



AMNIOTIC FLUID EMBOLISM AND PEA ARREST IN A PATIENT WITH PLACENTA ACCRETA SPECTRUM

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CASE: 37-YEAR-OLD G10P3063 WITH PLACENTA ACCRETA SPECTRUM

Vaginal bleeding at 33w2d:

- Cesarean delivery and hysterectomy

Anesthetic Plan:

- Intrathecal Morphine
- General Anesthetic
- Arterial line, 2 large bore PIVs

Intraoperative Bleeding:

- >3L before incision
- Massive Transfusion Protocol

Intraoperative Codes:

- PEA arrest due to hemorrhage → CPR → ROSC
- 2nd PEA arrest due to clot in the right atrium and right ventricle (Figure 1) → CPR → ROSC

Intraoperative Sequelae:

- DIC
- Pulmonary edema
- Resolution of thrombus and improved cardiac output (Figure 2)

Postoperative:

- ICU
- Take back for bleeding
- Take back for closure
- Discharge post-op day 6

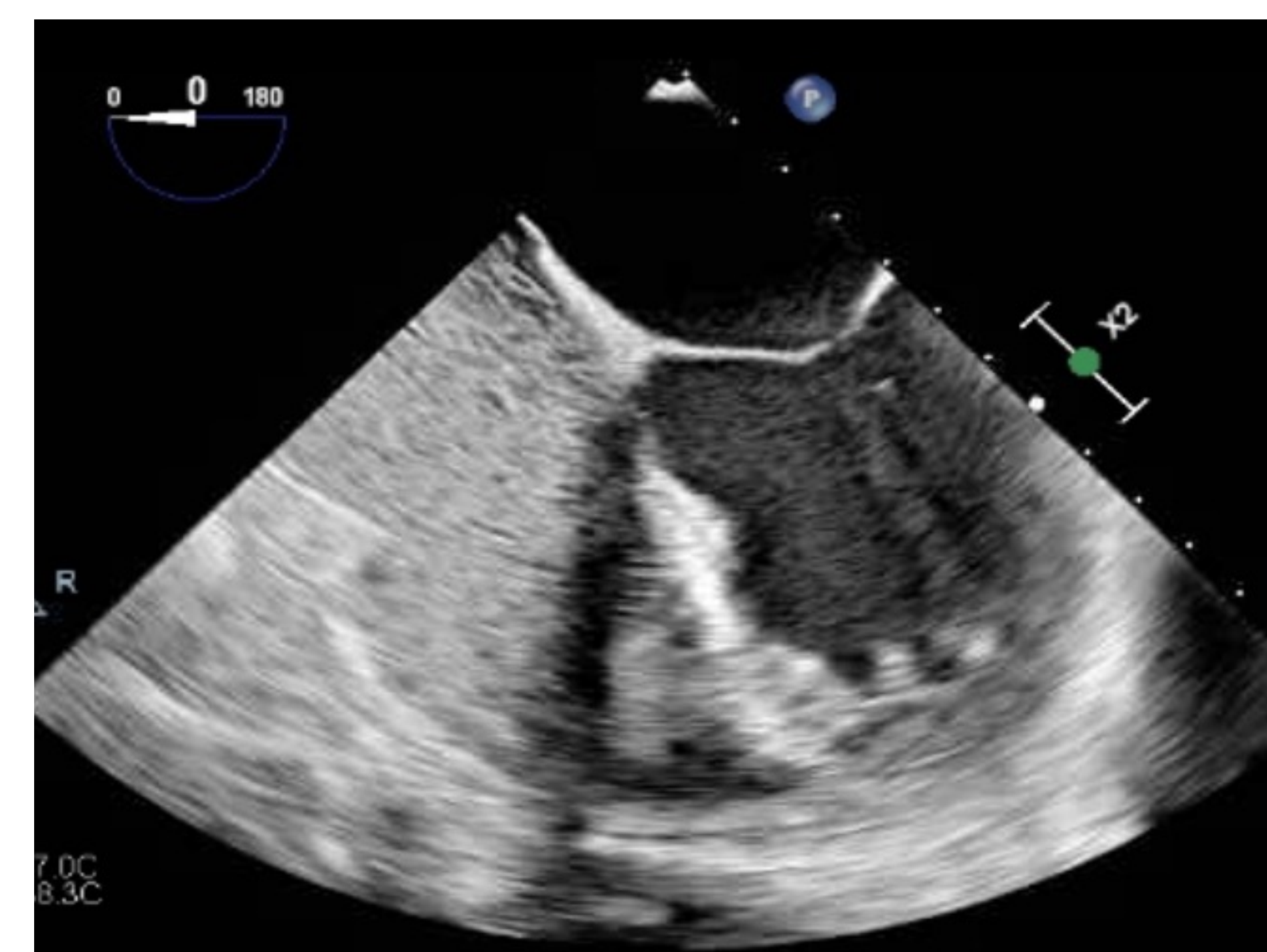


Figure 1. Thrombus occluding RV outflow tract.

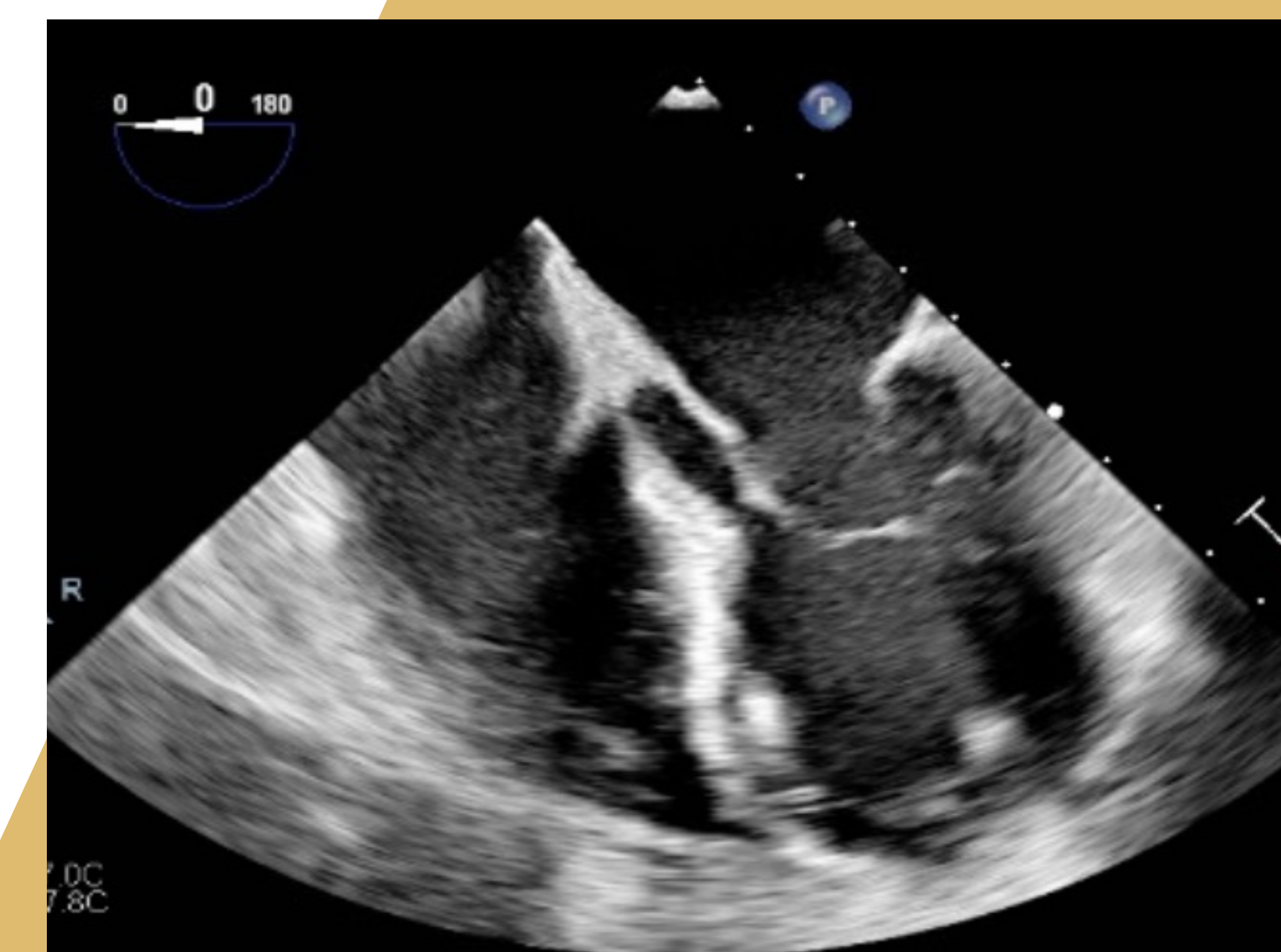


Figure 2. Resolution of RV thrombus and improvement of systolic function. 1



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BACKGROUND AND PATHOPHYSIOLOGY

- **Amniotic fluid embolism (AFE):**
 - Incidence: 1.9-6.1 per 100,000 births
 - Mortality rate: 20-60%^{1, 2}
 - Pathophysiology: maternal response to a breach in the maternal-fetal physiologic barrier → release of endogenous inflammatory mediators → acute pulmonary vasospasm and subsequent coagulopathy^{1,3}

AFE PRESENTATION AND DIAGNOSIS

Presentation:

- Cardiac arrest during labor, after rupture of membranes, or after cesarean hysterotomy
- Hypotension
- Dyspnea
- Cyanosis
- Bleeding
- Fetal heart rate abnormalities^{1,2}

Differential diagnosis for cardiac arrest in pregnancy:

- Hemorrhagic shock
- Thromboembolic disease
- Left heart failure
- Anesthetic complications
- AFE³

→ Echocardiography can narrow this differential^{2, 3}



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CLINICAL CONSIDERATIONS

- Echocardiography, notably **TEE**, is an important clinical skill
 - Narrow intraoperative differential diagnosis for maternal cardiac arrest
 - Recognition of both cardiac impairment and improvement in cardiac function after an acute event
- Quick recognition of clinical decompensation is critical to start treatment, especially **cardiopulmonary resuscitation**
- Timely treatment of the sequelae of AFE, for example **DIC** and **pulmonary edema**, includes:
 - Hemodynamic support
 - Resuscitation with blood products
 - Correction of acid/base imbalances
 - Diuresis

REFERENCES:

