

Department of Radiology – Case of the Month #1

Part 1 – Identifying the Abnormality

61-year-old female patient with cough and weight loss. You order a chest x-ray (Fig. 1).



Fig. 1

Prompting Questions:

- 1) Do you have an organized approach to reading chest X-rays? If so, what is it?
- 2) Do you notice any abnormalities in the above scan?
- 3) How would you characterize the abnormality/abnormalities?
 - too white or too black?
 - shape?
 - borders?
- 4) Can you localize the abnormality / abnormalities?

Part 2 – Localization

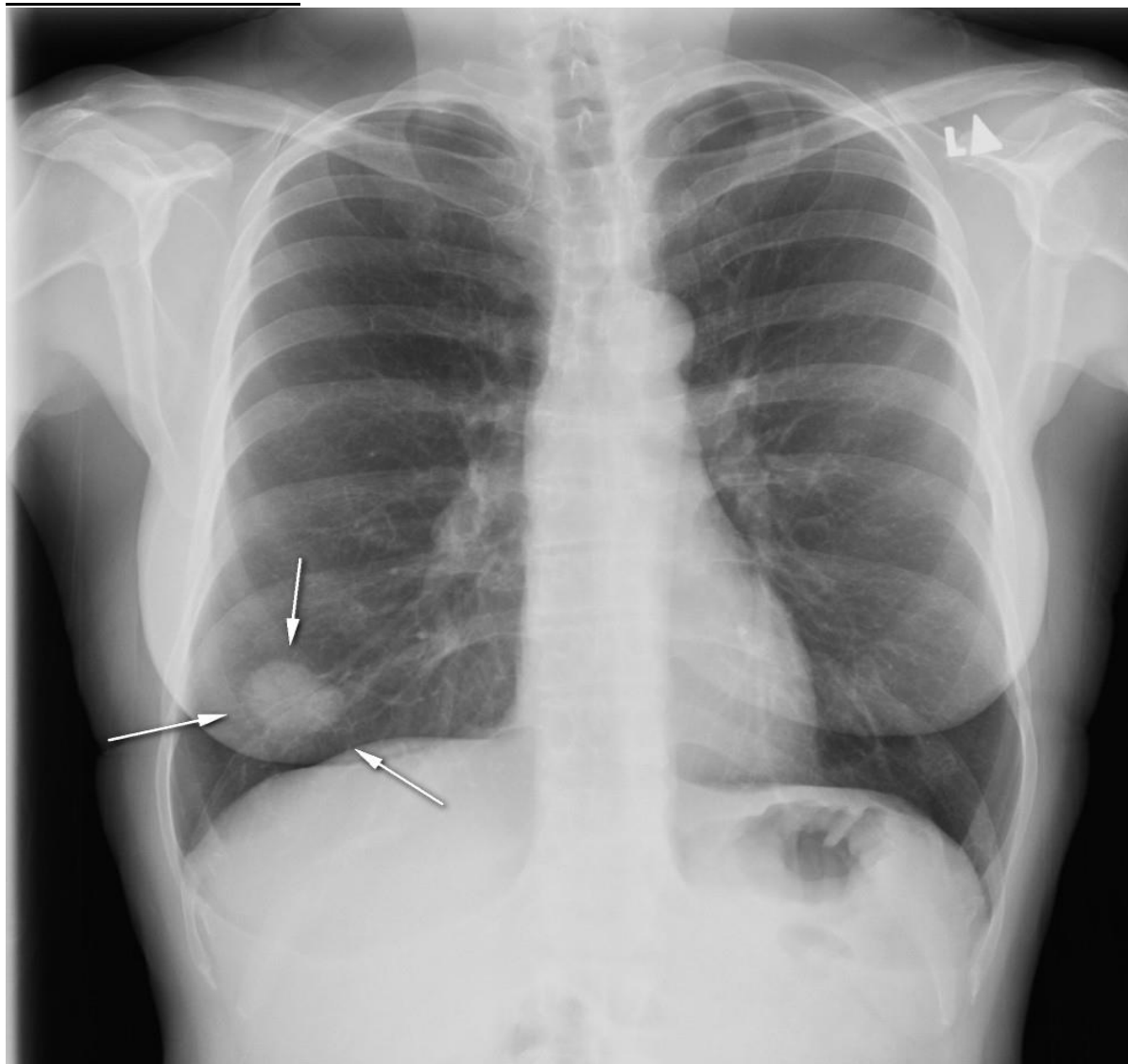


Fig. 2, the abnormality identified

To simplify radiologic anatomy, we can use the concept of radiologic zones. These include:

- Zone 1: Hilar
- Zone 2: Mediastinal
- Zone 3: Cardiac
- Zone 4: Pleural
- Zone 5: Lung
- Zone 6: Peripheral (chest wall)

Each of these zones can be divided into right and left, and anterior and posterior.

Prompting Question:

- 1) Based on a process of elimination, what are the possible locations for the abnormality?
- 2) Is it possible to definitively localize the abnormality with the given scan?

Part 3 – Lateral Perspective

The typical response is to localize the abnormality to the right lung, but this may or may not be correct. Because the AP scan provides us with no anterior or posterior perspective, the abnormality may lie anywhere from the anterior chest wall to the posterior chest wall.

To determine a definitive localization, we require the lateral X-ray (Fig. 3):



Fig. 3

Using the concept of radiologic zones, we can now precisely localize the abnormality.

Prompting Questions:

- 1) Where is the abnormality located?
- 2) Was your initial localization correct?
- 3) What would be the implications in diagnosis and management if localization was not precise?
- 4) Based on the nature and location of the lesion, what is on your differential? What are the next steps for investigation / management?

Part 4 – More Practice

Follow the same steps of localization and radiologic zones as in the previous example.

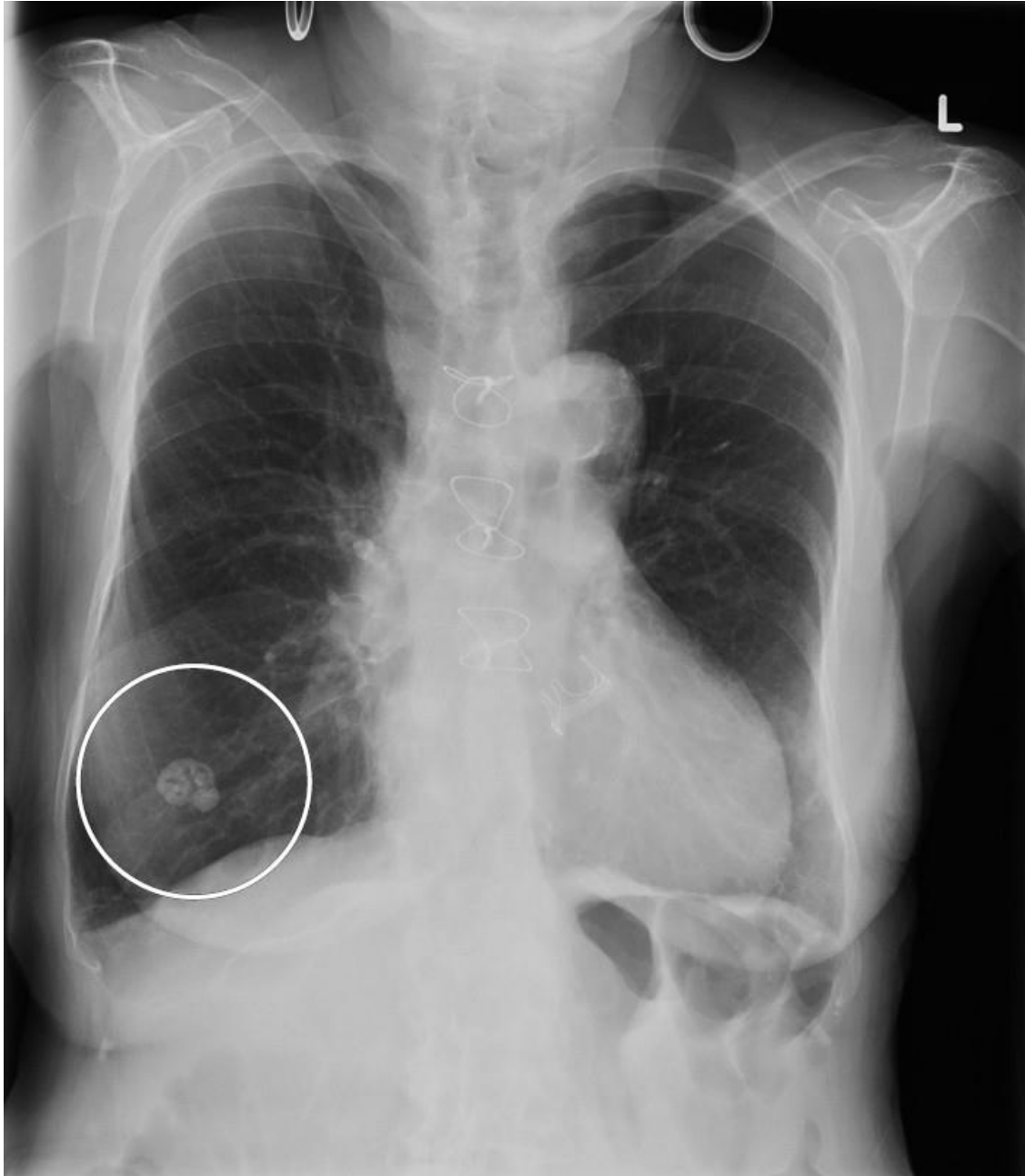


Fig. 4, AP scan

Prompting Questions:

- 1) What are the possible locations of this abnormality?
- 2) Can you precisely localize this abnormality?



Fig. 5, Lateral scan

Prompting Questions

1) What is the location of the abnormality?