Amniotic Fluid Embolism with Echocardiographic Evidence of Intracardiac Thrombus

Two case reports

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Background: Amniotic Fluid Embolism

- Rare but life-threatening obstetric emergency
- Sudden cardiovascular collapse and disseminated intravascular coagulation
- Incidence: 2.2–7.7 per 100,000 deliveries
- Fatality rate: up to 26%
- Entry of amniotic fluid into maternal circulation via torn placental/uterine veins
- Results in an anaphylactoid reaction:
  - Cardiopulmonary collapse
  - Coagulopathy
  - Release of inflammatory mediators
- Rapid shift from hypercoagulable to hypocoagulable state

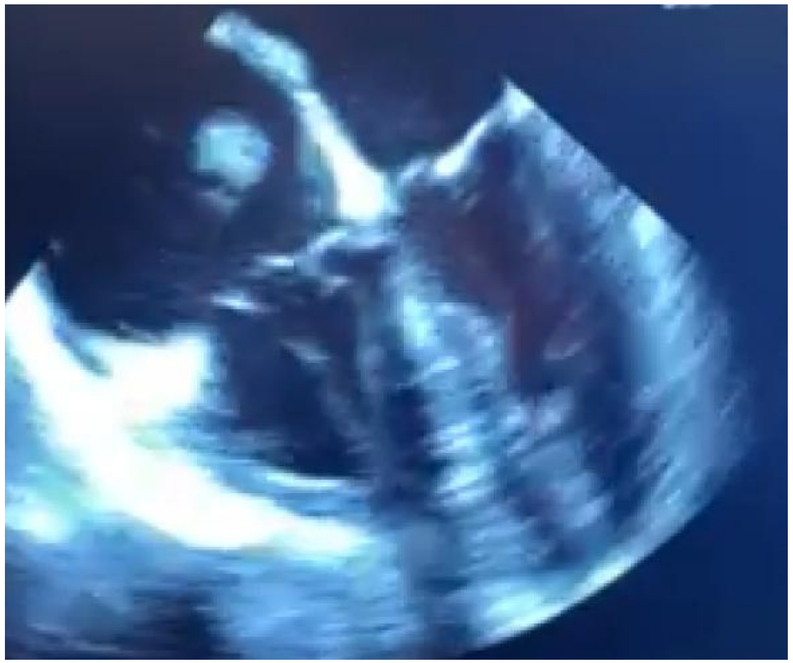

Image 1: Right Atrial Thrombus on TEE

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CASE REPORTS

Case 1

38 yo, Scheduled Repeat Cesarean

PEA arrest immediately after delivery

Return of spontaneous circulation (ROSC) achieved

Intraoperative TEE: large intracardiac thrombus, right ventricular dilation

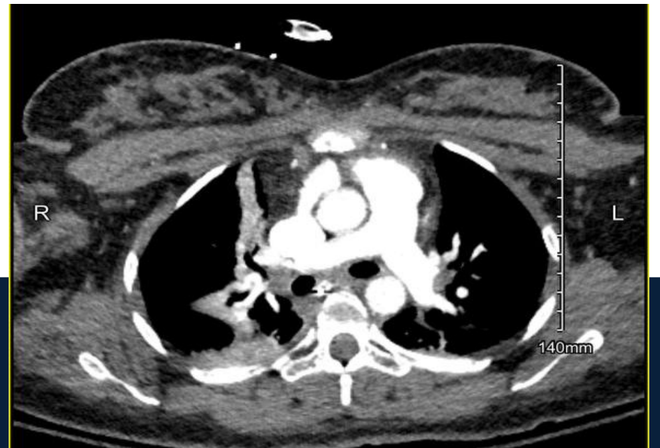
ROTEM: hypocoagulability despite earlier hypercoagulable state

Management:

- Tranexamic acid (TXA)
- Fresh frozen plasma (FFP)
- Massive transfusion protocol (MTP)

Postoperative CTA: subsegmental pulmonary emboli

Image 2: CTA Chest



Case 2

37 yo, Scheduled Cesarean, Suspected Focal Placenta Accreta

PEA arrest following uncomplicated placental delivery

ROSC after one round of ACLS

Intraoperative TEE: intracardiac thrombus, IVC extension

ROTEM: hypocoagulability

IR Consult: no intervention, rapid thrombus breakdown

Persistent hemorrhage → hysterectomy, continued MTP

Postoperative imaging: multiple subsegmental pulmonary emboli

Image 3: Coagulation Studies Consistent with DIC

Related Results	Ref Range & Units	
D-Dimer, Quantitative Repeated on dilution.	<=0.50 mcg/mL	>32.00 ▲
PTT	25.1 - 41.5 sec	43.5 ▲
FIBRINOGEN	190 - 400 mg/dL	87 ▼▼
Protime	10.2 - 13.0 sec	17.8 ▲
INR	0.9 - 1.3	1.5 ▲

Discussion

Disseminated intravascular coagulation (DIC) and consumptive coagulopathy are key features of AFE

Fibrinogen replacement and antifibrinolytics are critical in reversing hypocoagulability

Management is complicated by concurrent thromboembolism and consumptive coagulopathy

Uncertainty exists around using fibrinogen and TXA in the presence of thrombus

TEE is a valuable adjunct, but presence of thrombus should not delay treatment

Case 1:

Delay in administering cryoprecipitate due to concern for thrombus

Case 2:

Prior experience led to more aggressive early intervention

Need for further studies on coagulation cascade evolution in the hyperacute phase of AFE to optimize therapy

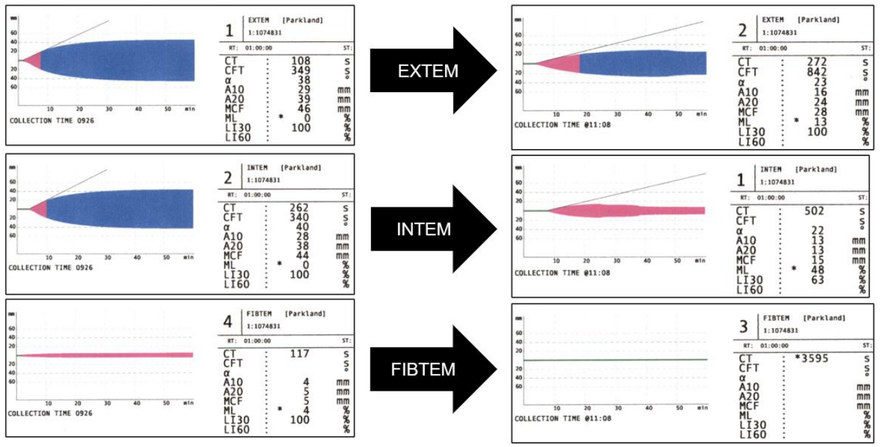
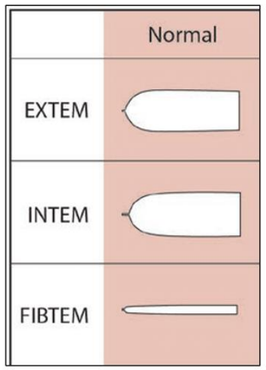


Image 4: Progressive Coagulopathy



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