



## Diagnosis and management of pleural mesothelioma in the era of immunotherapy

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### LEARNING GOALS

**Goal 1:** Recognize that tissue biopsy is needed in order to determine histologic subtype of pleural mesothelioma.

**Goal 2:** Choose systemic therapy based on histologic subtype of pleural mesothelioma.

**Goal 3:** Implement and escalate immunosuppression to manage immune-related side effects of immunotherapy.

**Goal 4:** Recognize when immunotherapy should be permanently discontinued in favor of surveillance.

### BACKGROUND

AB is a 73-year-old male who presented with a cough and was found to have a left sided pleural effusion on chest x-ray.

Physical exam findings include decreased breath sounds and dullness to percussion at right base.

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Thoracentesis was performed and yielded 1000mL of pleural fluid. Cytology was sent but did not reveal malignant cells.

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CT chest showed a right-sided loculated pleural effusion, but no clear pleural thickening.

# THE AMAZING CASE RACE

## CASE STUDY 03

### CURRENT PRESCRIPTIONS

- Amlodipine 5mg daily
- Aspirin 81mg daily
- Omeprazole 20mg daily

### COMORBIDITIES/MED HX

- Acid reflux
- Benign prostatic hyperplasia
- Hypertension
- Ascending aortic aneurysm

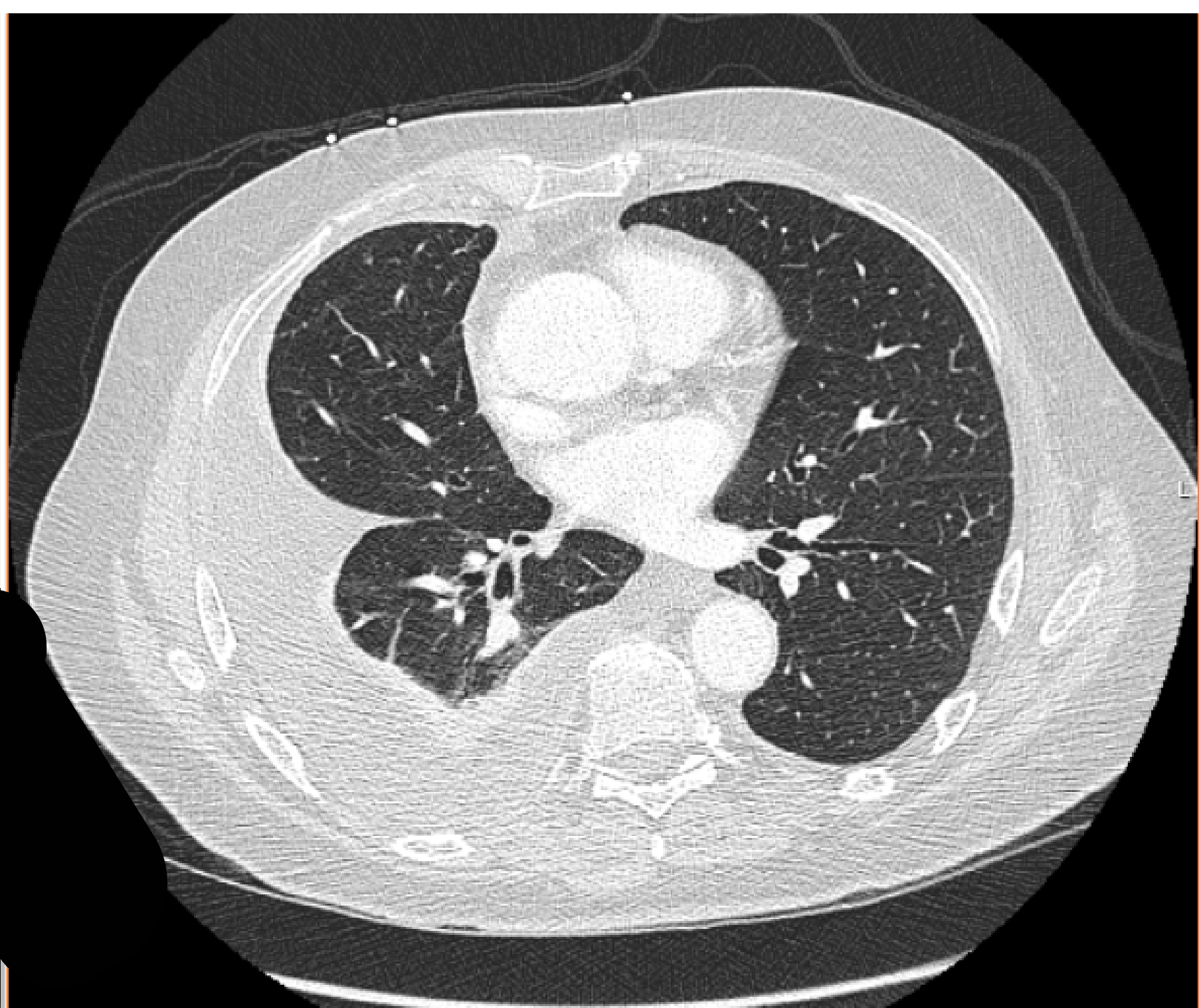
No family history of melanoma, mesothelioma, or cholangiocarcinoma.

### OVERALL DIAGNOSIS

Right pleural mass; invasive sarcomatoid mesothelioma. Surgical pathology confirms the tumor is strongly positive for WT-1; and negative for calretinin, CK 5&6, D2-40, CEA, B72.3, Ber-EP4 and TTF-1.

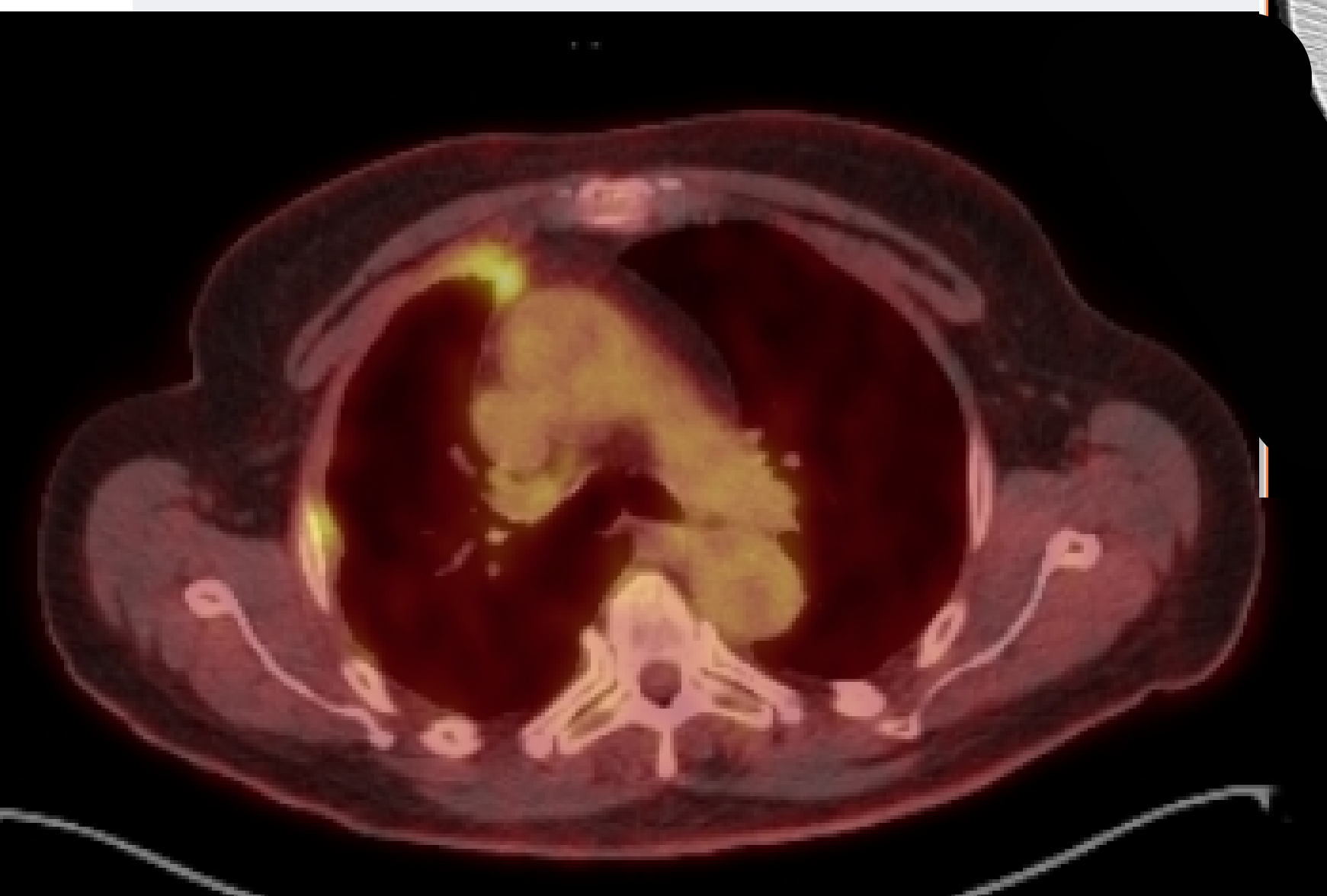
### TESTING

The patient has a pleur-x-catheter placed and PET CT is obtained, which shows two areas of FDG-avidity along the right pleura, but no evidence of distant disease.



*Figure 1: Initial CT Chest*

Cytology from a repeat thoracentesis revealed reactive mesothelial cells indicating a concern for pleural mesothelioma.



*Figure 2: PET CT*

## TESTING (CONT)

- Video-assisted thoracoscopic surgical biopsy is performed and reveals sarcomatoid mesothelioma of the pleura.

## SOCIAL HISTORY CONSIDERATIONS

- Possible exposure to asbestos while working as a mechanic on brakes.
- Never smoker.

Visit 2:  
The patient is referred to:  
Discuss that surgery is not recommended in patients with sarcomatoid pleural mesothelioma.  
Recommend combination ipilimumab and nivolumab based on Checkmate 743 study showing that this was superior treatment compared to chemotherapy alone in the first-line setting for patients with non-epithelioid pleural mesothelioma.  
Order baseline labs prior to immunotherapy initiation: CBC, CMP, TSH with FT4, Hepatitis A/B/C serologies, HIV testing.

# Want to learn more about this case?

The patient returns to discuss a treatment plan for his sarcomatoid pleural mesothelioma. He is draining the pleur-x catheter twice weekly (500cc each time) and his cough and breathing are stable. He remains active and ECOG performance status is 0. His baseline laboratory results show that he is a candidate for chemotherapy or immunotherapy.

**VOTE FOR CASE 03**

Physical Exam:

Right pleurx catheter

Labs/Imaging:

Order baseline labs prior to immunotherapy initiation: CBC, CMP, TSH with FT4, Hepatitis A/B/C serologies, HIV testing.

Referrals:

Diagnosis:

Orders:

Start ipilimumab 1mg/kg every 6 weeks and nivolumab 360mg every 3 weeks

Follow-up Timing: 3 weeks for next dose