From Clots to Clarity with Thrombectomy: Bilateral Pulmonary Emboli in a Patient with Renal Cell Carcinoma Induced Hematuria

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Purpose

- To present a case highlighting the effective use of mechanical thrombectomy in managing pulmonary emboli in a patient with renal cell carcinoma and concurrent severe hematuria, emphasizing the therapeutic challenges.

Background

- Patients with malignancies, such as renal cell carcinoma, are at increased risk for thromboembolic events due to tumor-related hypercoagulability.
- Managing pulmonary emboli in such patients is complex, especially when hematuria is present, as it complicates anticoagulation therapy.
- Mechanical thrombectomy offers an excellent solution by directly removing clots without the need for systemic thrombolytics.

Images

Figure 1. Bilateral Pulmonary Emboli Resulting in Right Heart Strain

- There is a near occlusive thrombus in the distal right main pulmonary artery extending into the right upper lobe, right middle lobe, and right lower lobe pulmonary arteries and segmental branches.
- There is a partially occlusive thrombus in the left lower lobe pulmonary artery extending into the segmental branches.

Methods

- A 60-year-old male with a history of stage IV RCC presented with shortness of breath, dizziness, and syncope. CTA PE revealed a near-occlusive thrombus in the distal right main pulmonary artery extending into the right upper, middle, and lower lobe pulmonary arteries and segmental branches, as well as a partially occlusive thrombus in the left lower lobe pulmonary artery.
- The patient's echo revealed right heart strain, right ventricular, and IVC dilation. He was found to have NSTEMI with troponin peaking at 2827 and an EKG remarkable for sinus tachycardia, incomplete RBBB, and right axis deviation.
- The patient was initiated on a heparin drip and multiple aspiration thrombectomies were performed with retrieval of a large amount of clot from the right pulmonary artery using the INARI catheter. During hospitalization, the patient underwent scheduled irrigation for clots, which helped improve his hematuria.

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Results

- Following the successful thrombectomy, the patient's heart rate and pulmonary pressure showed improvement. He was continued on heparin for 48 hours before transitioning to Eliquis. -
- The patient was weaned off of oxygen and his symptoms of chest discomfort and shortness of breath had eased.
- Following Foley catheter removal, the patient had clear urine as the hematuria had resolved.

Conclusion

- This case highlights the utility of mechanical thrombectomy in managing pulmonary emboli in patients with renal cell carcinoma and hematuria, where traditional anticoagulation poses bleeding risks.
- The Inari FlowTriever system effectively resolved the emboli, allowing for safe transition to oral anticoagulation and highlighting its role as a valuable tool in complex clinical scenarios.

References

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