

Pulmonary Embolism and Disseminated Intravascular Coagulation in the Setting of Septic Abortion

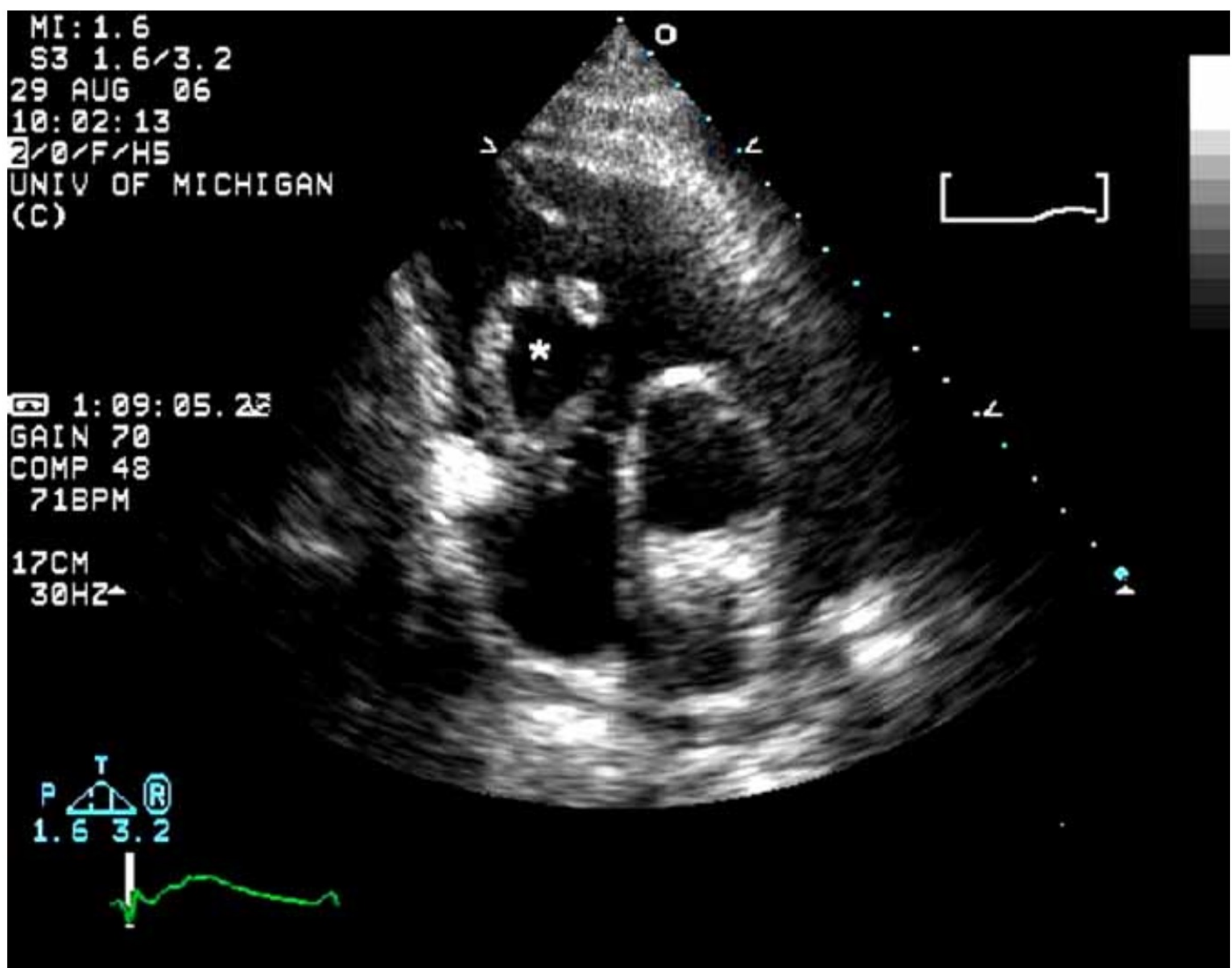
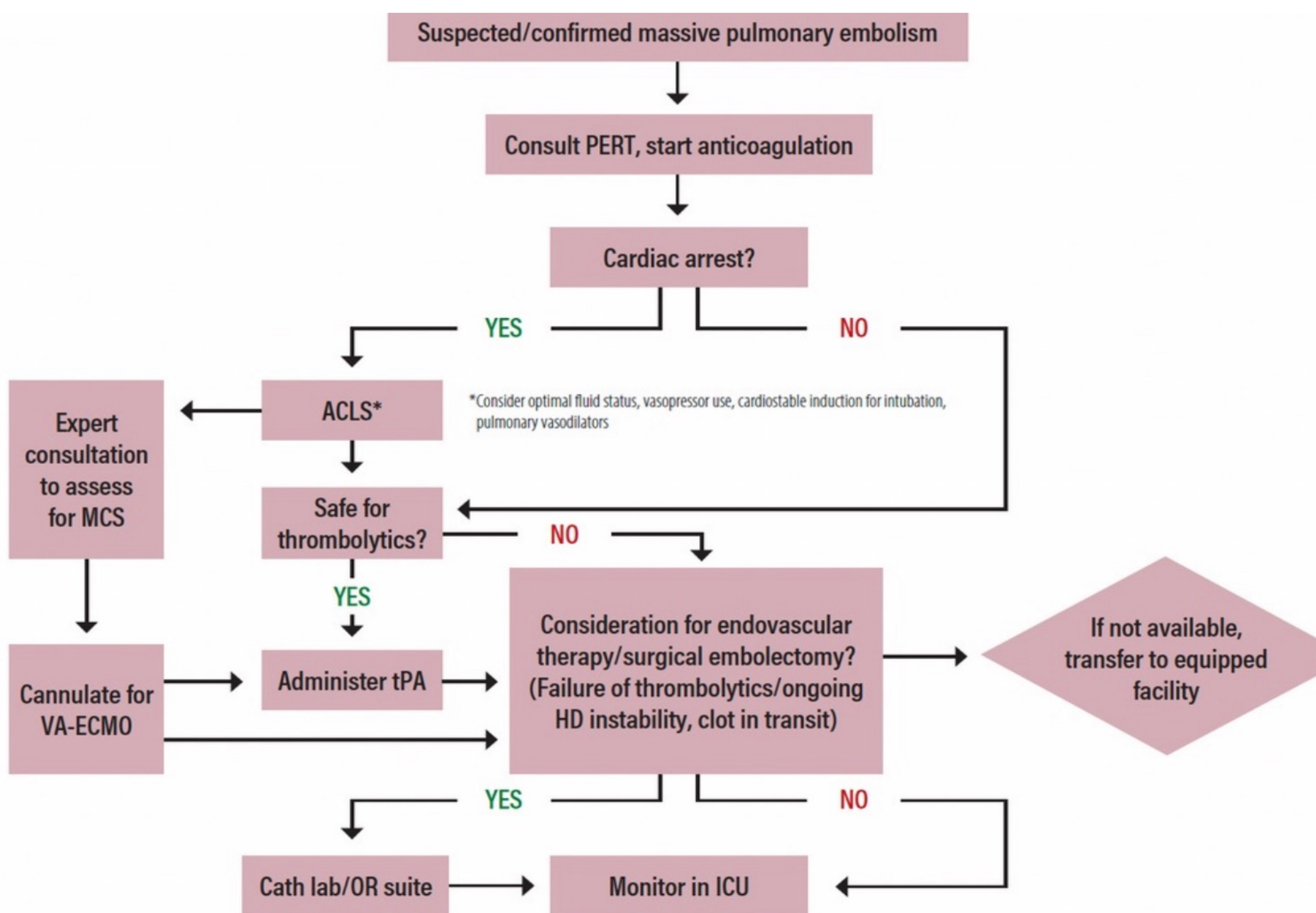
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Introduction

Surgical abortion is a commonly performed procedure in reproductive aged women. Dilation and evacuation (D&E) is the most commonly preferred procedure for surgical abortion, especially in the second trimester. Potential complications of second-trimester D&E’s can be hemorrhage, retained products of conception, and very rarely coagulopathies such as disseminated intravascular coagulation (DIC) leading to pulmonary embolism and potentially cardiac arrest (Ben-Ami, et al). Although incredibly rare, pulmonary embolisms can cause acute perioperative cardiovascular or pulmonary derangements. It is crucial the anesthesiologist be able to promptly recognize these complications and initiate treatment. Many hospitals also now have multidisciplinary teams known as Pulmonary Embolism Response teams that aid in determining further therapies, which is especially helpful given the multitude of treatment modalities and expanding use of invasive procedures including embolectomies and mechanical circulatory support.

Case Report

A 40-year-old female with no significant medical history, presented at 16w4d for emergent dilation and evacuation due to septic abortion. Intra-operatively, the patient went into cardiac arrest with ventricular tachycardia. Cardiopulmonary resuscitation (CPR) was initiated and return of spontaneous circulation (ROSC) was achieved in 1 minute. After ROSC, intra-operative transesophageal echocardiography revealed a thrombus in the right ventricle. CT scan demonstrated thrombi in the right main pulmonary artery, portal vein, and SMV in addition to a subarachnoid hemorrhage. The pulmonary embolism response team (PERT) was activated, the patient was cannulated for ECMO and stabilized on an epinephrine infusion. After consideration of thrombolysis and ECMO, the patient was ultimately managed with only supportive care and anticoagulation with heparin. She was weaned off pressors and extubated on POD1.



Pulmonary embolism in transit. This short axis transthoracic echocardiogram image shows an embolism (*asterisk) passing through the tricuspid valve into the right ventricle.

Discussion

Coagulopathy often manifests differently in patients undergoing surgical abortion due to intrauterine fetal demise (IUFD) versus pregnancy termination. Most patients with IUFD have normal blood clotting studies even on the day of their procedure. However intraoperatively, separating the placenta from the uterine wall transects venous sinuses, which allows for tissue factor from the placenta or amniotic fluid to be released into maternal venous circulation (Ben-Ami, et al). This stimulates a cytokine cascade, and a hyper-activation of the coagulation cascade, leading to DIC and complications such as pulmonary embolism. The use of Pulmonary Embolism Response Teams has been crucial in improving the treatment offered for the management of complex PE patients. Timely consultation of a dedicated team to treat patients with life-threatening PE results in both expedited medical treatment and catheter interventions, as well as reductions in both ICU and overall length of hospital stay (Koslowsky et al).

Conclusion

Although an extremely rare occurrence, septic abortions can lead to consumptive coagulopathy, and in the case of our patient concomitant pulmonary embolism and brain hemorrhage. It is crucial that anesthesiologists be able to quickly recognize and treat these complications. More hospitals are creating pulmonary embolism response teams to have a multidisciplinary approach to treating patients with acute PEs. This case highlights the potentially devastating consequences of a surgical abortion in the setting of intrauterine fetal demise, and the importance of a multidisciplinary team approach to help determine the best course of treatment.

References

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