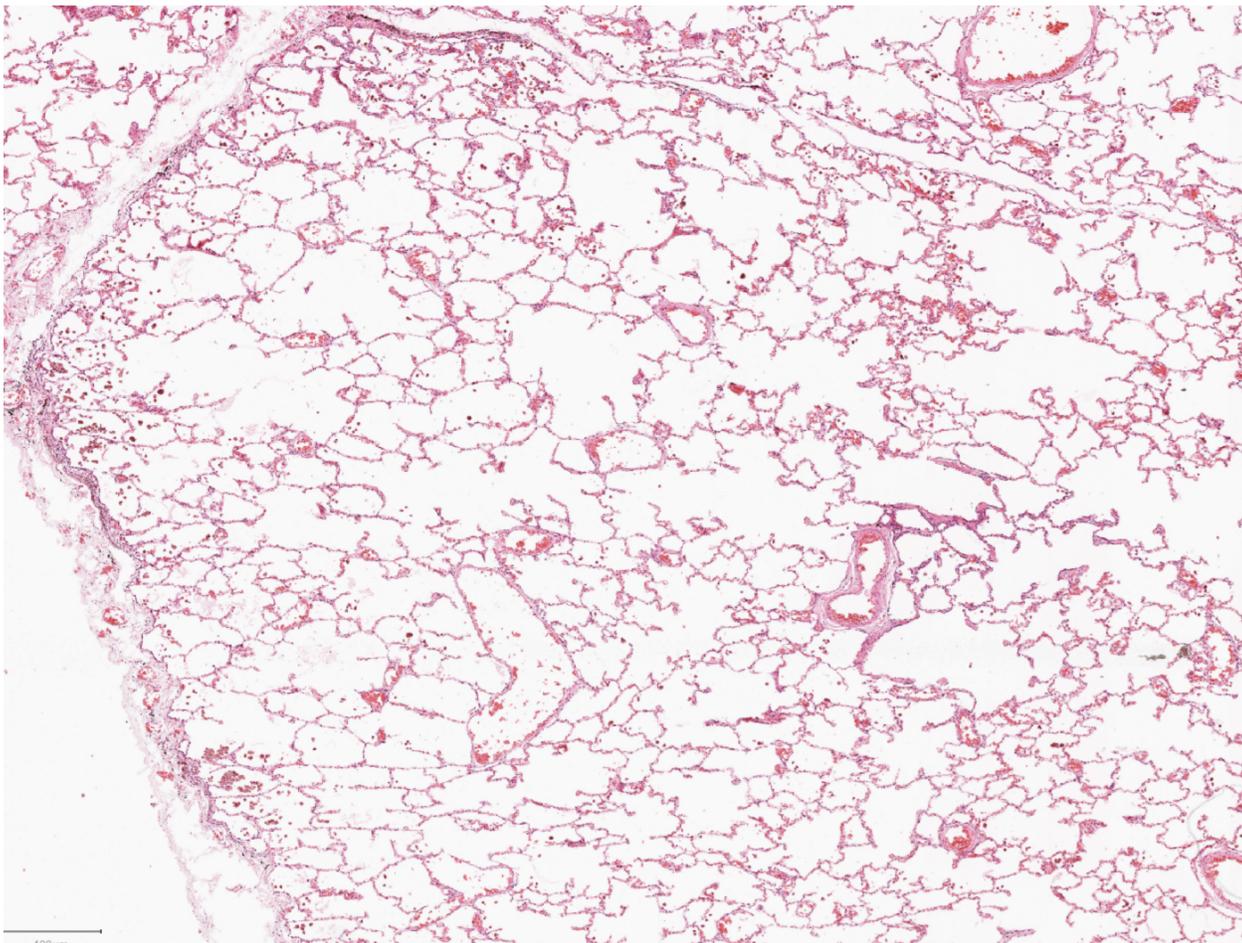


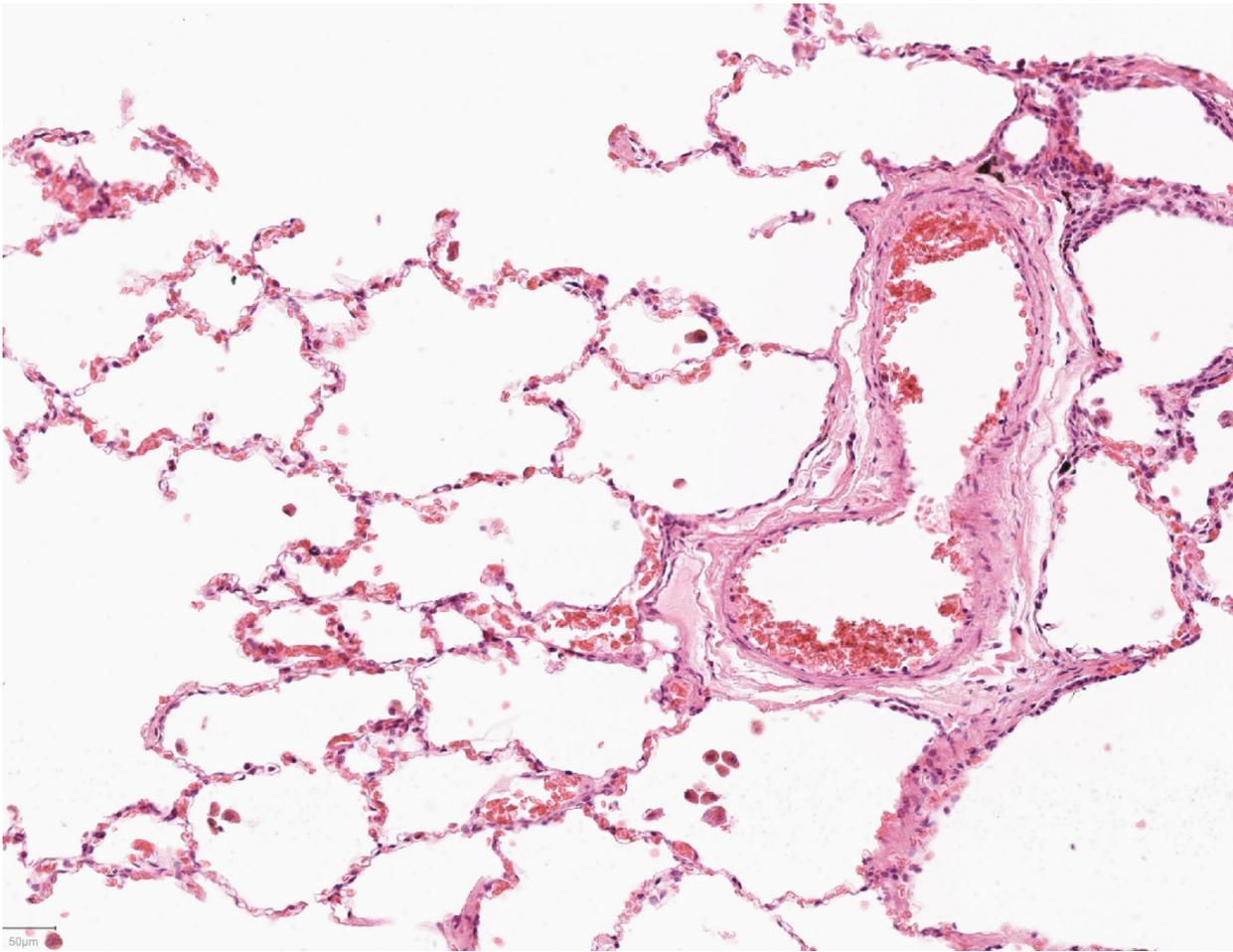
Case Study 13, Cell Migration and Invasion

A 55-year-old male non-smoker presented at the emergency department with shortness of breath and coughing that occasionally generated blood. A radiograph and CT scan showed an approximately 8cm diameter mass in the lower quadrant of the right lung. Additionally, there were areas of opaque density adjacent but not in the lung that were not readily identifiable by CT. Emergency department physicians consulted with the surgery department, who of course recommended surgery.

What other questions about the patient's medical history or family medical history would you ask before discussing surgery with the patient?

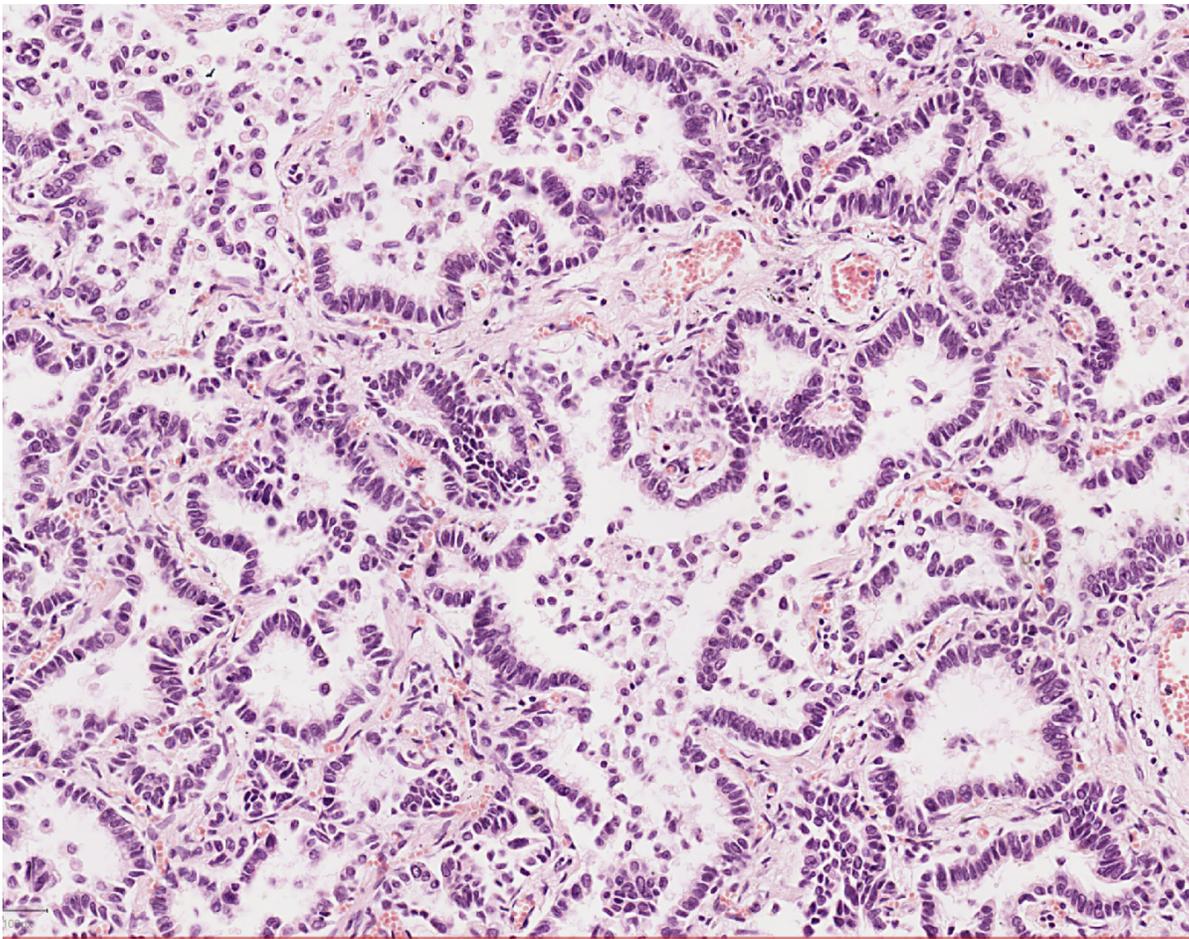
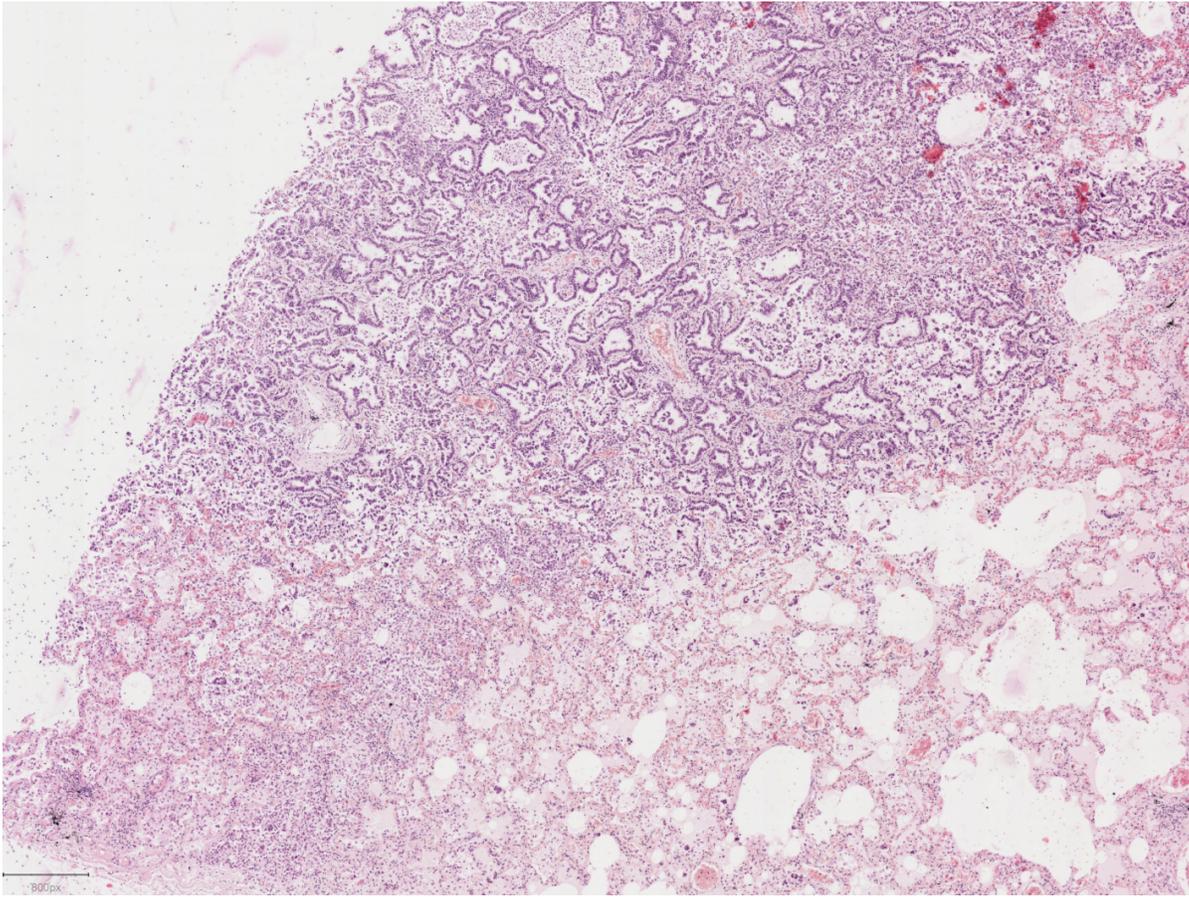
After the patient received a second opinion, he agreed to undergo surgery. Surgeons removed the lower half of the right lung along with neighboring lymph nodes. All resected tissue was placed in fixative and submitted for pathological analysis. The first tissue block you examine by H&E is a portion of the lung furthest away from the lower tip of the lung where the mass was observed by radiography. Below is a low (below) and high (second image) magnification image:





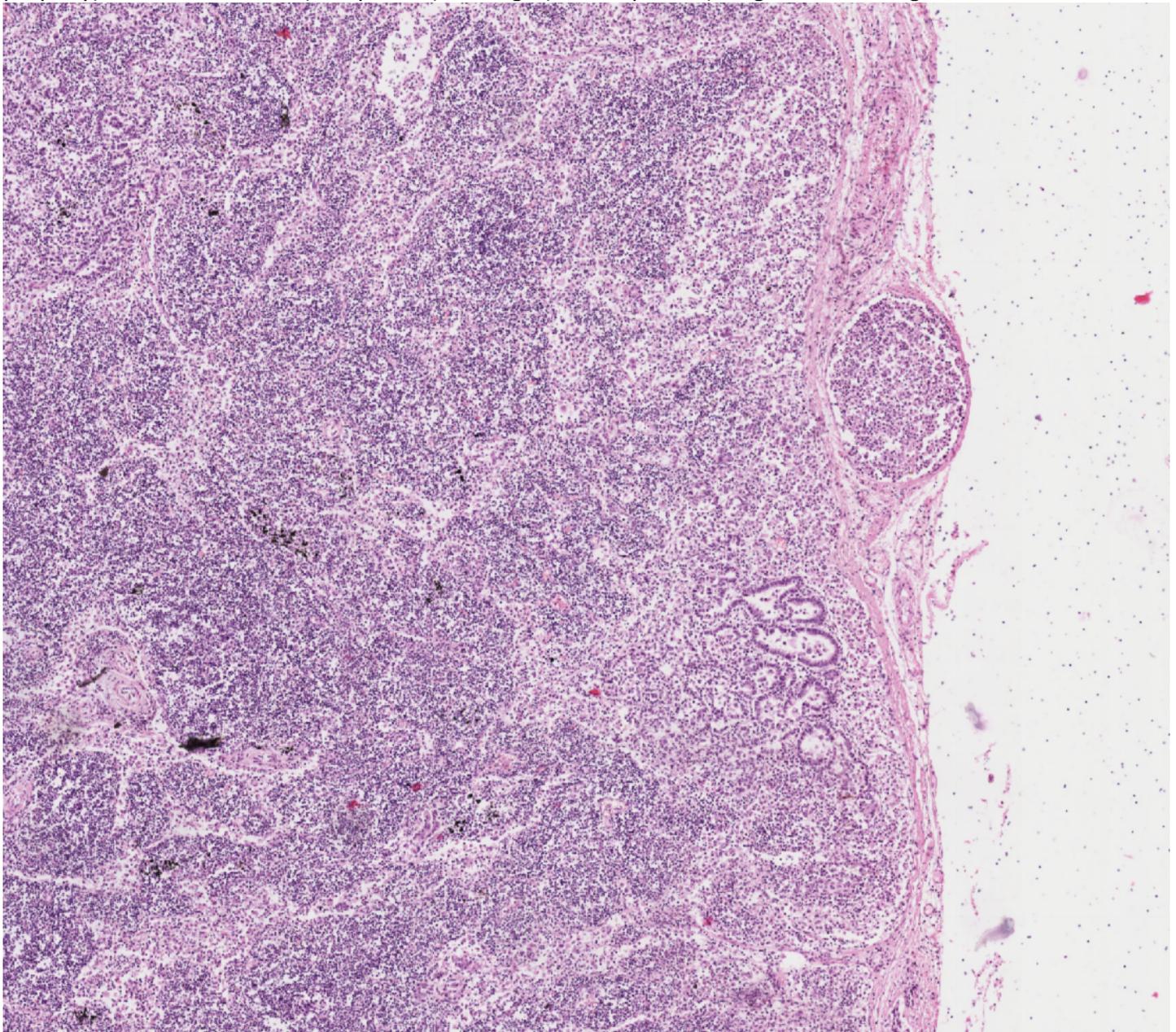
What do you see in these images? Do they remind you of images you have seen earlier in class? Can you identify any structures in the lung in these pictures? Do you think this block shows normal or abnormal tissue?

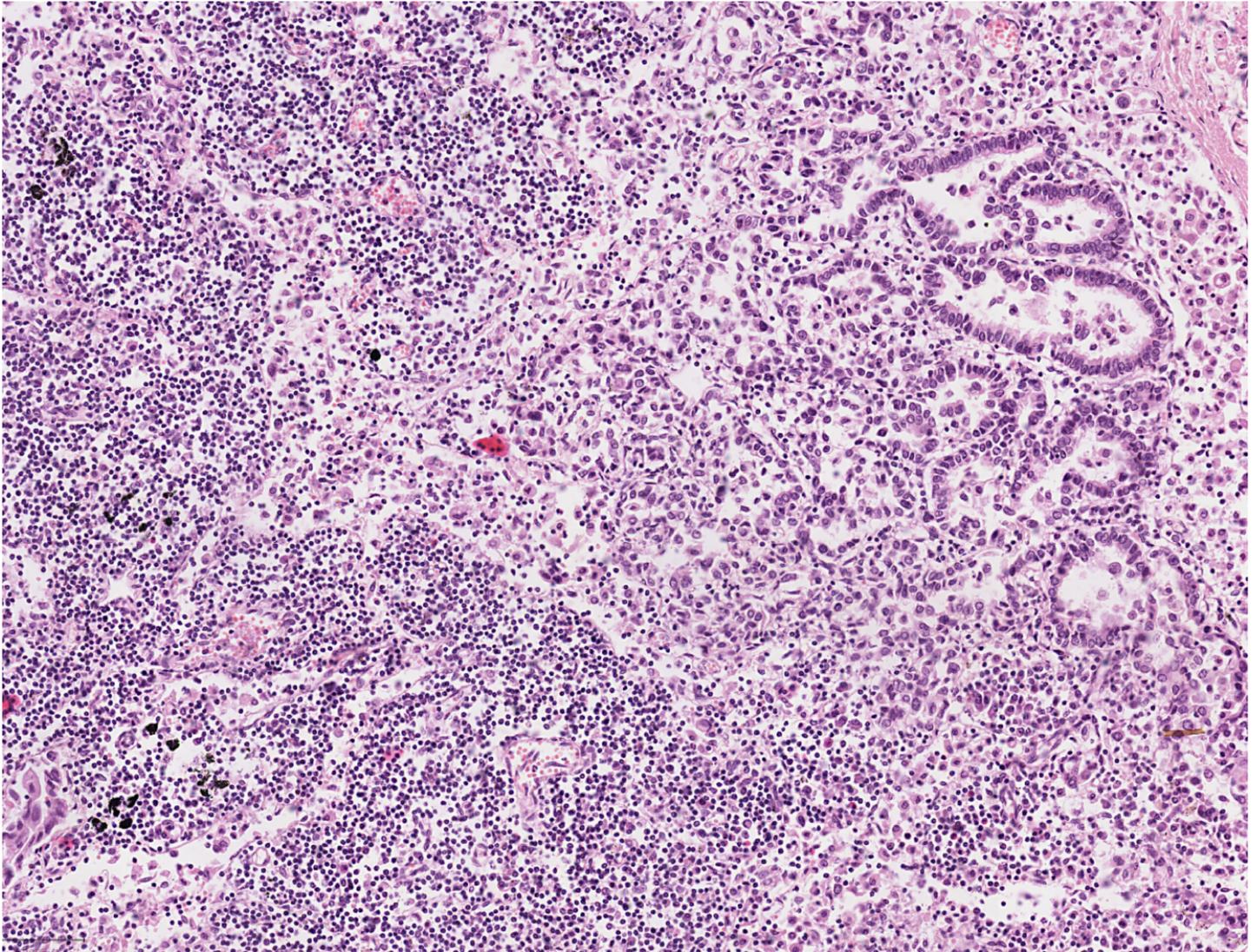
Following your initial analysis from the set of blocks furthest away from the lower lobe of the lung you now examine a set of blocks at the bottom half of the lung. The first block you examine is shown below with the first image a low magnification and the second image being a higher magnification image of the section stained with H&E.



What do you see in these images? Can you identify any structures in the lung in these pictures that look like structures from the first set of pictures? Do you think this block shows normal or abnormal tissue? Why did you choose your answer? Given your analysis of the first set of images and this second set of images what is your pathological diagnosis?

You now look at a block that contains tissue removed by the surgeon that was not in the lung. When you look at the block the section was taken from the cross section of the tissue is the shape and about the same size as a lima bean. When you look at the H&E section at low magnification you see it stains highly for hematoxylin. What is your first thought about what type of tissue you are looking at (since the surgeons didn't label it properly)? Below is the low (first picture) and high (second picture) magnification image from this block:





What do you see in these images? Can you identify any structures in these pictures that look like structures from the first two sets of pictures? Do you think this block shows normal or abnormal tissue? Why did you choose your answer? Given your analysis of the first two sets of images and this third set of images what is your pathological diagnosis?