M1 case 3

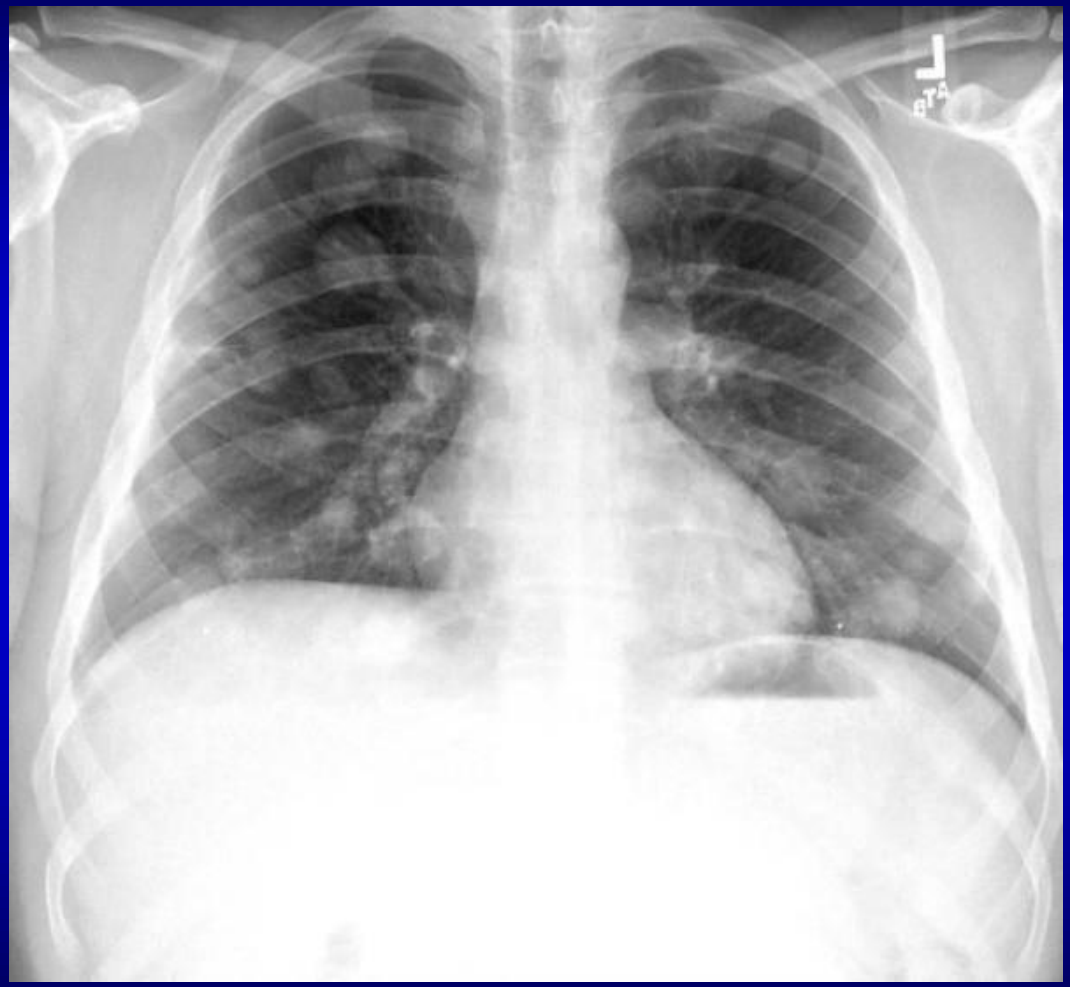
History

- The patient is a 20 year old male who presented to his primary care doctor with a history of several weeks of fatigue and weight loss - he has lost 5 kg over the last 4 weeks or so. The patient also recently developed a cough and was occasionally coughing up some blood. He denies any history of fevers.

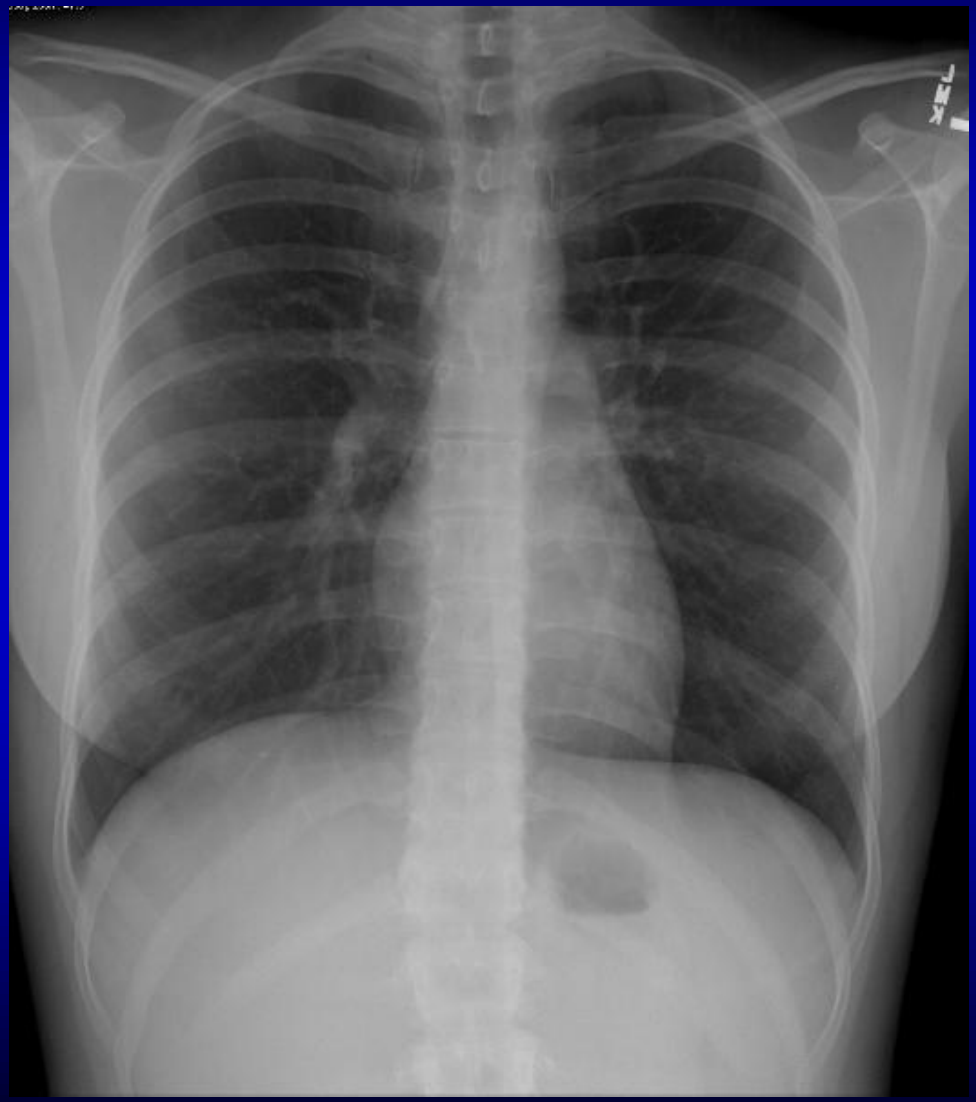
- What radiology study is most appropriate?

Our patient's initial chest x-ray

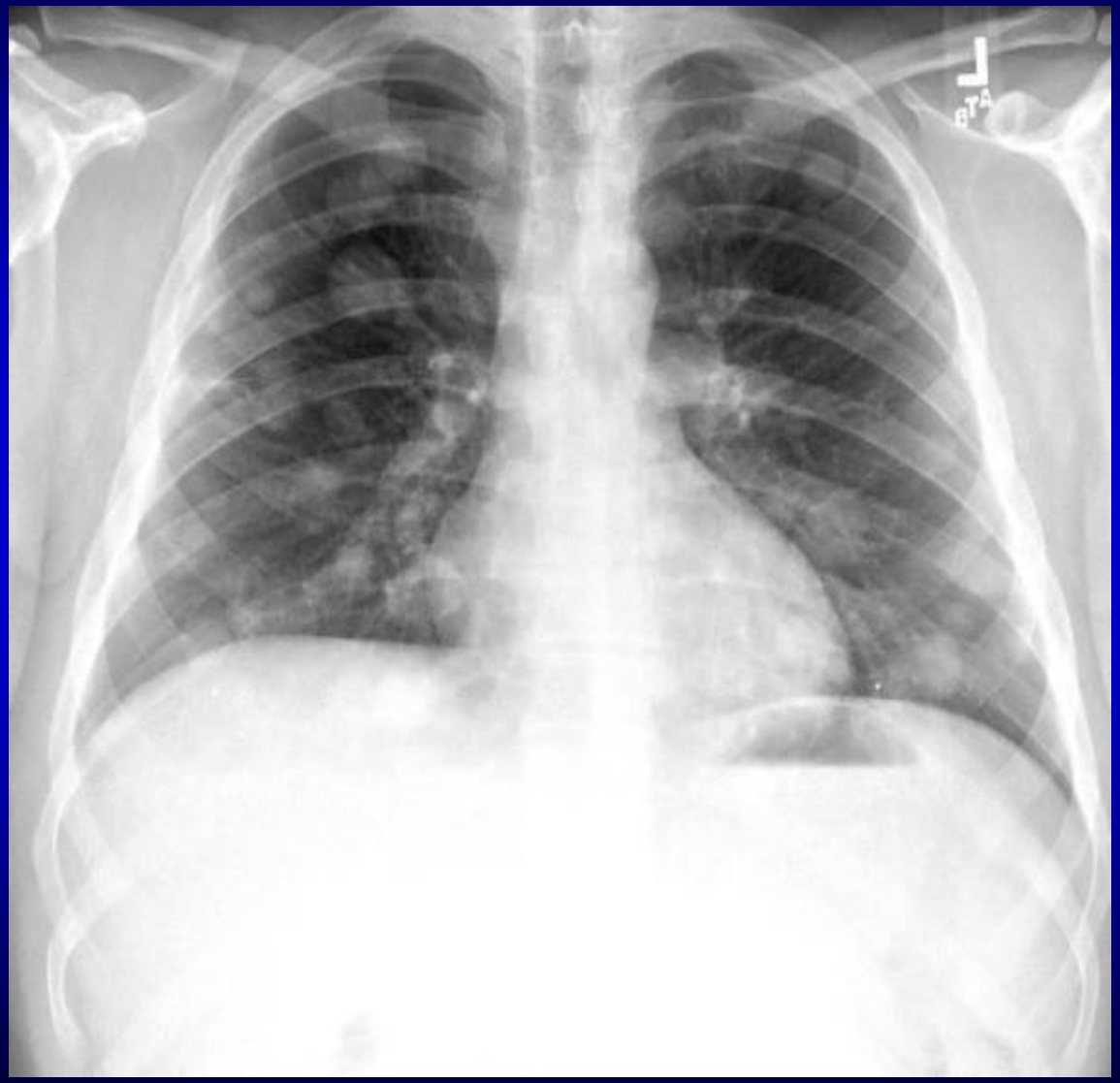
- See anything?
- Go to the next image for a comparison normal chest x-ray...



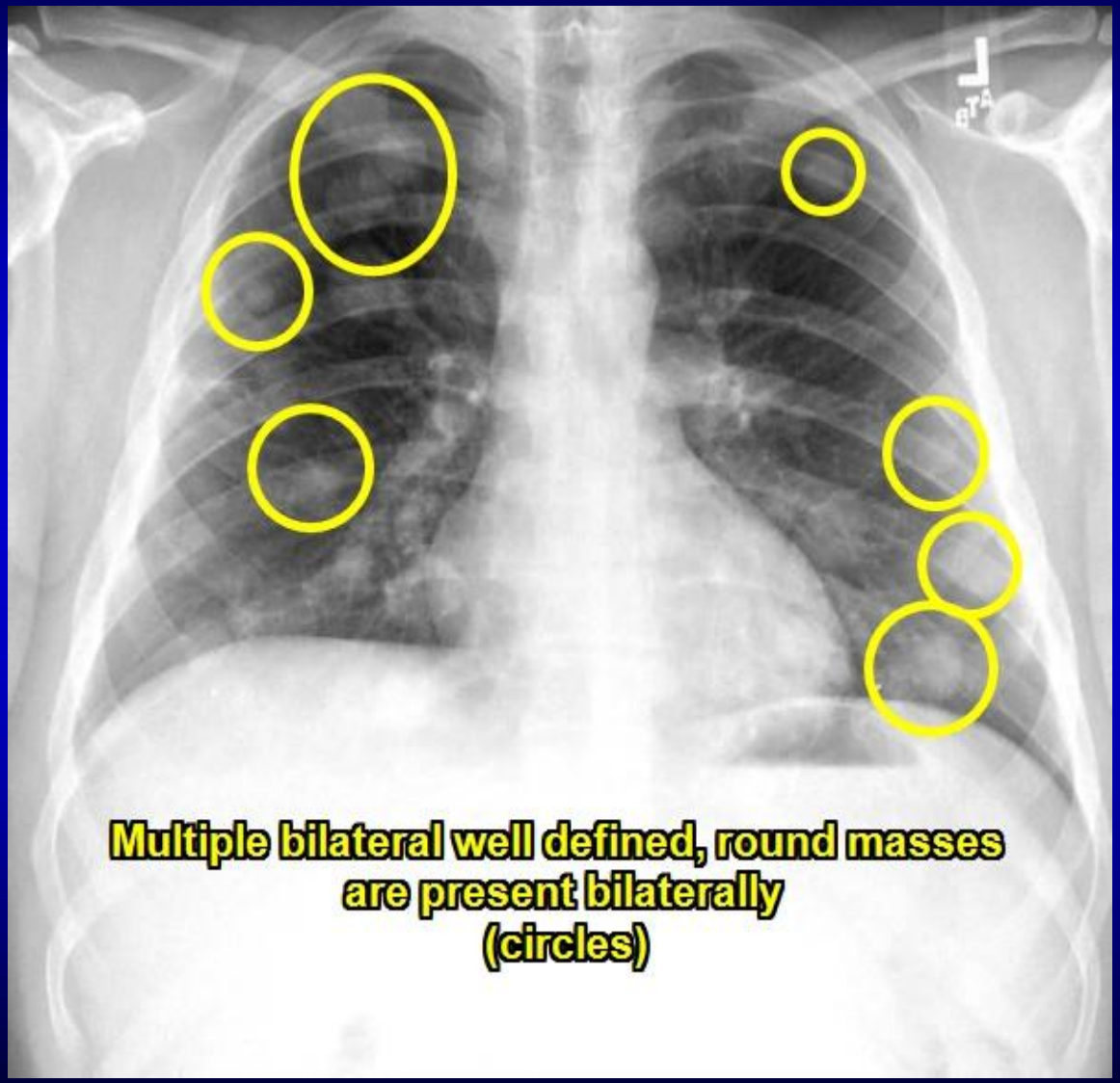
Normal chest radiograph for comparison



Our patient again

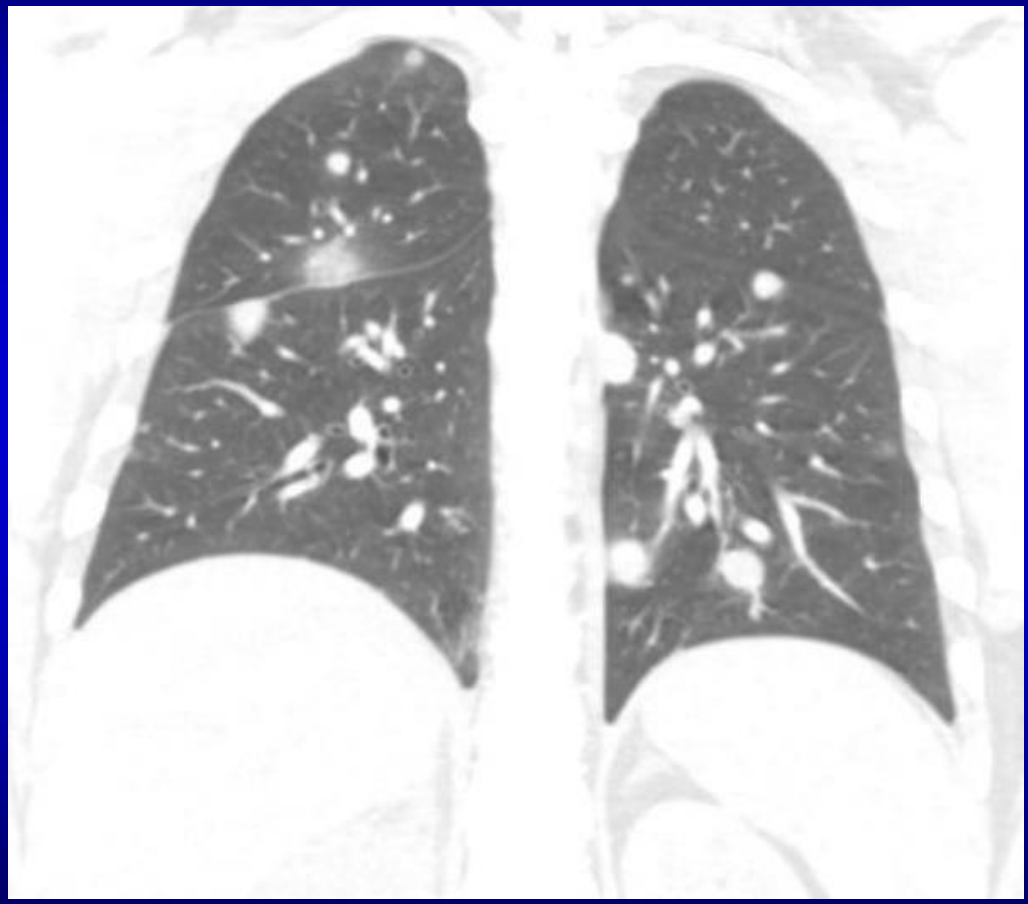


Our patient again

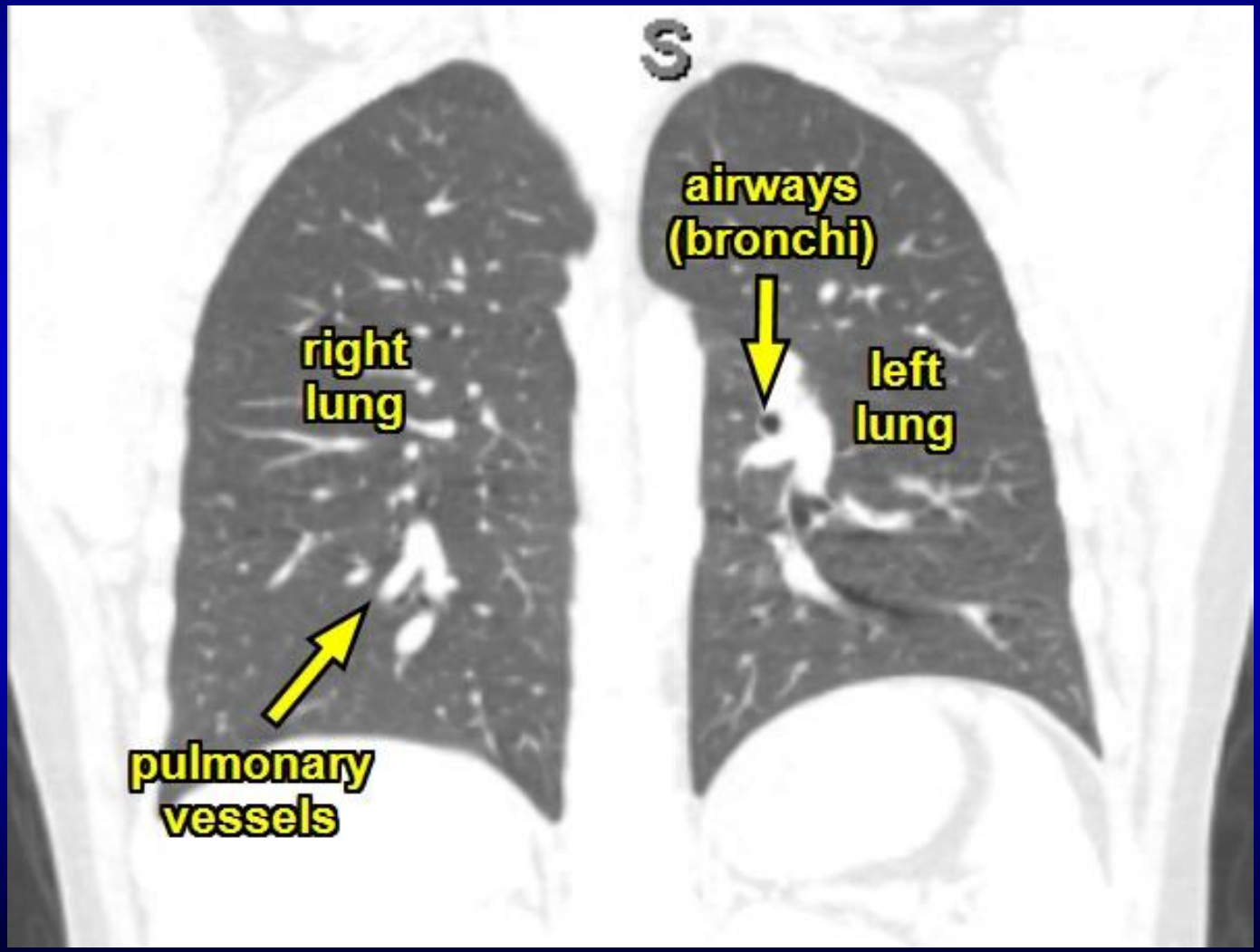


This is our patient's chest CT - ordered to further evaluate the x-ray findings

- This is a coronal CT image (similar orientation to the chest x-ray on the previous image).
  - The image is displayed (windowed) in such a way as to show findings in the lungs. The other structures are hard to see in detail
- Do you see anything in the lungs?



Normal comparison chest CT (and some simple anatomy!)



Back to our patient…

Findings

- Chest radiograph and chest CT -
  - Multiple round nodules / masses in both lungs

Diagnosis

- The appearance of multiple nodules / masses in both lungs is typical of metastatic disease. In a 20 year old male, the most common tumors that would show this pattern of metastasis are testicular cancer and malignant bone tumors (i.e. osteosarcoma).

- This patient had a palpable mass in the testicle and metastatic disease in his abdomen.

- The final diagnosis was a choriocarcinoma of the testicle - an aggressive form of testicular cancer.

Discussion

- Younger patients (<50 years) don't usually get primary lung cancer, but there are exceptions
- The presence of multiple lung nodules / masses (as opposed to a single mass) is more likely to represent metastatic disease than primary lung cancer.
- Of course, there are non-neoplastic causes of pulmonary nodules / masses, for example atypical infections (e.g., fungal, granulomatous, etc.)

Discussion

- If the diagnosis is in doubt, sampling of a nodule may be required

- Common options:
  - Bronchoscopic
  - Percutaneous
  - Wedge resection