

CASE REPORT

Obstetrics

Spontaneous hemoperitoneum in a term pregnancy mimicking uterine rupture: A case report

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Abstract

Background: Spontaneous hemoperitoneum during pregnancy is a rare occurrence and an obstetric emergency that presents with acute abdominal pain and shock.

Case presentation: A 25-year-old primigravida at 38 weeks of gestation presented to the emergency unit in shock. She had a history of severe generalized abdominal and back pain of sudden onset, dizziness, and syncope with no history of trauma. Ultrasonography revealed free peritoneal fluid with a live intrauterine fetus. Blood transfusion, emergency laparotomy, and cesarean delivery were performed. A

live female infant was delivered and admitted to the newborn unit. Postoperatively, the patient was started on antibiotics and analgesics and was stable at discharge.

Conclusion: Spontaneous hemoperitoneum in pregnancy is a rare cause of maternal collapse, which may mimic uterine rupture and abruptio placentae. A high index of suspicion is required in women with acute onset of abdominal pain and abnormal maternal hemodynamics during pregnancy.

Keywords: laparotomy, spontaneous hemoperitoneum, uterine rupture

Introduction

Spontaneous hemoperitoneum is bleeding within the peritoneal cavity without any history of trauma that can be life-threatening during pregnancy (1). It is a rare condition but is associated with significant maternal and perinatal morbidity and mortality (1). The majority of cases present in the third trimester with acute abdominal pain and hypovolemic shock (2). This is a case of a 25-year-old primigravida who presented at term with sudden onset abdominal pain in shock, had spontaneous

hemoperitoneum, and was delivered through emergency cesarean birth.

Case presentation

A 25-year-old primigravida at 38 weeks of gestation presented to the emergency unit in shock. Her blood pressure ranged between 97-70/65-40mmHg, pulse rate 130/min. She had cold extremities and severe pallor. She had a history of sudden onset, severe, and sharp generalized abdominal pains associated with dizziness and syncope. There was no history of trauma reported.

Her abdomen was very tender with term pregnancy and fetal bradycardia with a fetal heart rate (FHR) of 101 beats per minute (BPM). The patient did not have signs of vaginal bleeding. She had experienced chronic, occasionally severe lower back pains during her antenatal period whose cause had not been established. Her antenatal profile was unremarkable. Her blood group was A

positive, and her hemoglobin levels were 13.9g/dl (normal reference range 15-16g/dl) in the first trimester. Fluid resuscitation was performed, and an obstetric ultrasound revealed an intrauterine live fetus with severe fetal bradycardia (FHR 94BPM), massive peritoneal fluid collection, and suspected uterine rupture (Figure 1).



Figure 1: Ultrasound scans showing free peritoneal fluid with a live intrauterine fetus.

Blood grouping and cross-matching were performed at the emergency unit. Her hemoglobin levels were 9.6g/dl and her platelet count was normal at $211 \times 10^9/L$ (normal reference range $150-400 \times 10^9/L$). Her urea, electrolytes, and creatinine (UEC) profile was unremarkable and included potassium 3.43mmol/L (normal reference range 3.5-5.2mmol/L), sodium 135.2mmol/L (normal reference range 135-145mmol/L), chloride 108.2mmol/L (normal reference range 96-106mmol/L), urea 3.92mmol/l (normal reference range 3.0-8.0mmol/L), and creatinine 53mmol/L (normal reference range 60-110mmol/L). She was scheduled for an emergency exploratory laparotomy. Intraoperatively, there was a massive hemoperitoneum estimated at 3000mls with an intact gravid uterus. A transverse lower uterine segment cesarean was performed with the delivery of a live female infant who had an Apgar score of 5, 6, and 7 at 1, 5, and 10 minutes. Successful neonatal resuscitation was performed. Bleeding adhesions were noted on the posterior aspect of the uterus that had sheared off from the uterine fundus and body and deep into the posterior fornix (Figure 2). There was no evidence of damage to the small bowel, colon, and rectum or any focal point of attachment of these organs to the uterus. Multiple hemostatic sutures and a surgical hemostat were applied. Hemostasis was achieved. Iatrogenic ligation of the left ureter occurred, which was identified and freed without further trauma or dissection of the ureter. The uterus, uterine blood vessels, and abdominal and other pelvic organs were grossly normal. The total estimated blood

loss was 4000mls. The patient was transfused with four units of whole blood. Her recovery was uneventful and she was stable at discharge.



Figure 2: Area of shearing of posterior uterine wall adhesions with hemorrhage.

Discussion

Spontaneous hemoperitoneum in pregnancy is bleeding into the peritoneum during pregnancy or up to 42 days postpartum (2). It is a rare occurrence thought to be nontraumatic, but it is associated with significant morbidity and mortality (3). The incidence of spontaneous hemoperitoneum is unknown. Approximately half of the cases present in the third trimester with sudden onset abdominal pains, hemodynamic collapse, and in some cases, fetal distress (4). A definitive diagnosis is made during laparotomy (3). The causes of spontaneous hemoperitoneum may include spontaneous rupture of ovarian vessels,

varicose veins on the uterine surface, uterine leiomyoma, uterine scar, corpus luteum, and rupture of the liver, spleen, or their vessels (2,3). It can also be due to placenta percreta, bleeding from endometriotic deposits, and hemangioma (2,3,5). In other cases, it is idiopathic (4). Here, the patient had no history of trauma, and bleeding was from the sheared stretched adhesions on the posterior uterine wall extending deep into the posterior fornix.

Massive peritoneal fluid collection in a pregnant woman in shock is likely due to uterine artery rupture, aortic dissection, rupture of a splenic artery aneurysm, aortic aneurysm, or hemangioma (6). In this case, the patient had tachycardia with hypotension and free peritoneal fluid from ultrasonography, suggesting that the hemorrhage was likely intraperitoneal. Imaging modalities, including ultrasound, computerized tomography scan, magnetic resonance imaging, and angiography, are useful in diagnosing spontaneous hemoperitoneum especially in hemodynamically stable patients (6). These have confirmed free peritoneal fluid in 62.7% of the cases (2). Ultrasound was performed in this case, which revealed free peritoneal fluid and a viable fetus. Management varies in different cases, with resuscitation and explorative laparotomy being key aspects of management (6). Here, the patient was in shock necessitating fluid resuscitation with crystalloids and blood transfusion, emergency laparotomy to establish the cause, and delivery through emergency cesarean birth. The outcome was favorable with a stable mother and baby postoperatively.

Conclusion

Spontaneous hemoperitoneum in pregnancy is a rare cause of maternal collapse, which may mimic uterine rupture and abruptio placentae. A high index of suspicion is required in women with acute onset of abdominal pain and abnormal maternal hemodynamics during pregnancy.

Consent for publication

Informed consent for publication was obtained from the patient.

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Declarations

Conflict of interests

The authors declare no conflicts of interest.

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