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

Multiple bilateral well defined, round masses are present bilaterally (circles)
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...

Just like on the x-ray we see multiple masses (circles)
Findings

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