CHEST PAIN AND SHORTNESS OF BREATH

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CHIEF COMPLAINT & HPI

- Chief Complaint and/or reason for consultation
  - Acute onset chest pain and shortness of breath

- History of Present Illness
  - 36 y/o female initially presented with left lower extremity and groin pain after sensing a “pop”
  - Lower extremity US showed a left thigh mass found to be high grade sarcoma on biopsy with associated DVT extending from the CFV to the popliteal vein
  - Further workup revealed bilateral pulmonary emboli and mediastinal metastases with invasion of the pulmonary artery on the left
  - She is currently 1 week out from her 3rd cycle of chemotherapy
RELEVANT HISTORY

- Past Medical History
  - Hypertension controlled with medication

- Past Surgical History
  - C-section

- Family & Social History
  - DM (grandmother)
  - No tobacco, no EtOH, no other substance use

- Medications
  - Lisinopril

- Allergies
  - NKDA
DIAGNOSTIC WORKUP

Previous chest CT (pre chemotherapy)

Current chest CT (post chemotherapy)
QUESTION 1

1) Where is the abnormality? (Answer on next slide)
ANSWER TO QUESTION 1
DIAGNOSIS

- Left pulmonary artery pseudoaneurysm (PSA)
- Measures 1 cm across the base and 1 cm in depth
- No active hemorrhage
Coiling was considered but the neck of the PSA was considered too wide for safe coil placement.

No covered stent was available with the appropriate length and diameter.

Therefore, a Wallstent was used as a flow diverter.
INTERVENTION

Initial pulmonary angiogram

Post Wallstent placement
CLINICAL FOLLOW UP

- Chest CTA three days after stenting showed the PSA had thrombosed.
- After one month the patient reported decreased chest pain and shortness of breath.
- She had no adverse events from stenting.
SUMMARY & TEACHING POINTS

- 36 y/o female with left thigh sarcoma and mediastinal metastases which eroded into the left main pulmonary artery

- Chemotherapy induced regression of the metastasis resulted in a pseudoaneurysm of the left main pulmonary artery

- Placement of a Wallstent wall stent to exclude the PSA allowed for adequate flow diversion and PSA thrombosis
2) What are some of the treatment approaches for pseudoaneurysms?

A: Coil embolization
B: Stent placement
C: Thrombin injection
D: Ultrasound probe compression
E: All of the above
2) What are some of the treatment approaches for pseudoaneurysms?

A: Coil embolization (If the neck of the pseudoaneurysm is appropriately narrow then coiling the aneurysm sac is a good option)

B: Stent placement (Stent placement, as in this case will help redirect flow away from the aneurysm sac, more so if a covered stent is available)

C: Thrombin injection (This can be done with more superficial aneurysms, such as the femoral artery, but care must be taken that the thrombin does not travel systemically)

D: Ultrasound probe compression (Manual pressure with an ultrasound probe may be performed with more accessible pseudoaneurysms)

E: All of the above
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E: All of the above
3) Which of the following is NOT a cause of TRUE pulmonary artery pseudoaneurysms?

A: Chronic pulmonary hypertension
B: Behçet's disease
C: Birt-Hogg Dube syndrome
D: Marfan syndrome
E: Takayasu arteritis
3) Which of the following is NOT a cause of TRUE pulmonary artery pseudoaneurysms?

A: Chronic pulmonary hypertension

B: Behcet’s disease

C: Birt-Hogg Dube syndrome (An autosomal-dominant disorder that causes facial papules, bilateral renal tumors, and pulmonary cysts. Pulmonary pseudoaneurysms are not a characteristic of this syndrome)

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