What is Lung Lobar and Segmental Anatomy?

Worksheet

The right lung has 3 lobes (superior, middle, inferior) separated by an oblique and a horizontal fissure, while the left lung has 2 lobes (superior, inferior) separated by only an oblique fissure; each lobe subdivides into bronchopulmonary segments, each supplied by its own segmental bronchus.

Questions

1. How many lobes does the right lung have?

A) 2
B) 3
C) 4
D) 5

2. Which fissure is unique to the right lung?

A) Oblique fissure
B) Horizontal (minor) fissure
C) Interlobar fissure
D) Costodiaphragmatic fissure

3. What is the smallest surgically resectable functional unit of the lung?

A) Lobule
B) Bronchopulmonary segment
C) Alveolus
D) Lobe

4. Approximately how many bronchopulmonary segments does the right lung have?

A) 4
B) 6
C) 10
D) 15

5. A patient has a pneumonia isolated to the right middle lobe. Which fissures border this lobe?

6. A surgeon needs to resect a single bronchopulmonary segment rather than a whole lobe. Why is this possible?

7. Why does the left lung have fewer lobes and segments than the right lung?

8. Define: How many lobes does the right lung have?

9. Define: How many lobes does the left lung have?

10. Define: What separates the lobes of the right lung?

Answer Key

1. B) 3 - The right lung has 3 lobes: superior, middle, and inferior.

2. B) Horizontal (minor) fissure - Only the right lung has a horizontal fissure, creating its middle lobe; the left lung has only an oblique fissure.

3. B) Bronchopulmonary segment - A bronchopulmonary segment has its own segmental bronchus and artery, making it independently resectable.

4. C) 10 - The right lung typically has about 10 bronchopulmonary segments; the left has about 8-9.

5. The right middle lobe sits between the horizontal (minor) fissure above and the oblique (major) fissure below The horizontal fissure separates it from the superior lobe The oblique fissure separates it from the inferior lobe Because the left lung has no horizontal fissure, it has no anatomical middle lobe

6. Each bronchopulmonary segment has its own segmental (tertiary) bronchus Each segment has its own independent artery supply Segments are separated by connective tissue septa with only shared venous drainage This independence allows a segmentectomy without removing the entire lobe

7. The heart and pericardium occupy space in the left thoracic cavity (cardiac notch) The left lung compensates by having only 2 lobes instead of 3 The lingula on the left lung is the developmental/functional equivalent of the right middle lobe Left lung typically has 8-9 segments versus about 10 on the right

8. 3 - superior, middle, and inferior.

9. 2 - superior and inferior (no middle lobe; the lingula is its equivalent).

10. The oblique (major) fissure and the horizontal (minor) fissure.