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Primigravida with Intrauterine Fetal Demise (IUD) Complicated by Severe Preeclampsia, HELLP Syndrome, Disseminated Intravascular Coagulation (DIC), Sepsis, and Multi-Organ Dysfunction Syndrome (MODS): A Rare Case Report

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Abstract

Background: HELLP syndrome is a rare but severe complication of preeclampsia that can rapidly progress to disseminated intravascular coagulation (DIC), sepsis, and multi-organ dysfunction syndrome (MODS), posing significant risk to maternal and fetal survival. Intrauterine fetal demise (IUD) in such cases further complicates clinical outcomes.

Case Presentation: We report the case of a 28-year-old primigravida at 27+6 weeks of gestation who presented with abdominal pain, per vaginal bleeding, and reduced fetal movements. Her clinical course was preceded by a febrile illness and respiratory symptoms. Upon evaluation, IUD was confirmed. The patient was diagnosed with severe preeclampsia, HELLP syndrome, DIC, acute kidney injury, and MODS. She underwent induction of labour and delivered a stillborn female foetus. Despite complications including hypotension, coagulopathy, and renal dysfunction, prompt multidisciplinary management involving transfusions, critical care, and organ support led to full maternal recovery.

Conclusion: This case highlights the importance of early recognition and aggressive multidisciplinary

intervention in life-threatening obstetric emergencies. Even in complex scenarios involving IUD and MODS, favourable maternal outcomes are achievable with timely and evidence-based care.

Keywords: HELLP Syndrome, Disseminated Intravascular Coagulation, Intrauterine Fetal Demise, Preeclampsia, Sepsis, MODS, Acute Kidney Injury, Primigravida.

Introduction

Hypertensive disorders of pregnancy remain a significant cause of maternal and perinatal morbidity and mortality, particularly in developing countries. Among them, severe preeclampsia and its complications pose life-threatening challenges. HELLP syndrome—characterized by hemolysis, elevated liver enzymes, and low platelet count—is a severe variant of preeclampsia occurring in 0.5–0.9% of pregnancies and up to 20% of cases with severe preeclampsia. [1,2] In rare instances, HELLP may be complicated by disseminated intravascular coagulation (DIC), sepsis, and multi-organ dysfunction syndrome (MODS), greatly increasing the risk of maternal mortality.[3] Intrauterine fetal demise (IUD) can be both a consequence and aggravating factor in these critically ill patients.[4] We present a rare case of a primigravida at 27+6 weeks with IUD, who developed severe preeclampsia, HELLP syndrome, DIC, sepsis, and MODS, requiring multidisciplinary management and intensive care.

Case

A 28-year-old primigravida, resident of Kalaburagi, presented to the BTGH labour room at 27 weeks and 6 days of gestation with complaints of abdominal pain and per vaginal bleeding. She had a history of reduced foetal movements for 1 day and noted PV bleeding (soaking less than half a pad) for the last two hours. Her symptoms were preceded by a febrile illness 15 days prior, treated conservatively at a private hospital. This was followed by an upper respiratory tract infection eight days earlier, again managed on an outpatient basis. Three days before admission, she developed sudden generalized weakness and dragging pain in the right lower limb. She consulted a general physician, where she appeared to be icteric with Total Bilirubin of 4.0 mg/dl and was again treated on an outpatient basis. That night, she experienced three episodes of vomiting and was kept under observation at the same private hospital before being discharged.

On arrival at BTGH, her vitals were as follows: pulse rate 104/min, blood pressure 170/100 mmHg with no premonitory symptoms (later improved to 130/90 mmHg), respiratory rate 18/min, and SpO_2 98% on room air. She appeared drowsy and clinically ill. Patient was catharized and urine appeared to be lemon-yellow in colour. She was promptly admitted to SICU, and investigations including PIH profile and coagulation profile were sent. Ultrasonography confirmed intrauterine fetal demise (IUD). Given her deteriorating condition, deranged profiles, and clinical findings, a multidisciplinary team comprising the obstetric team, intensivist, and physician-initiated plan for immediate induction and augmentation of labour.

She delivered a stillborn female baby at 9:14 a.m. Active management of the third stage of labour was undertaken to prevent postpartum haemorrhage. However, persistent deranged vitals and poor urine output raised concern for acute kidney injury. She was started on steroids (hydrocortisone) and diuretics (Lasix). One hour post-delivery, she continued to have fresh PV bleeding and was transfused with 2 units of FFP and 1 unit of PCV as per intensivist advice. Dextrose infusion was started for

falling blood sugar levels. Gastroenterology and nephrology consultations were sought and their recommendations followed.

That evening, the patient experienced sudden hypotension and was managed with noradrenaline infusion. She was again transfused with 1 unit of PCV and 2 units of FFP. On Postnatal Day 1 (PND-1), her vitals stabilized, and her PIH and coagulation profiles began to improve. She received 3 more units of FFP. By PND-2, she passed approximately 400 mL of urine in 24 hours and received 2 additional units of FFP. Continued monitoring under SICU until PND-4 showed improvement in her general condition, liver and renal function, and coagulation status. By PND-8, she was shifted to the general ward in stable condition with significant clinical improvement and resolution of icterus.

Laboratory investigations showed a declining hemoglobin level from 8.3 g/dL on 31st Jan to a nadir of 5.5 g/dL on 3rd Feb, which improved to 9.2 g/dL by 9th Feb with transfusions. Platelet count steadily improved from 1.2 lakh/µL to 3.7 lakh/µL. Peripheral smear revealed normocytic normochromic anemia with neutrophilic leucocytosis and adequate platelets. Renal parameters showed elevated urea (39.0 mg/dL) and creatinine (3.2 mg/dL), indicating acute kidney injury. Electrolyte panel was relatively stable. Liver function tests showed marked hyperbilirubinemia (T.B 11.6 mg/dL on 2nd Feb), elevated transaminases (SGOT 146, SGPT 179), and high ALP, all of which showed gradual normalization over the course of her hospital stay.

Urinalysis revealed trace albumin, absent sugar, 5–6 pus cells, 2–3 epithelial cells, and 4–5 RBCs. Bile salts and pigments were positive. Coagulation profile indicated severe coagulopathy: D-dimer levels were markedly elevated (12390), PT prolonged (up to 37.4 sec), INR elevated (3.2), APTT prolonged (61.2 sec), and fibrinogen levels were low. She was diagnosed with HELLP syndrome, DIC, and was transfused with multiple units of FFP and PCV accordingly. LDH levels were also elevated (1093 U/L), and CRP was high initially (38.7), suggesting ongoing inflammation/sepsis, which later resolved. Serologies for HIV, HBsAg, HCV, and HBV were negative.

This case highlights a rare and life-threatening obstetric emergency—HELLP syndrome with DIC, sepsis, and MODS—in a primigravida complicated by intrauterine fetal demise. Successful multidisciplinary care and aggressive supportive management helped the patient recover from a potentially fatal clinical scenario.

Discussion

HELLP syndrome (Hemolysis, Elevated Liver enzymes, and Low Platelet count) is a severe form of preeclampsia that complicates approximately 0.5%–0.9% of all pregnancies and occurs in 10%–20% of cases with severe preeclampsia[1]. It is characterized by endothelial dysfunction and microangiopathic haemolytic anaemia, often leading to multiorgan complications, as seen in our patient. The development of Disseminated Intravascular Coagulation (DIC) and sepsis in this case indicates a progression to a more catastrophic clinical state, frequently requiring intensive supportive care and timely transfusions.

Acute kidney injury (AKI) in HELLP syndrome is attributed to renal endothelial damage and microthrombi formation. The elevated urea and creatinine values in our patient, along with reduced urine output, confirmed renal involvement. This finding is consistent with the literature, where AKI occurs in up to 50% of cases with complicated HELLP syndrome[2].

Intrauterine fetal demise (IUD) is both a cause and a consequence of worsening maternal condition. Placental insufficiency, thrombosis, and vasospasm have been implicated in fetal death in severe preeclampsia and HELLP syndrome[3]. In our case, IUD preceded the full manifestation of HELLP syndrome and prompted urgent maternal intervention, emphasizing the need for fetal surveillance in high-risk pregnancies.

The markedly elevated D-dimer, prolonged PT, APTT, low fibrinogen, and elevated LDH values aligned with the diagnosis of DIC, a known sequela of HELLP that portends a poor prognosis if not treated promptly. As per ACOG guidelines, early identification of coagulopathy and prompt blood product replacement significantly improve maternal outcomes[4].

This case also illustrates the importance of a multidisciplinary approach involving obstetricians, intensivists, nephrologists, and hematologists. Such collaboration is vital for managing complex complications like MODS and for tailoring individualized supportive therapy. Fortunately, the timely recognition, aggressive resuscitation, and continuous monitoring in our patient led to complete recovery, despite the initial life-threatening presentation.

Conclusion

This case underscores the critical importance of early recognition and prompt multidisciplinary intervention in managing obstetric emergencies such as HELLP syndrome complicated by DIC, sepsis, and MODS. Intrauterine fetal demise in this primigravida served as a sentinel event that necessitated urgent evaluation and aggressive treatment. Timely administration of blood products, hemodynamic stabilization, renal support, and continuous monitoring were pivotal in reversing organ dysfunction and achieving maternal recovery. The case highlights that even in severe, life-threatening presentations, maternal outcomes can be favourable with coordinated critical care, vigilant monitoring, and adherence to evidence-based protocols. It also emphasizes the need for heightened surveillance in high-risk pregnancies and the role of tertiary care centres in managing complex obstetric complications.

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