

# A Rare Triple Challenge: IVF Twin Pregnancy with Cervical Cerclage, Preterm Labor, and Severe Sepsis

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Received Date: Month 00, 2025

Published Date: Month 08, 2025

## Abstract:

IVF-conceived twin pregnancies are high-risk pregnancies which should be managed under a high-risk obstetrics team; and this care should be further escalated to multidisciplinary team including ICU Intensivists especially when it becomes associated with life-threatening complications. Here we are discussing a similar high-risk IVF-conceived twin pregnancy which landed into preterm labour and severe sepsis associated with multiple organ dysfunction syndrome (MODS), necessitating ICU care. Further, role of cervical cerclage in multiple pregnancy is unclear due to associated risks of going into preterm labour leading to cervical tear &/or avulsion, if not attended in-time.

**Keywords:** IVF Twin pregnancy, Cervical cerclage, severe sepsis, preterm labour, MODS

## Introduction

Twin pregnancies resulting from *in-vitro* fertilization (IVF) are associated with a significantly increased risk of preterm birth and various maternal-fetal complications compared to singleton pregnancies. Statistics show that over 50% of twin pregnancies culminate in delivery before 37 weeks of gestation, with about 10% occurring before 32 weeks.<sup>[1]</sup> The efficacy of cervical cerclage in preventing preterm birth in twin pregnancies remains controversial. While some studies highlight potential harm, recent meta-analyses suggest a beneficial role, especially in cases where cervical length is less than 15 mm.<sup>[2]</sup>

## Case Description

A 35-year-old primigravida at 6.5 months gestation, with a twin pregnancy conceived via IVF, presented with a 15-day history of breathlessness and fever lasting 10 to 12 days. On examination, her pulse rate was 84 bpm on CPAP, respiratory rate was elevated at 32 to 34 breaths per minute, and oxygen saturation was critically low at 84% on room air, improving to 100% with pressure-controlled ventilation (PRVC). Obstetric examination revealed a uterus consistent with 28 to 30 weeks of gestation, with palpable multiple fetal parts and uterine contractions. Chest X-ray showed bilateral infiltrates. Per vaginal examination revealed a fully dilated os, effaced cervix, presence of blood-stained liquor, and a visible cerclage thread scar.

## Diagnosis

The patient was diagnosed as a primigravida at 28 weeks of gestation with an IVF-conceived twin pregnancy in preterm labor, complicated by pneumonia, lactic acidosis, respiratory distress, acute kidney injury (AKI), multi-organ dysfunction syndrome (MODS), sepsis, anemia, and thrombocytopenia.

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**How to Cite:** Singh N, Tangri M, Singh P, Mishra P. A Rare Triple Challenge: IVF Twin Pregnancy with Cervical Cerclage, Preterm Labor, and Systemic Complications. *J. Comprehensive Obs. & Gynec Care.* 2025; 1(1): 1-2

### **Treatment and Outcome**

Management involved endotracheal intubation and the administration of culture-sensitive antibiotics, including IV meropenem, clindamycin, azithromycin, colistin, along with pantoprazole for gastric protection. Hemodynamic stability was maintained using norepinephrine noradrenaline infusion, while supportive transfusions included platelet concentrates, fresh frozen plasma (FFP), and packed red blood cells (PRBCs). The patient underwent preterm vaginal delivery, which was further complicated by placental abruption. Unfortunately, one of the twins experienced intrauterine demise (IUD), while the surviving twin succumbed in the NICU within three days. A cervical tear was identified and repaired under general anesthesia. The patient remained in critical care, continuing to fight for her life.

### **Discussion**

This case represents a complex clinical scenario involving an IVF-conceived twin pregnancy with preterm labor and systemic deterioration. The patient had a history of cervical cerclage, and the findings of a fully dilated cervix suggest cervical insufficiency—a known contributor to preterm delivery in twin gestations.<sup>[3]</sup> The presence of respiratory distress and hypoxemia, likely secondary to pneumonia or acute respiratory distress syndrome (ARDS), necessitated respiratory support and multidisciplinary care.<sup>[4]</sup> Laboratory investigations confirmed systemic infection, renal and

hepatic dysfunction, indicative of sepsis and MODS. Such high-risk pregnancies demand coordinated care among obstetricians, intensivists, and neonatologists to ensure optimal outcomes.

### **Conclusion**

This case highlights the multifaceted challenges in managing an IVF twin pregnancy complicated by preterm labor, respiratory failure, and multi-organ dysfunction. It emphasizes the crucial role of early recognition, aggressive multidisciplinary intervention, and timely obstetric management. Despite a tragic neonatal outcome, the prompt surgical repair of the cervical tear and stabilization of the mother reflect the critical importance of collaborative care in high-risk obstetrics.

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