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Case Report

Case Report: A Rare Case of Uterine Fundal Rupture at 31 Weeks Gestation with Postpartum Delirium in a 62-Year-Old Twin Pregnancy Conceived by IVF

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Abstract

We report the case of a 62-year-old woman with a dichorionic diamniotic twin pregnancy conceived through *in vitro* fertilization (IVF). Her pregnancy was complicated by poorly controlled type 2 diabetes mellitus, chronic hypertension, and superimposed severe preeclampsia at 31 weeks of gestation. She underwent an emergency cesarean section for non-reassuring fetal status, which revealed a uterine fundal rupture with the appendix adherent to the rupture site. A uterine repair and appendicectomy were performed. Postoperatively, the patient developed acute confusional state (delirium), which resolved within 48 hours with psychiatric management. This case highlights the complex challenges of very advanced maternal age pregnancies, and the importance of multidisciplinary management in optimizing outcomes.

Keywords: *Advanced Maternal Age; IVF Pregnancy; Uterine Rupture; Preeclampsia; Postpartum Delirium; Twin Pregnancy*

Introduction

Pregnancy at an incredibly advanced age is not unknown but rare and usually the result of assisted reproductive technologies such as IVF. These pregnancies are associated with significant maternal and perinatal complications, including hypertensive disorders, gestational diabetes, and preterm birth. In the bible, Sara, the wife of Abraham bore Isaac at the age of 91 years (Genesis 21:2). In 1932, a report of Margaret Krasiowa who was a women from Poland, lived from 1655 to 1763 is noted in historical records for allegedly marrying her third husband in her 94th year and having three children 2 boys and one girl before she died at the age of 108 years in 1763 [1].

We report a unique case of a 62-year-old woman with IVF-conceived DCDA twin pregnancy who developed superimposed preeclampsia, underwent emergency cesarean delivery complicated by fundal uterine rupture, and subsequently developed postpartum delirium.

Case Report

A 62-year-old woman, gravida 2 para 1, with a history of vaginal delivery at 32 weeks complicated by intrauterine fetal demise in Sudan 20 years earlier, conceived a dichorionic diamniotic twin pregnancy through *in vitro* fertilization (IVF) via stem cell therapy in India but no report seen. A cervical cerclage was placed at viability.

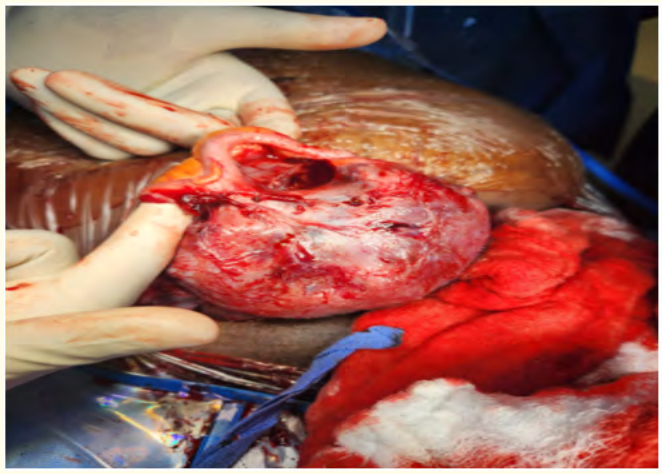
Her medical history included type 2 diabetes mellitus (managed with insulin glargine and aspart) and chronic hypertension (managed with labetalol). Her surgical history was notable for abdominal myomectomy several years prior.

At conception, her HbA1c was 8.4%, reflecting suboptimal glycemic control. Antenatal follow-up revealed selective fetal growth restriction (Twin B) at 27 weeks with abnormal Doppler indices, for which she was followed weekly by the fetomaternal medicine team. She had recurrent admissions from 18 weeks with left upper quadrant abdominal pain. Imaging investigations (ultrasound, MRI, echocardiography) were unremarkable. Antenatal corticosteroids were administered for fetal lung maturity.

At 31 weeks, she presented with recurrent upper left abdominal pain, severe hypertension (180/100 mmHg), and proteinuria (3+). A diagnosis of superimposed severe preeclampsia was made. Intravenous labetalol was commenced, and she was transferred to intermediate care unit. On arrival, cardiotocography showed Category III tracing with reduced variability and recurrent deep decelerations in Twin B. An emergency cesarean section was performed under spinal anesthesia.

Two preterm boys were delivered, weighing 1100g and 1200g, with Apgar scores of 8/4 and 3/8 at one and five minutes respectively. Both neonates were admitted to the NICU.

Intraoperatively, a uterine fundal rupture was discovered, admitting more than one finger, with the appendix adherent and wrapping around the rupture site. A uterine repair and appendicectomy were performed. Estimated blood loss was 1700 ml. The cervical cerclage was removed.



Figure

Postoperatively, the patient was admitted to the high dependency unit. Hemoglobin dropped from 9.4 g/dL to 7.8 g/dL. Two units of packed red blood cells were transfused. After 24 hours, she developed acute confusional state, becoming agitated, aggressive, and accusatory towards staff. Psychiatry assessment attributed this to an acute confusional state in the context of recent major surgery, hemorrhage, advanced maternal age, and comorbidities. She was treated with haloperidol, with marked improvement after 48 hours, although she had no recollection of the acute episode. She was discharged after six days in stable condition.

Discussion

This case is remarkable for several reasons. First, pregnancy at the age of 62 is exceptionally rare, even in the era of advanced reproductive techniques. While prior studies have demonstrated that women up to their 60s can achieve live births through oocyte donation [2,3]. The use of stem cell-based IVF therapy is novel and scarcely reported. The recent retrospective study of 145 women demonstrated promising outcomes with oocyte activation and successful pregnancies following the Stem Cell Regenera protocol [4].

However, there are no robust, peer-reviewed clinical studies demonstrating that postmenopausal women (natural menopause, ≥12 months amenorrhea, typically ≥50 years) can reliably conceive and deliver after stem-cell ovarian therapy.

Our patient represents an extreme example of purported fertility restoration with emerging ovarian "stem-cell" therapies, underscoring both the potential and the risks of such interventions. However, in this case there is no objective documentation confirming that a stem-cell protocol was performed; this information was based solely on the patient verbal account. Given the widespread and established use of donor oocyte IVF in women of very advanced reproductive age, the possibility that conception occurred via oocyte donation cannot be excluded.

In a large retrospective cohort study evaluating the influence of maternal age on IVF outcomes in women over 40 undergoing single embryo transfer with donor oocytes, live birth rates were significantly lower in women aged 45 - 49 compared with those aged 40 - 44, and although outcomes were further reduced in women ≥ 50, this difference did not reach statistical significance. Perinatal outcomes were also affected by recipient age. Infants born to mothers aged 45 - 49 and ≥ 50 had lower birthweights compared with those in the 40 - 44 group, highlighting that advanced maternal age may negatively influence obstetric and neonatal outcomes independent of oocyte quality. These findings support previous literature suggesting that factors such as uterine receptivity, maternal physiology, and obstetric comorbidities contribute to reduced success rates and adverse perinatal outcomes in older women, even when high-quality donor oocytes are used [5].

Second, our patient developed superimposed preeclampsia at 31 weeks, which is consistent with the high incidence of hypertensive disorders in advanced maternal age and IVF pregnancies. This remains one of the leading indications for iatrogenic preterm delivery in such populations.

Third, the uterine fundal rupture observed intraoperatively is likely related to her history of myomectomy, a well-established risk factor for uterine rupture in pregnancy [6,7]. The rupture in the fundal region, along with adhesions involving the appendix, suggests that the prior surgical site may have been a locus of weakness. Multifetal gestation and uterine overdistension likely compounded this risk. This may equally explain the persistent abdominal discomfort without any detectable cause even with MRI imaging.

Finally, the development of postpartum delirium is rare but important to recognize. It adds a further layer of complexity. Contributing factors in this patient likely included advanced age, recent major surgery, hemorrhage, metabolic stress, and underlying comorbidities. Prompt psychiatric evaluation and treatment resulted in full recovery.

Martins., *et al.* examine postpartum delirium, tracing its recognition back to the 18th century and highlighting its historical and clinical significance. The article emphasizes that, although rare, postpartum delirium requires timely identification and management to prevent serious complications and ensure maternal recovery [8].

The successful outcome in this high-risk scenario was possible due to coordinated management involving obstetrics, anesthesiology, general surgery, psychiatry, and neonatology. Such collaboration is crucial in optimizing maternal and neonatal outcomes in complex, high-risk pregnancies.

Conclusion

This case underscores the significant maternal risks associated with very advanced maternal age and assisted reproductive techniques, highlights the importance of considering prior myomectomy as a risk factor for uterine rupture, and demonstrates the need for vigilant, multidisciplinary management.

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