

Critical Appraisal of Literature

There are 8 multiple choice questions in this section, based on the paper by Schönenberger and others (*JAMA*. 2019;322(13):1283-1293), including its supplemental content (all in one pdf file). For each question, choose the ONE best answer.

1. This systematic review and meta-analysis calculate the pooled effect from:
 - A. summary data of three individual randomized trials.
 - B. individual patient data of three randomized trials.
 - C. individual analysis of three randomized trials.
 - D. individual outcome of three randomized trials.
 - E. All of the above.

2. The perceived advantages of general anesthesia in patients undergoing mechanical thrombectomy for acute ischemic stroke include:
 - I. an immobilized patient.
 - II. stable hemodynamic during procedure.
 - III. protected airway.
 - IV. earlier intervention.
 - A. I only.
 - B. I and III only.
 - C. II and IV only.
 - D. I, II and III only.
 - E. I, II, III and IV.

3. The perceived advantages of procedural sedation in patients undergoing mechanical thrombectomy for acute ischemic stroke include:
 - I. clinical monitoring of neurological status.
 - II. earlier intervention.
 - III. lower usage of vasopressor and inotrope therapy.
 - IV. higher rate of reperfusion.
 - A. I only.
 - B. I and III only.
 - C. II and IV only.
 - D. I, II and III only.
 - E. I, II, III and IV.

4. In this meta-analysis, functional outcome at 3 months after an acute was significantly better for patients who received
 - A. general anesthesia for mechanical thrombectomy for acute ischemic stroke in the anterior circulation.
 - B. procedural sedation for mechanical thrombectomy for acute ischemic stroke in the anterior circulation.

- C. coronary artery stenting for acute ischemic stroke in the anterior circulation.
 - D. Intensive rehabilitation acute ischemic stroke in the anterior circulation.
 - E. None of the above.
5. The clinical benefits associated with general anesthesia in patients having thrombectomy for acute ischemic stroke in the anterior circulation, may be related to:
- I. higher rate of reperfusion.
 - II. better procedural conditions.
 - III. shorter procedural time.
 - IV. less pain during the procedure.
- A. I only.
 - B. I and III only.
 - C. II and IV only.
 - D. I, II and III only.
 - E. I, II, III and IV.
6. According to the authors, research is needed in:
- I. determining when primary general anesthesia is indicated to reduce the number of emergency conversions from procedural sedation to general anesthesia.
 - II. the agreement on the standard of care in providing general anesthesia or procedural sedation in patients mechanical thrombectomy for acute ischemic stroke in the anterior circulation.
 - III. the agreement on the choice of vasopressor during mechanical thrombectomy for acute ischemic stroke in the anterior circulation.
 - IV. adopting targets for physiological parameter during in patients mechanical thrombectomy for acute ischemic stroke in the anterior circulation.
- A. I only
 - B. I and III only
 - C. II and IV only
 - D. I, II and III only
 - E. I, II and IV only
7. In this meta-analysis, the “per protocol” analysis included patients:
- I. whose age was 40 years at the time of enrolment
 - II. who received sedation when was actually randomized to the general anesthesia group.
 - III. whose National Institutes of Health Stroke Scale score was 15 at hospital admission
 - IV. who were the same as in the as-treated population
- A. I only
 - B. I and III only
 - C. II and IV only
 - D. I, II and III only
 - E. I, II and IV only

8. In this systematic review and meta-analysis, heterogeneity is:

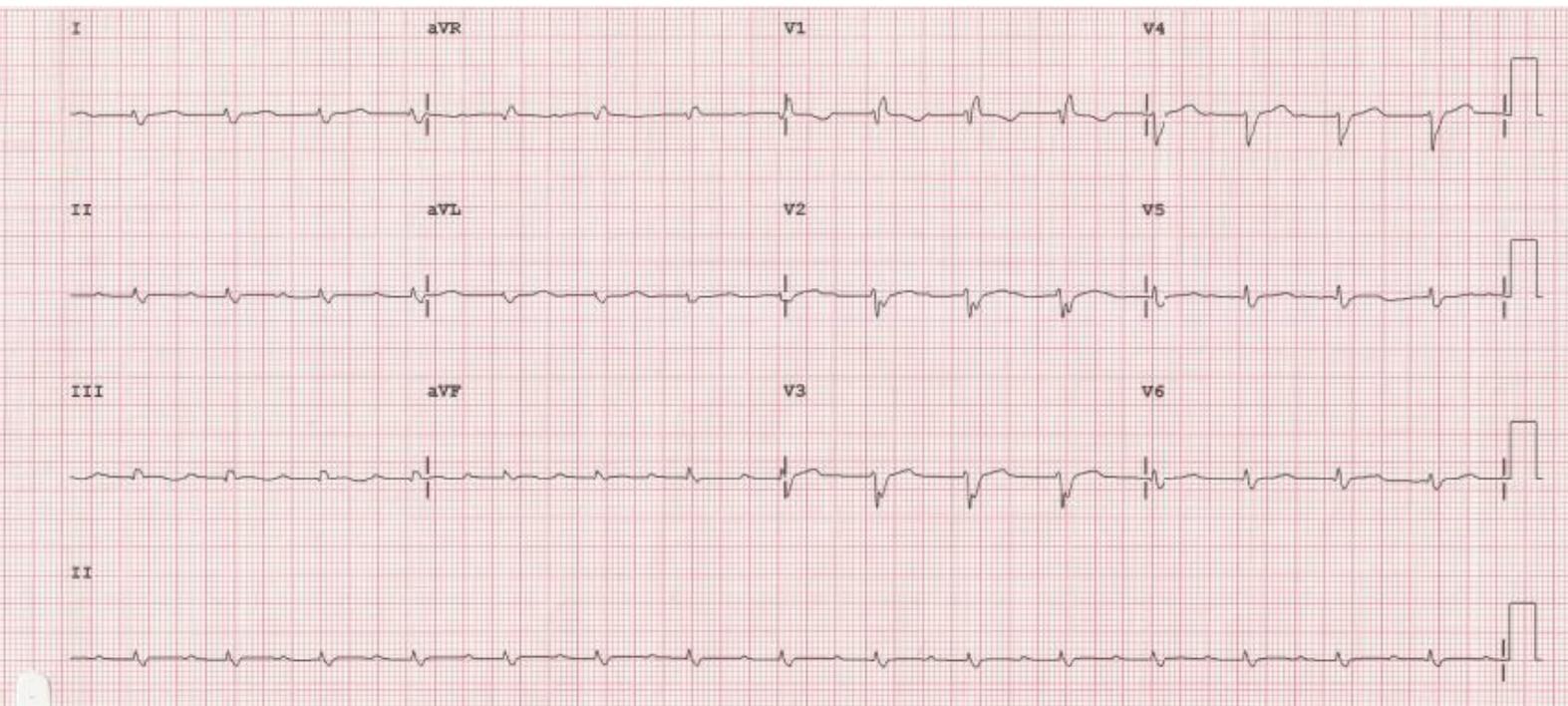
- I. low and non-significant statistically.
- II. is due to different outcome definition between trials
- III. is due to different year of publication between trials
- IV. is illustrated by the subgroup plot in Figure 2.

- A. I only
 - B. I and III only
 - C. II and IV only
 - D. I, II and III only
 - E. I, II and IV only
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Investigations

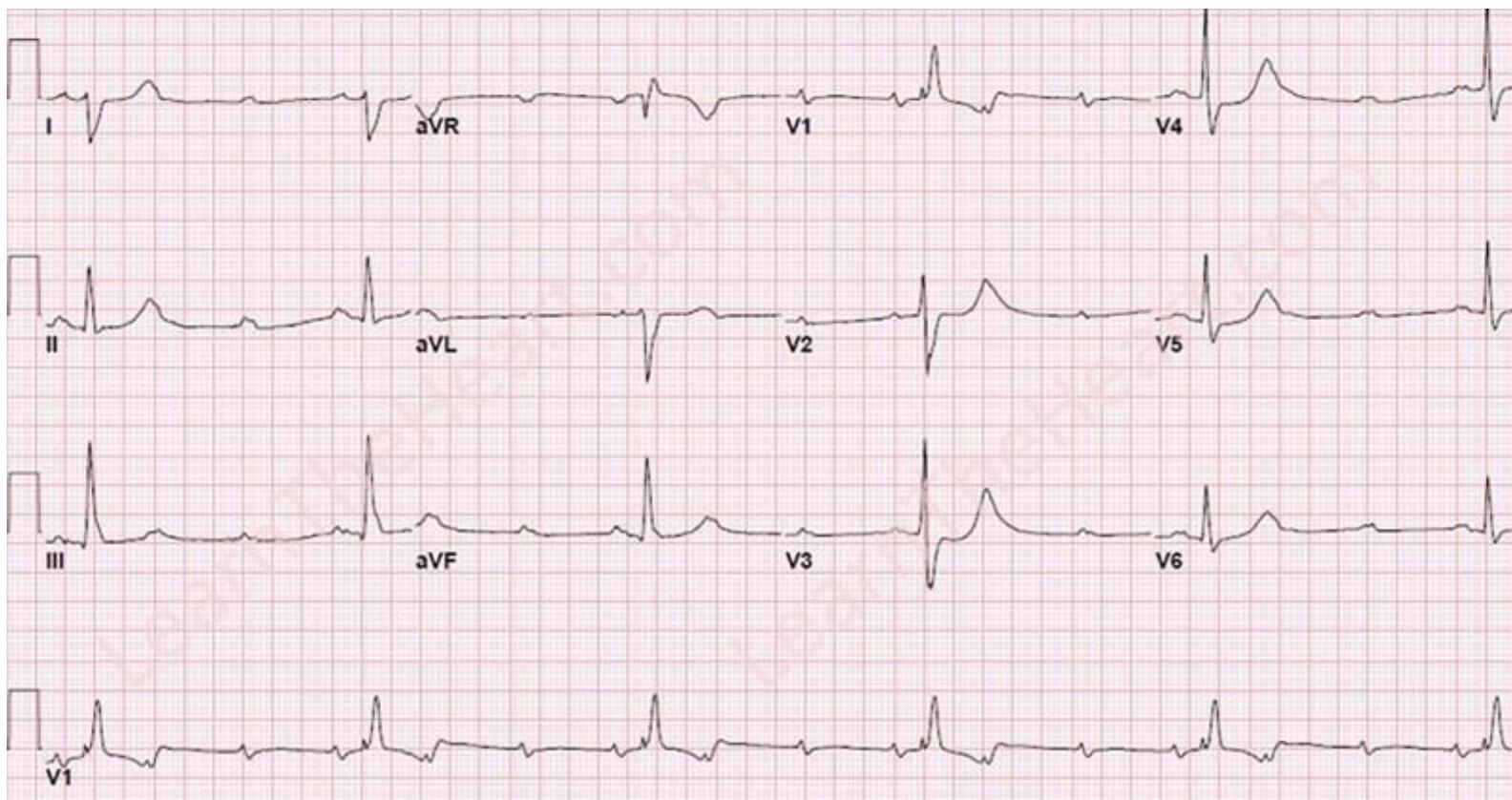
Question 9 refers to the following ECG.

9. List three (3) ECG abnormalities



Question 10 refers to the following ECG.

10. Name four (4) abnormalities?



Questions 11 – 12 refer to the following scenario

A 60-year-old woman was booked for an urgent drainage of back abscess under general anaesthesia. The following was the blood gas result while she was given 2L/min oxygen through nasal prong.

	Result	Normal Range
pH	7.23	7.35-7.45
pCO ₂	2.7 kPa	4.3-6.0 kPa
pO ₂	14.3kPa	11-14.4 kPa
Base excess	-17	-2 - +2
HCO ₃	8 mmol/L	18-23 mmol/L
Sodium	146 mmol/L	134-145 mmol/L
Potassium	3.1 mmol/L	3.5-5.1 mmol/L
Chloride	118 mmol/L	102-114 mmol/L
Lactate	0.6 mmol/L	<1.3 mmol/L

11. List two (2) abnormalities in this blood gas analysis.

12. List two (2) possible causes for these abnormalities.

Question 13 – 14 refer to the following scenario:

A 32-year-old 28-week pregnant woman was booked for emergency Caesarean section under general anaesthesia. She was admitted to the hospital for headache and blurred vision. Her physical examination findings were unremarkable, except for elevated blood pressure 170/90 mmHg.

Biochemistry	Result	Reference range
Sodium	139 mmol/L	137 - 144 mmol/L
Potassium	4.5 mmol/L	3.5 - 5.0 mmol/L
Magnesium	1.84 mmol/L	0.66 - 1.07 mmol/L
Urea	10.8 mmol/L	2.6 - 6.6 mmol/L
Creatinine	181 μ mol/L	49 - 83 μ mol/L
Bilirubin	35 μ mol/L	< 17 μ mol/L
Alkaline phosphatase	237 IU/L	33 - 84 IU/L
Alanine aminotransferase	102 IU/L	< 47 IU/L
Urate	0.55 mmol/L	0.17 - 0.36 mmol/L
LDH	803 U/L	103 - 1996 U/L

Haematology	Result	Normal range
Haemoglobin	8.6 g/dL	11.9 - 15.1 g/dL
MCV	73.1 fL	83.0 - 98.0 fL
MCH	24.6 pg	28 - 34 pg
Platelet	85 x 10 ⁹ /L	150 - 384x 10 ⁹ /L
Rectic	3.6 %	< 2.0 %

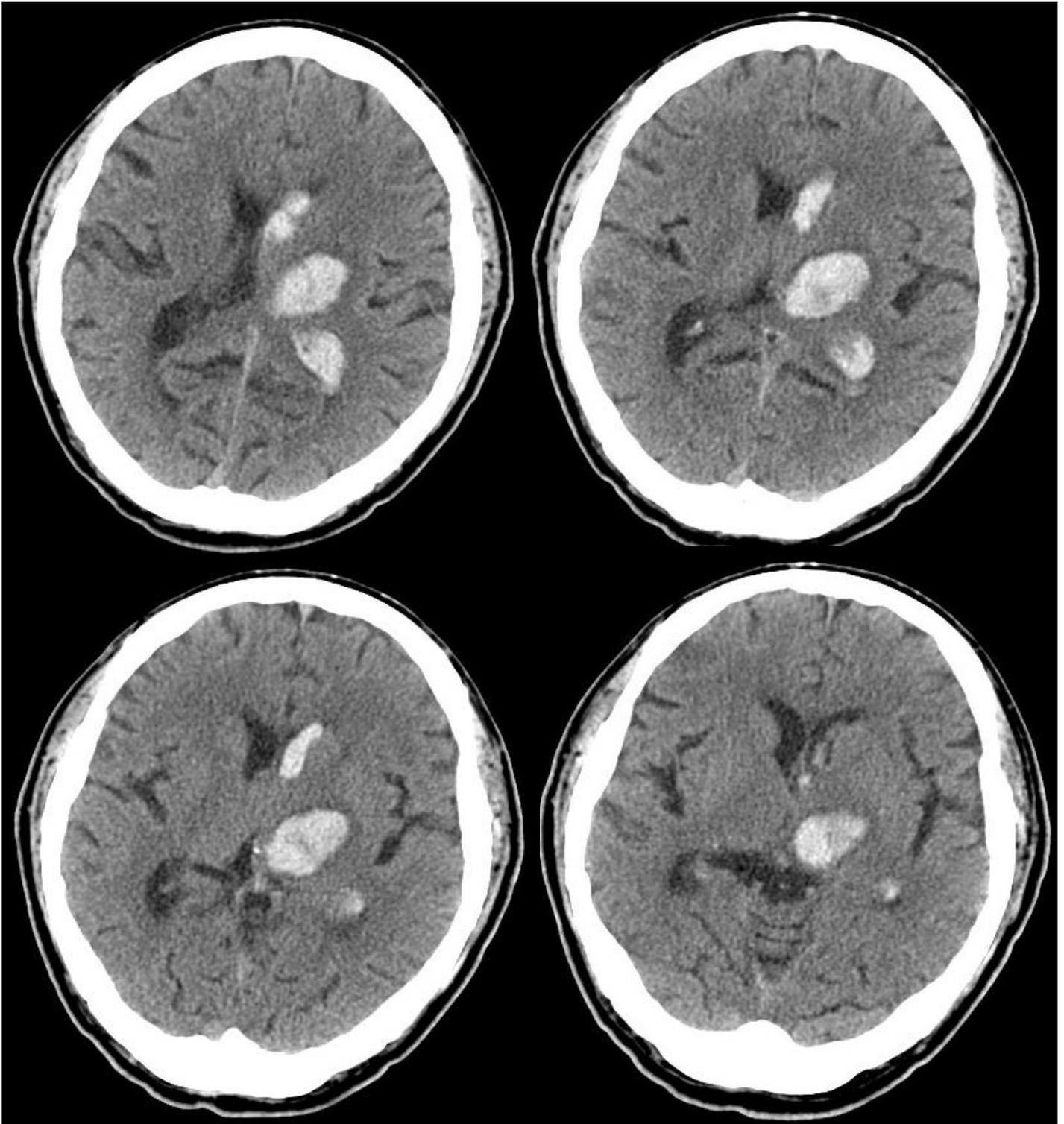
13. What is the most likely diagnosis?

14. List two (2) pharmacological treatments that should be initiated?

Radiology

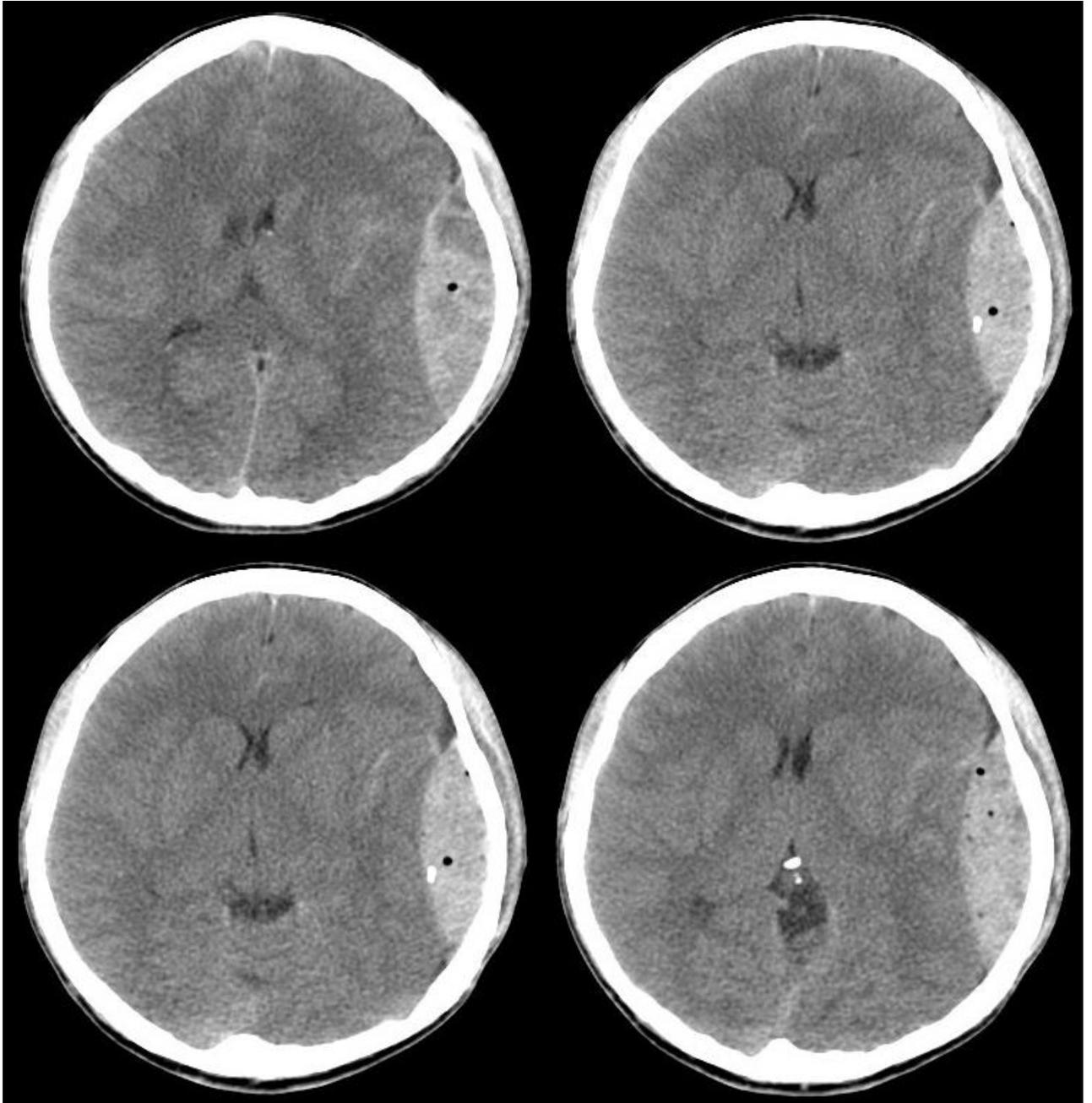
Question 15 refers to the following CT images of the same patient:

15. List three (3) abnormalities.



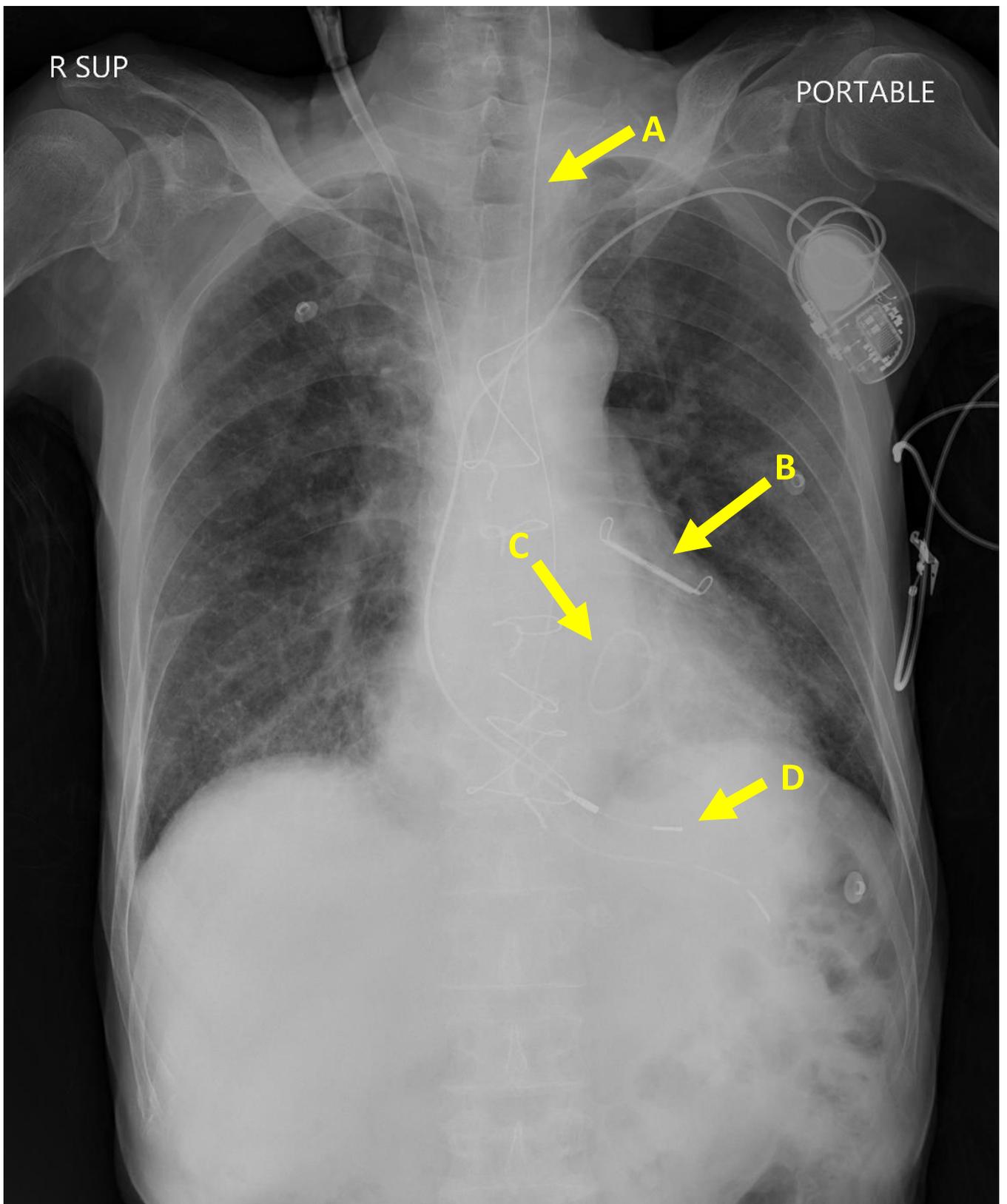
Question 16 refers to the following CT images of the same patient:

16. List three (3) abnormalities.



Question 17 refers to the following chest X Ray

17. Name the four devices A, B, C and D shown in this chest radiograph.



Question 18 refers to the following lateral neck X Ray

18. List three (3) abnormalities.

