

# A Double-Hit Placental Catastrophe: Spontaneous Expulsion of Placenta Previa with Concurrent Co-Twin Placental Abruption a Case Report

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### ABSTRACT

**Background:** Placenta previa and placental abruption are critical obstetric emergencies. Their simultaneous occurrence in a dichorionic twin pregnancy where one placenta presents as previa and the other undergoes acute abruption is an exceptionally rare and life-threatening event.

**Case:** A 26-year-old multiparous woman (G2P1) with a dichorionic twin pregnancy at 28 weeks' gestation was brought to the emergency department with active bleeding and contractions. Within minutes of being shifted to the labour room, she spontaneously and completely expelled the placenta of the first twin a placenta previa. An emergency Cesarean section was performed immediately for a non-reassuring fetal heart rate in the second twin and maternal shock. Intraoperative findings revealed a 40% retroplacental clot confirming complete abruption of the second twin's placenta, and a Couvelaire uterus. Twin 1 was stillborn; Twin 2 was resuscitated from severe asphyxia (umbilical artery pH 7.01). The mother developed disseminated intravascular coagulation (DIC) and uterine atony, managed with a massive transfusion protocol and B-Lynch compression sutures. Both mother and surviving twin were discharged in stable condition.

**Conclusion:** This case represents a "double-hit" placental emergency. Survival was predicated on the rapid recognition of dual placental pathologies, immediate surgical intervention, and early activation of a massive transfusion protocol. To our knowledge, this is the first documented case of survival of both mother and co-twin following such a catastrophic sequence.

**Keywords:** Placenta Previa, Placental Abruption, Twin Pregnancy, Disseminated Intravascular Coagulation, Couvelaire Uterus, Massive Transfusion Protocol, B-Lynch Suture

### Clinical Snapshot

| Parameter                | Finding                                                                                                         |
|--------------------------|-----------------------------------------------------------------------------------------------------------------|
| Maternal age / parity    | 26 years, G2P1, one prior Cesarean delivery                                                                     |
| Gestation                | Dichorionic diamniotic twin pregnancy, 28 weeks + 4 days                                                        |
| Twin 1                   | Placenta previa, spontaneously expelled intact; stillborn (IUFD)                                                |
| Twin 2                   | Co-twin placental abruption (40% retroplacental clot, Sher grade 3); birth weight 1100 g                        |
| Neonatal status (Twin 2) | Apgar 1/3 at 1/5 min; cord pH 7.01, base excess 18 mmol/L; survived after 72 h ventilation and 8-week NICU stay |

|                           |                                                                                      |
|---------------------------|--------------------------------------------------------------------------------------|
| Maternal complications    | Couvelaire uterus, refractory atony, DIC (INR 1.8, fibrinogen 90 mg/dL), EBL 2000 mL |
| Decision-to-incision time | 12 minutes                                                                           |
| Outcome                   | Both mother and surviving twin discharged in stable condition                        |

### Introduction

Placenta previa and placental abruption are distinct yet equally perilous causes of antepartum haemorrhage. Placenta previa, occurring in approximately 0.5% of pregnancies, is characterised by placental implantation over the internal cervical os [1]. Placental abruption the premature separation of a normally implanted placenta occurs in 0.4–1% of gestations [2]. In multiple pregnancies, the incidence of both pathologies rises significantly because of larger placental surface area and uterine overdistension [3].

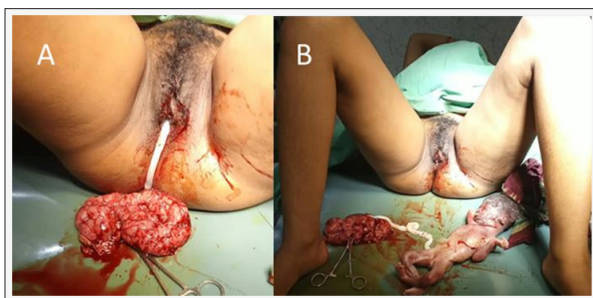
Spontaneous expulsion of a placenta previa prior to fetal delivery is a rare complication that usually results in fetal

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demise due to the immediate cessation of placental perfusion. When this occurs in a twin pregnancy, the co-twin's survival depends entirely on the integrity of the remaining placental unit and the speed of obstetric intervention [4]. We present a singular case of a dichorionic twin pregnancy at 28 weeks complicated by spontaneous expulsion of a placenta previa immediately after the patient reached the labour room, followed by acute abruption of the co-twin's placenta resulting in massive maternal haemorrhage and a successful neonatal resuscitation.

### Case Presentation

**Clinical Presentation and Arrival:** A 26-year-old multiparous woman (G2P1), with a history of one prior Cesarean delivery, presented at 28 weeks and 4 days of gestation with a spontaneous dichorionic/diamniotic twin pregnancy. Her antenatal course had been unremarkable until the sudden onset of painless vaginal bleeding and uterine contractions at home. She was rushed to the hospital by ambulance; the roughly 15-minute transit was marked by ongoing bleeding and contractions, but no tissue was passed en route. It was only moments after she reached the labour room as she was being shifted onto the delivery bed that she spontaneously and completely delivered a large, fleshy mass, which was immediately recognised and later confirmed as the intact placenta of Twin 1.



**Figure 1:** Gross Specimen Photograph of the Spontaneously Expelled Placenta of Twin 1, Showing the Lower-Segment Attachment Pattern Characteristic of Placenta Previa

**Emergency Assessment:** At T = 0 (arrival in the labour room), the patient was pale and tachycardic (HR 110 bpm, BP 110/70 mmHg). The expelled placenta was confirmed to be that of Twin 1, showing signs of lower-segment attachment consistent with placenta previa. Bedside ultrasound revealed intrauterine fetal demise (IUD) of Twin 1 and a breech-presenting Twin 2 with a heart rate of 140 bpm and variable decelerations. A retroplacental hypoechoic area was noted behind the placenta of Twin 2 an early sonographic clue to the concurrent, evolving abruption.

**Surgical Management and Findings:** Within five minutes, the fetal heart rate of Twin 2 dropped to 60 bpm and maternal blood pressure fell to 85/50 mmHg. An emergency “crash” Cesarean section was initiated under general anaesthesia. Intraoperative findings included:

- Couvelaire uterus the uterus was hypertonic and diffusely echymotic.
- Placental abruption Placenta 2 exhibited a 40% retroplacental haematoma (Grade 3, Sher classification).
- Delivery Twin 2 (1100 g) was delivered by breech extraction.

**Maternal Haemorrhage and DIC:** Post-delivery, the patient developed refractory uterine atony and massive haemorrhage

(estimated blood loss 2000 mL). A massive transfusion protocol (MTP) was activated, delivering 8 units of packed red blood cells, 6 units of fresh frozen plasma, and additional blood products in a 1:1:1 ratio. Haemostasis was achieved through medical management (oxytocin, carbetocin, carboprost), 1 g of intravenous tranexamic acid, and placement of B-Lynch compression sutures. Postoperative laboratory results (INR 1.8, fibrinogen 90 mg/dL) confirmed DIC.



**Figure 2:** Bedside Ultrasound Image of Twin 2's Placenta, Demonstrating a Retroplacental Hypoechoic Area Consistent with An Evolving Placental Abruption

**Neonatal Outcome (Twin 2):** Twin 2 had Apgar scores of 1 and 3 at 1 and 5 minutes, respectively. Severe acidosis (pH 7.01, base excess 18 mmol/L) necessitated immediate intubation and surfactant administration. Following 72 hours of mechanical ventilation and an 8-week NICU stay, the infant was discharged in stable condition with normal neurodevelopmental markers.

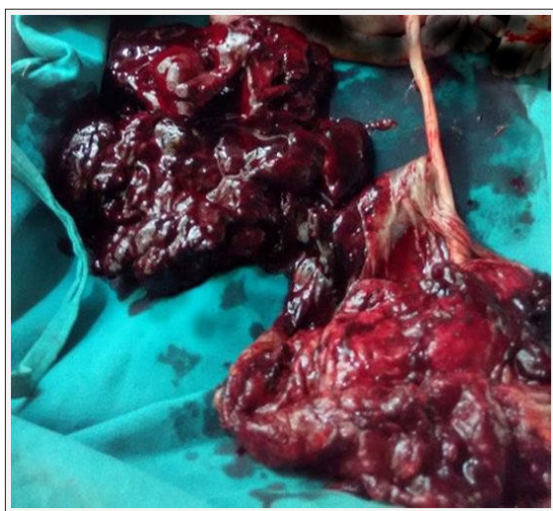


**Figure 3:** Intraoperative Photograph of the Couvelaire Uterus, Showing Diffuse Subserosal Ecchymosis (Hypotonic, Discolored Myometrium)

### Timeline of a Race Against Time

| Timepoint          | Event                                                                                        |
|--------------------|----------------------------------------------------------------------------------------------|
| Home               | Sudden painless vaginal bleeding with uterine contractions; ambulance summoned.              |
| En route (~15 min) | Continued bleeding and contractions during transport; no expulsion of tissue during transit. |

|                 |                                                                                                                                                            |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| T = 0 (arrival) | Patient shifted directly to the labour room; pale, tachycardic (HR 110 bpm), BP 110/70 mmHg.                                                               |
| T = 0–2 min     | Within minutes of reaching the labour room, she spontaneously expelled a complete, large fleshy mass — later confirmed as the placenta of Twin 1 (previa). |
| T = 2–5 min     | Bedside ultrasound: IUFD of Twin 1; Twin 2 breech, FHR 140 bpm with variable decelerations; retroplacental hypoechoic area behind Twin 2's placenta.       |
| T = 5 min       | Twin 2 FHR falls to 60 bpm; maternal BP falls to 85/50 mmHg — decision for crash Cesarean section.                                                         |
| T = 12 min      | Decision-to-incision time of 12 minutes; delivery of Twin 2 by breech extraction under general anaesthesia.                                                |
| Postpartum      | Refractory uterine atony, EBL 2000 mL, DIC (INR 1.8, fibrinogen 90 mg/dL); massive transfusion protocol and B-Lynch sutures.                               |



**Figure 4:** Intraoperative Photograph of the Retroplacental Haematoma on the Maternal Surface of Twin 2's Placenta, Confirming A 40% (Grade 3, Sher Classification) Abruption

## Discussion

### Pathophysiological Sequence: The “Rapid Decompression” Effect

This case illustrates a rare “double-hit” mechanism. We hypothesise that the spontaneous expulsion of Twin 1's placenta previa caused a sudden and massive reduction in uterine volume. This rapid decompression likely generated significant shearing forces across the uterine wall, precipitating acute abruption of the normally implanted placenta of Twin 2. The mechanism is analogous to abruption following delivery of the first twin in a multiple gestation, though far more catastrophic when the placenta itself is expelled first, immediately after the mother arrives at the hospital [5].

### Clinical Decision-Making and Survival Factors

The successful outcome in this case was attributed to several critical factors:

- Avoidance of vaginal examination preventing further trauma to the previa bed was essential.
- Zero-delay intervention a 12-minute decision-to-incision time minimised the duration of fetal hypoxia.
- Aggressive MTP and surgical haemostasis early activation of the massive transfusion protocol and use of B-Lynch sutures preserved the mother's life and fertility despite DIC and a Couvelaire uterus [6].

## Literature Review

A review of contemporary literature (1950–2026) reveals no other documented case of both maternal and co-twin survival following spontaneous expulsion of a placenta previa immediately on arrival at the labour room in a twin gestation. Historical reports exist, but they are associated overwhelmingly with high mortality rates, predating modern resuscitation and surgical techniques [7].

## Conclusion

Management of dual placental pathologies in twin pregnancies demands a high index of clinical suspicion and a coordinated multidisciplinary response. This case underscores that even in the face of a catastrophic placental expulsion immediately followed by abruption of the co-twin's placenta, survival of both mother and infant is achievable through immediate surgical delivery, aggressive haemodynamic support, and rapid neonatal resuscitation.

## Learning Points

- In a twin pregnancy presenting with an expelled placenta and no fetus, suspect placenta previa in one twin and imminent abruption in the co-twin.
- Rapid uterine decompression even when it occurs in the labour room rather than en route is a potent trigger for placental abruption in multiple gestations.
- Early activation of a massive transfusion protocol is critical in obstetric haemorrhage to stay ahead of consumptive coagulopathy.
- B-Lynch sutures are a vital fertility-preserving tool in refractory uterine atony.

## Declarations

### Funding

The authors received no specific funding for this work.

### Conflicts of Interest / Competing Interests

The authors declare that they have no conflicts of interest relevant to this article.

### Ethics Approval

This case report was conducted in accordance with the ethical standards of the institutional review board of Swaraj Hospital and Research Institute, Bolangir, Odisha, India, and with the 1964 Helsinki Declaration and its later amendments. Formal ethics committee approval was waived for this single-patient case report in line with institutional policy.

### Consent to Participate

Informed consent was obtained from the patient for the anonymised use of her clinical data in this report.

**Consent for Publication**

Written informed consent was obtained from the patient for publication of this case report and any accompanying clinical images or data. A copy of the consent form is available for review by the Editor-in-Chief of this journal upon request.

**Availability of Data and Material**

The datasets generated and/or analysed during the current case are available from the corresponding author on reasonable request.

**Author Contributions**

S.M. conceived the report, managed the case, and drafted the manuscript. S.K.M. contributed to intraoperative management, data collection, and critical revision of the manuscript. Both authors reviewed and approved the final manuscript.

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