

Case Report: Multidisciplinary Management of Presumed Amniotic Fluid Embolism and Complications

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Objective: This case report presents an obstetric emergency involving a 35-year-old woman with significant comorbidities who experienced cardiac arrest following an emergency cesarean delivery, highly suggestive of an amniotic fluid embolism (AFE). This rare and life-threatening complication underscores the critical importance of a multidisciplinary approach in managing high-risk pregnancies and obstetric emergencies.



Case Report: Gavida 14 para 6-1 with a body mass index (BMI) of 33, presented at 35+1 weeks gestation. Her medical history included essential hypertension, prior pre-eclampsia, type 2 diabetes mellitus, previous venous thromboembolism managed with clexane, and a history of gastric sleeve surgery. She also had a history of preterm births and a previous intrauterine fetal demise at 39 weeks due to placental abruption. Furthermore, she was a smoker and had a short interpregnancy interval following a prior cesarean delivery in 2023. Due to chorionamnion separation and observed decreased fetal movements, an emergency cesarean section was performed. Within minutes postdelivery, the patient developed precipitous loss of consciousness and subsequent cardiopulmonary arrest. A code blue was immediately activated, and after four rounds of cardiopulmonary resuscitation (CPR), return of spontaneous circulation was achieved after eight minutes. The presumed diagnosis was AFE. Post-resuscitation investigations included computed tomography pulmonary angiography (CTPA), which revealed no pulmonary embolism, and a normal transthoracic echocardiogram (TTE). However, thromboelastography (TEG) demonstrated significant coagulopathy, necessitating the administration of cryoprecipitate. The patient was admitted to the intensive care unit for 14 days, during which she developed multiple complications. These included renal and gonadal vein thrombosis, managed with heparin infusion followed by warfarin therapy; acute renal failure, likely secondary to pre-renal hypoperfusion, requiring continuous renal replacement therapy and subsequent hemodialysis; a conservatively managed abdominal wall hematoma; multifactorial anemia; and ischemic hepatopathy. Troponin levels peaked at 10,824 ng/L, indicating myocardial injury; however, coronary angiography revealed normal coronary arteries, suggesting a non-cardiac etiology, possibly related to the AFE. The neonate was transferred to a tertiary care center for evaluation of suspected Hirschsprung disease and polycythemia. Rectal biopsy was ultimately inconclusive for Hirschsprung disease, and the polycythemia resolved with hematological monitoring.

MICROSCOPY
Sections from the umbilical cord show 3 patent vessels, with no acute inflammation identified.

Sections from the membrane roll show entirely stripped amnion, with normal chorionic and subchorionic layers, no acute inflammation identified.

Sections from the placental disc show villous morphology consistent with third trimester. There is some intact amnion related to the basal plate which is normal, no acute inflammation. Basal plate foetal vessels show no abnormality. There are patchy areas of extra villous fibrin deposition beneath the basal plate. There is an area of conspicuous extra villous fibrin deposition, associated with localised ischaemia of adjoining villi. This does not traverse the full foetal/maternal surface plane, falling short of diagnostic for massive perivillous fibrin deposition.

There is no morphological evidence of VUE. No thrombosis lesion is identified.

CONCLUSION
Placenta (624 g):

- Normal triple vessel umbilical cord, and normal membranes
- Placental disc shows focally prominent intervillous fibrin deposition (not diagnostic for massive intervillous fibrin deposition).

Discussion: This case emphasizes the importance of prompt recognition and effective management of AFE. The positive outcome, despite the severity of the maternal complications, is attributed to the rapid response and the coordinated multidisciplinary approach.

Conclusions: This case also reinforces the need for meticulous monitoring and follow-up in high-risk pregnancies, particularly those with multiple comorbidities and a history of obstetric complications.