# Amniotic Fluid Embolism (AFE) with Cardiac Arrest
## Rapid Intervention and Survival – The Role of Human Factors

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## INTRODUCTION

**AFE** is a rare (1:20,000) but catastrophic obstetric emergency with high maternal mortality and morbidity.

*Key features:*

- *Sudden respiratory distress*
- *Cardiovascular collapse*
- *Disseminated Intravascular Coagulation (DIC)*

As it is a diagnosis of exclusion, team preparedness through simulation and Human Factors (HF) training is beneficial in managing high cognitive load during crisis.

## Case Report

A **41-year-old woman (21+4 weeks)** with twin-to-twin transfusion syndrome had a termination of pregnancy due to complications after laser therapy.

She collapsed and **arrested upon SROM**.

CPR commenced & senior support summoned.

Differentials: MOH, PE and AFE.

Given risk factors and temporal association with SROM, **AFE** became the working diagnosis.

Maternal resuscitation was optimised by:

- ✓ Early intubation during resuscitation
- ✓ Instrumental delivery of foetuses by 5 minutes
- ✓ Adrenaline infusion
- ✓ ROTEM-guided blood product administration (Fig. 2).

**ROSC achieved** and the patient transferred to ITU. She was discharged **GCS 15** with residual memory deficits.

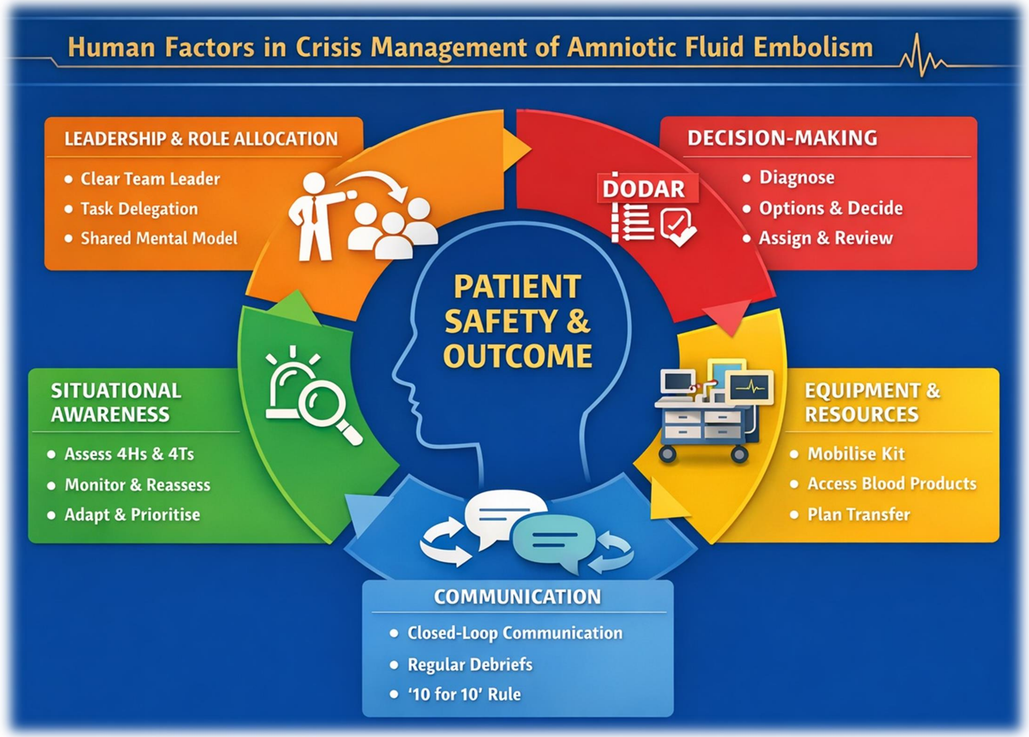


Figure 1: Human Factors

## DISCUSSION: WHY THIS WORKED

- Early recognition enabled rapid escalation
- Clear leadership improved task allocation
- Closed-loop Communication: Reduced risk of preventable errors
- Parallel Processing: Anaesthesia, Obstetrics, Transfusion and Resus team worked simultaneously, reducing time-to-intervention
- Human factors influenced survival

## KEY LEARNING POINTS

1. **Early Recognition:** Think AFE early in any sudden maternal collapse; verbalising the suspicion aligns the team immediately
2. **Perimortem Delivery:** Do not delay delivery in cardiac arrest
3. **Structured Decision-making Tool:** Use DODAR (Diagnosis, Options, Decide, Act, Review)
4. **Human Factors:** Non-technical skills are just as vital to clinical outcomes

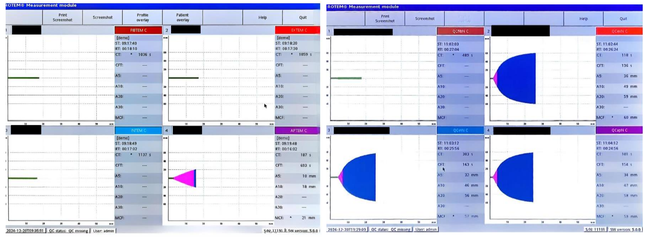

Figure 2: ROTEM guided correction of coagulopathy

**References**

1. Metodiev, Y. et al. Amniotic fluid embolism. BJA Education, Volume 18, Issue 8, 234 – 238
2. Human Factors in Patient Safety: Review of Topics and Tools (Flin et al, 2009)
3. Closed Loop Communication Training in Medical Simulation. [Salik I, Ashurst JV. Updated 2023 Jan 23]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2026 Jan