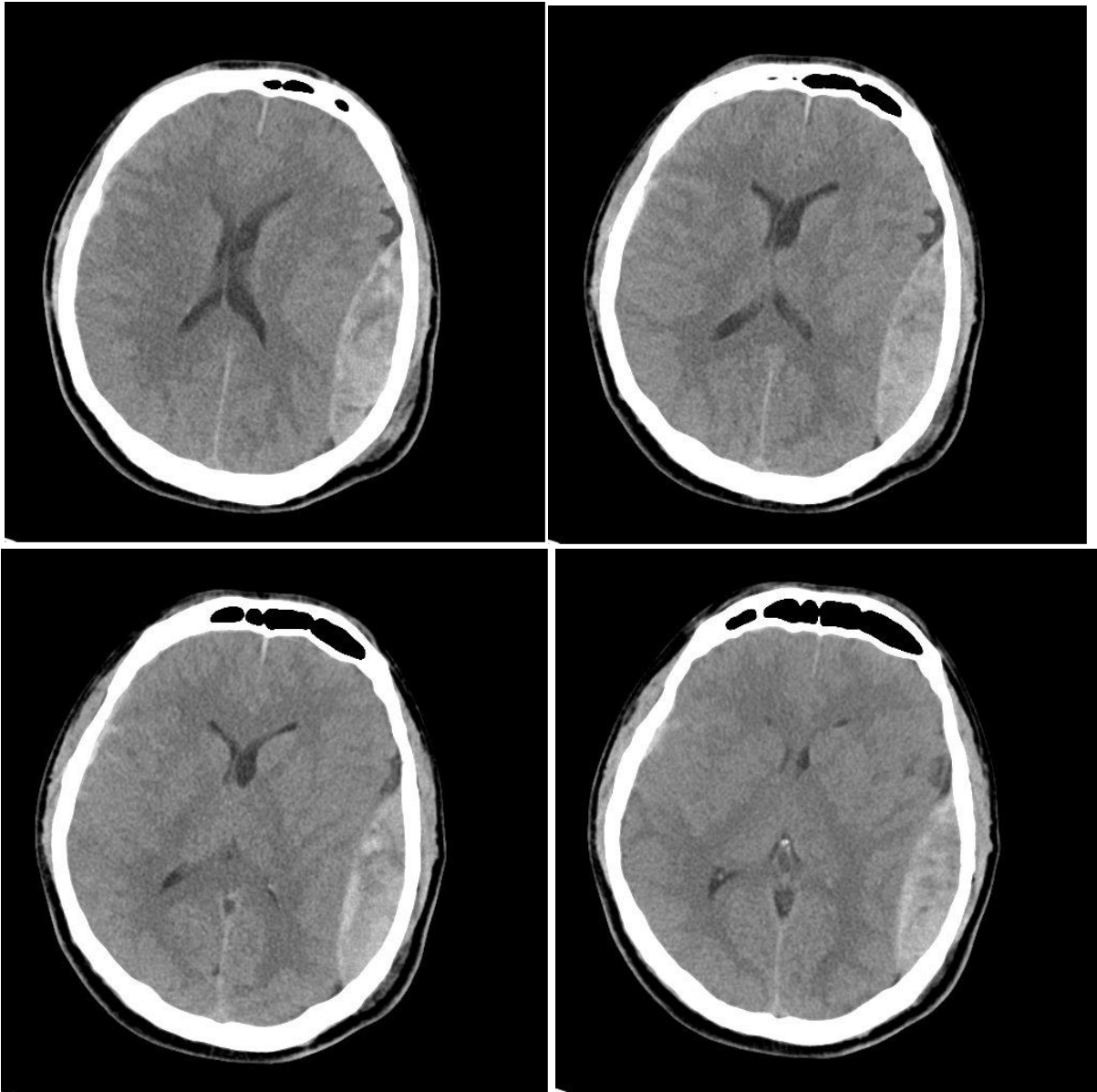
Q15.



CT brain

a. List three abnormalities. (3 marks)

Q16.



CT brain

a. List two abnormalities. (2 marks)