

Introduction

Venous thromboembolic events are life-threatening complications of pregnancy. During the postpartum period its risk is 37-fold higher compared no non-pregnant women.¹ The use of ultrasound-assisted thrombolysis has emerge during recent years as a safe alternative for the treatment of venous thromboembolic events during pregnancy and postpartum period. Here we present a case about postpartum pulmonary embolism (PE) treated with ultrasound-assisted thrombolysis.

Case Presentation

A 38-year-old female who presented 1-week postpartum complaining of shortness of breath and chest pain. A CT angiogram showed a right pulmonary artery PE with signs of right heart strain. She was started on heparin drip and taken ultrasound-assisted EKOS catheter directed thrombolysis. The catheter was left in for tissue plasminogen activator (tPA) infusion for 6 hours bilaterally. After the 6 hours, the catheter was removed and the patient was restarted back on the heparin drip and transitioned to a direct oral anticoagulant. The patient tolerated the procedure well and remained hemodynamically stable with no signs of bleeding or hemoglobin changes. She was safely discharge with follow-up with her OB/GYN in 1-week.

Images

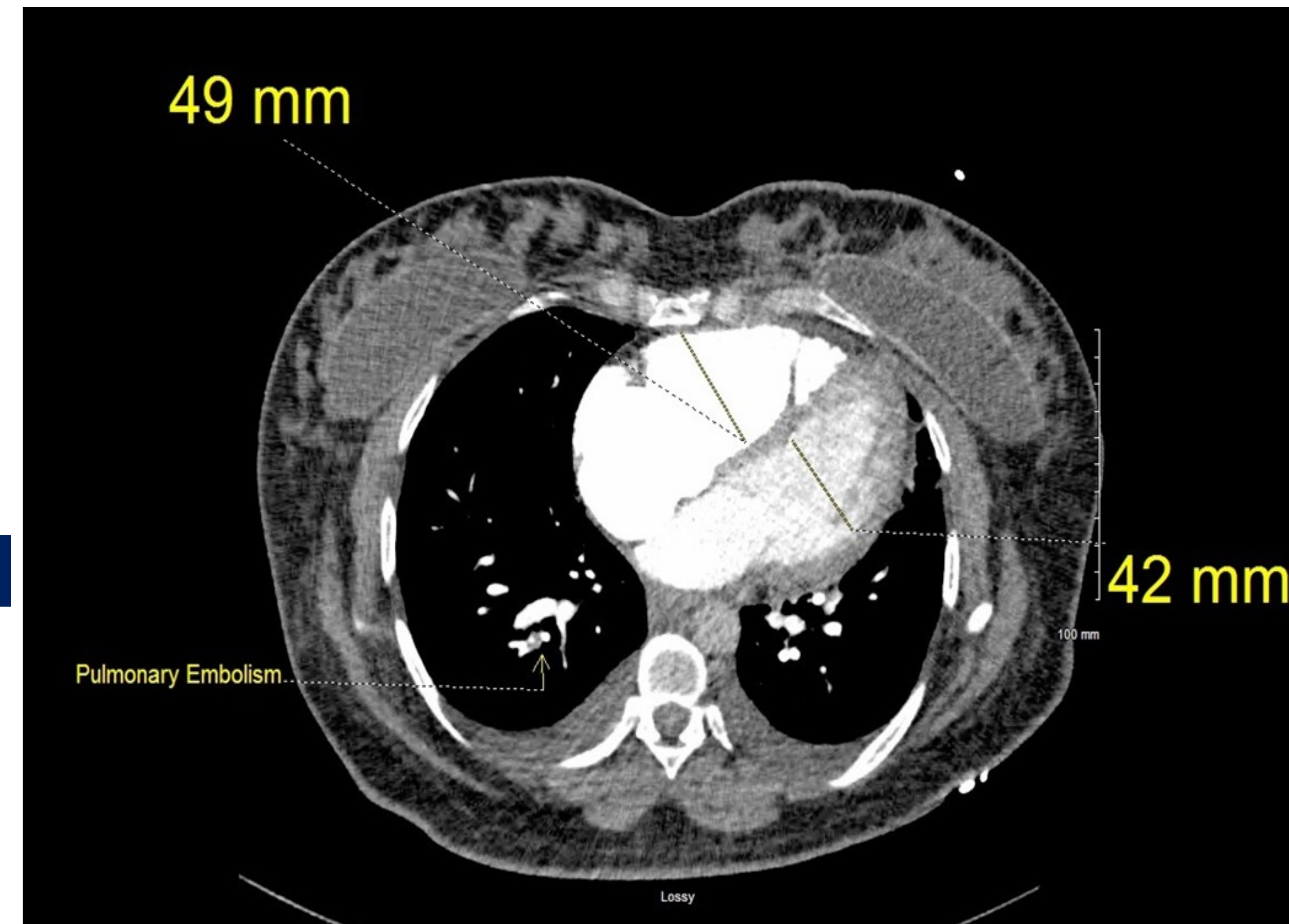
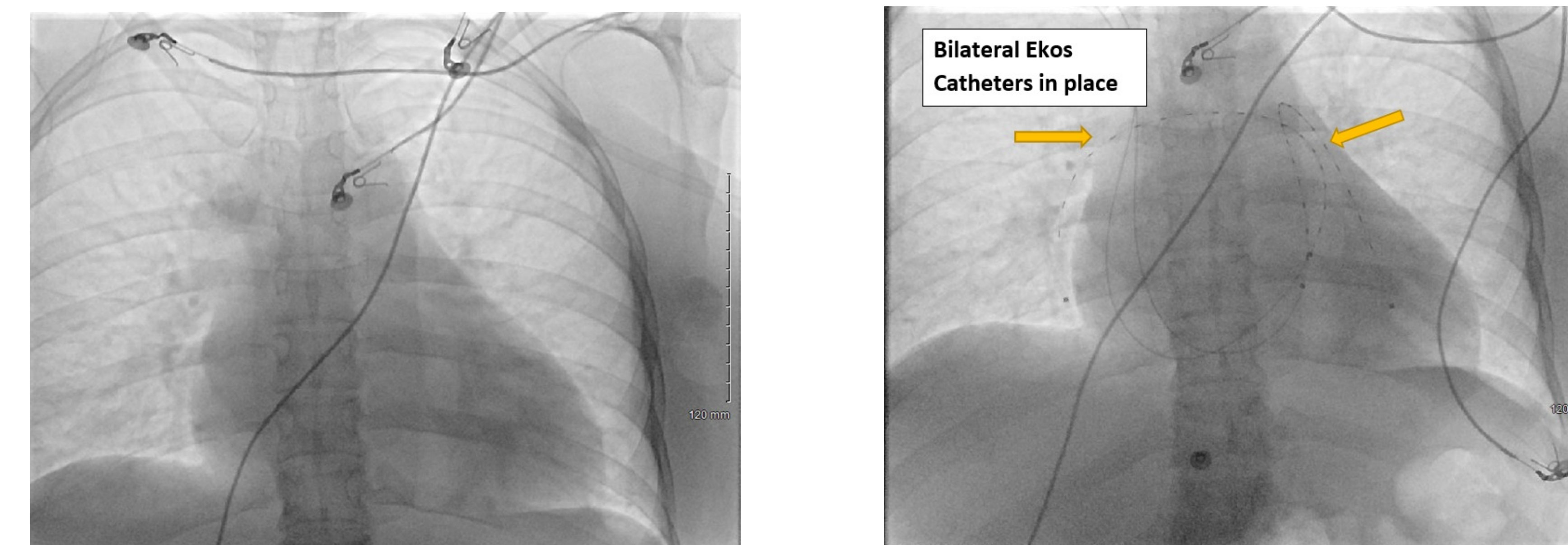


Image 1 (Top): Chest CTA showing Pulmonary Embolism and Right heart Strain. Image 2 (Bottom Left): Chest X-ray before EKOS catheter placement. Image 3 (Bottom right): Chest X-ray after EKOS catheter placement

Discussion

- ❖ The standard of care for PE includes the use of anticoagulant therapy, such as heparin or low molecular weight heparin, to prevent further clot formation and promote clot lysis.
- ❖ However, in some cases, these therapies may not be sufficient to dissolve the clot and restore blood flow to the lungs. In such cases, thrombolytic therapy, which uses drugs to dissolve the clot, may be considered.
- ❖ EKOS catheter-directed thrombolysis (CDT) is a relatively new and promising treatment option for PE. It involves the infusion of thrombolytic agents, such as tPA, through a catheter directly into the clot.
- ❖ The EKOS catheter uses ultrasound energy to create a mechanical disruption of the clot, which enhances the activity of the thrombolytic agents, improving the rate and efficiency of clot lysis.
- ❖ Catheter-based revascularization therapy has emerged as potential alternative to systemic thrombolysis PE with high clinical success rates > 85% and relatively low rates of major procedural complications < 5%.²
- ❖ Intervention with EKOS further reduced right heart strain and resulted in few complications compared with previous trials providing evidence that EKOS is effective and safe long-term for management of sub-massive PE.³
- ❖ Overall, EKOS CDT has shown to improve outcomes without compromising safety.

References

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