



ALL THE WRONG PROBLEMS BUT ALL THE RIGHT ANSWERS: COMPLEX DECISION MAKING THROUGH PULMONARY EMBOLISM RESPONSE TEAM

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Background

- Multidisciplinary care is an integrated team approach to healthcare using collaborative processes in planning of patient treatment.
- We present a case that highlights the use of a multidisciplinary team approach in the critical care setting.

Case

- A 39 y/o woman with asthma and obesity was admitted with multiple fractures, bilateral subarachnoid hemorrhages and subdural hematoma after a motor vehicle accident.
- While on the operating table for ankle fracture repair, she went into PEA arrest. Suspicion for pulmonary embolism (PE) was high and a Pulmonary Embolism Response Team (PERT) was called.
- Emergent transesophageal echocardiogram showed thrombus within the right pulmonary artery (Figure 1).
- ROSC was achieved after 2 minutes but had PEA arrest again with ROSC after two rounds of ACLS.
- Within 30 minutes of the first PEA arrest she was placed on ECMO and intubated.

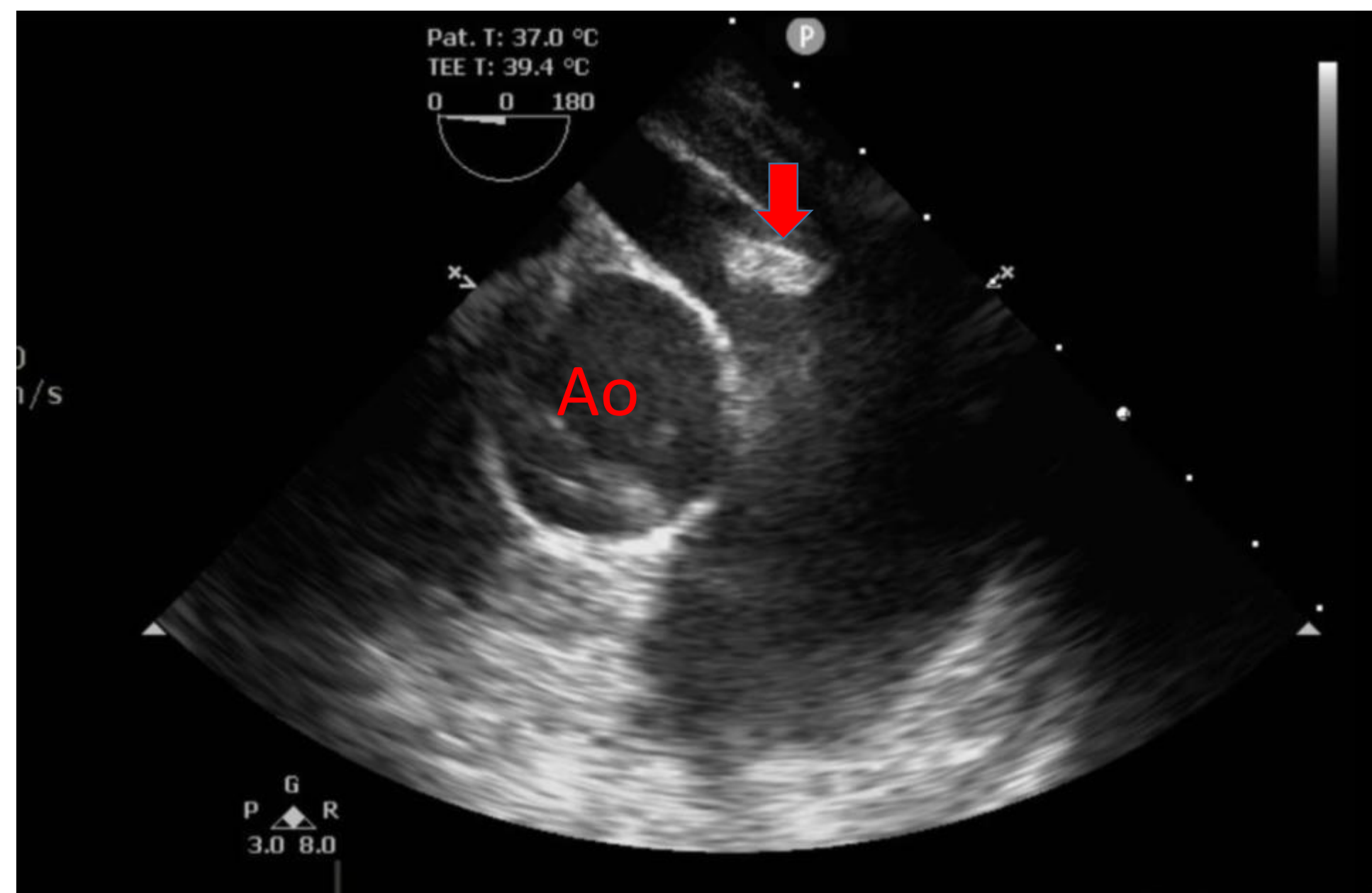


Figure 1: Mid-esophageal ascending aorta short axis view showing thrombus (red arrow) in the right pulmonary artery

References

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Decision Making

- Thrombolysis for cardiac arrest with presumed PE was not possible due to bleeding. ECMO was utilized as a “bridge-to-definitive therapy”.
- Pulmonary angiography showed extensive thrombosis with saddle PE with severe RV strain.
- Multidisciplinary decision was made among PERT team to proceed with mechanical thrombectomy without lysis.
- Venous cannula placed in the right atrium produced negative pressure and hemodynamic changes resulting in air and thrombus in the ECMO circuit.
- Passage of thrombectomy sheath through the pulmonary arteries was coordinated with brief ECMO venous cannula flow pauses.
- Additionally, the 22F Sentrant sheath was exchanged for a 24F DrySeal Flex. The DrySeal valve and venous cannula flow were adjusted with each pass of the Trierer20 suction device to avoid air or thrombus entering the ECMO circuit.
- Repeat angiogram showed large decrease in thrombus burden. She was weaned off ECMO, extubated and discharged in stable condition.

Conclusions

- This case illustrates the advantage of having a dedicated multidisciplinary team approach to develop a real-time emergent treatment plan in a specifically tailored to the needs of the complex PE patient, improving patient outcomes.

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