Sample sequential item explanation

Each sequential item is made up of 4-6 selected response questions that are all related to a specific case scenario.
  • This sample has 4 selected response questions.

Within a sequential item, every question logically succeeds the previous question i.e. after the first question is answered, additional information is added to facilitate answering the second question, and so on.
  • Additional information in this sample is in light blue.

Candidates may be required to 1) select the single best answer, 2) select multiple correct answers or 3) order the answers in a specific way.
  • This sample has single-best-answer questions as well as a multiple-select question.

On the examination day you will not be allowed to return to previous questions!
MEDICAL HISTORY

- A 42-year-old man presents at the emergency department with massive haemoptysis.
- He has been taking non-steroidal anti-inflammatory drugs regularly for lower back pain for the past 6 weeks.
- He has a history of recurrent lung infection but no known underlying pulmonary disease.
- His pulse rate is 90 beats per minute, his blood pressure is 110/70 mm Hg and his oxygen saturation is 92% on room air.

A Chest CT was performed which showed right middle lobe pulmonary haemorrhage.

After discussion with the attending interventional radiologist he was referred for endovascular treatment. A thoracic aortogram was performed.

Q1. Which vessel is the most likely source of the bleeding? **Select one option only:**

- Right pulmonary artery
- Right internal mammary artery
- Right intercosto-bronchial trunk
- Right intercostal artery
MEDICAL HISTORY

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A Chest CT was performed which showed right middle lobe pulmonary haemorrhage.

Superselective catheterisation of a right bronchial artery was performed, then further angiography was performed (see image).

Q2: Which of the following statements is the most appropriate? Select one option only:

- Embolisation is contraindicated due to spinal artery filling
- Embolisation is contraindicated due to arteriovenous shunting
- Embolisation is contraindicated due to vessel perforation
- There is no contraindication for embolisation
- Embolisation is contraindicated due to the presence of microaneurysms
A 42-year-old man presents at the emergency department with massive haemoptysis.

- He has been taking non-steroidal anti-inflammatory drugs regularly for lower back pain for the past 6 weeks.
- He has a history of recurrent lung infection but no known underlying pulmonary disease.
- His pulse rate is 90 beats per minute, his blood pressure is 110/70 mm Hg and his oxygen saturation is 92% on room air.

A Chest CT was performed which showed right middle lobe pulmonary haemorrhage.

Following superselective catheterisation with a microcatheter, bronchial artery embolisation was performed.

Q3: Which is the most appropriate embolic agent?

Select one option only:

- Microcoils
- N-Butyl cyanoacrylate glue
- Polyvinyl alcohol particles (350-500 micrometers)
- Polyvinyl alcohol particles (150-250 micrometers)
MEDICAL HISTORY

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• He has a history of recurrent lung infection but no known underlying pulmonary disease.
• His pulse rate is 90 beats per minute, his blood pressure is 110/70 mm Hg and his oxygen saturation is 92% on room air.

A Chest CT was performed which showed right middle lobe pulmonary haemorrhage.

On the 9th post-procedural day, the patient had another 100 mls haemoptysis. Repeat angiography was performed.

Q4: Which are the most likely sources of recurrent bleeding in this patient?
Select all that apply:

☐ Systemic collaterals from right internal mammary artery
☐ Systemic collaterals from right phrenic artery
☐ Collaterals from right pulmonary artery
☐ Further right bronchial artery supply
Answer Key

Q1. Right intercosto-bronchial trunk

Q2. There is no contraindication for embolisation

Q3. Polyvinyl alcohol particles (350-500 micrometers)

Q4. Systemic collaterals from right internal mammary artery,
     & Systemic collaterals from right phrenic artery,
     & Further right bronchial artery supply