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# A Hypercoagulable Dilemma: A case of metastatic adrenocortical carcinoma complicated by submassive pulmonary embolism and intraabdominal bleeding

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## **Learning Objectives**

- Adrenocortical carcinoma is a rare aggressive tumor, often diagnosed at advanced stage.
- Like any malignancy, provoked pulmonary embolism (PE) and venous thromboembolism (VTE) can occur.
- Anticoagulating those with aggressive cancers can be challenging if bleeding risk is elevated.

#### **Case description**

A 68-year-old woman presented with progressively worsening lower extremity edema.

### **Past Medical History:**

Coronary artery disease status-post percutaneous coronary intervention 5 years prior, recent submassive PE and left common femoral deep venous thromboembolism requiring thrombectomy complicated by access site bleeding, subsequent IVC filter placement, recently discovered adrenal mass, hypertension, and diabetes mellitus.

## **Inpatient Work-up:**

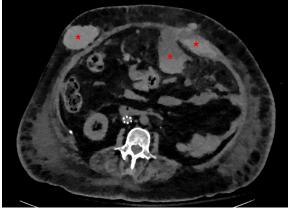
- $\bullet$  Cross-sectional imaging noted a 5.9 x 6.7 x 6.8 cm left adrenal mass invading the stomach wall with suspected tumor thrombus in the left renal vein.
- Her IVC filter was in place and patent.
- She did not have evidence of heart failure.
- Elevated DHEA-S and free testosterone raised suspicion of Cushing Syndrome-induced edema from the tumor.



**Figure 1.** Coronal view of CT abdomen/pelvis with noted left adrenal mass involving the stomach wall.

# **Surgical intervention:**

- Due to metastases, she required distal pancreatectomy, splenectomy, tumor thrombus resection, left adrenalectomy, left radical nephrectomy, and lymph node dissection.
- Pathology: oncocytic-type adrenocortical carcinoma
- Anticoagulation was started with enoxaparin at therapeutic dosing.
- She developed acute anemia with **multiple hematomas** seen on abdominal CT.
- Exploratory laparotomy found multiple areas of venous oozing requiring transfusion.
- Once hemodynamically stable, she was discharged on prophylactic dosing of subcutaneous heparin with outpatient oncology follow up.



**Figure 2.** Post-operative abdominal CT showing multiple areas of hematoma after starting anticoagulation.

#### Discussion

- Provoked PE and VTE in malignancy are common, but bleeding complications make effective anticoagulation difficult.
- Aggressive cancers such as adrenocortical carcinoma further complicate treatment.
- An individualized dynamic anticoagulation plan to mitigate risk at either end of the bleed – hypercoagulable spectrum may be necessary to adequately treat these patients safely.

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