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Fourteen-week Uterine Rupture: A Rare Cause of Acute Abdomen

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Abstract

Background: Uterine rupture is a rare and life-threatening emergency with increased incidence of morbidity and mortality. Missed or delayed diagnosis of uterine rupture leads to fetal and maternal mortality. We report a case of acute abdomen with shock due to uterine rupture in 14 weeks pregnant female. *Case Report*: A 28-year-old 2nd gravida woman with previous caesarean section presented to emergency department at 14 weeks pregnancy with features of acute abdomen and shock. Resuscitation was done and urgent ultrasound abdomen revealed gross hemoperitoneum with uterine wall defect. Emergency laparotomy showed uterine rupture at previous caesarean scar site and approximately 2 liters of blood and intraperitoneal blood clots. Fetus was found dead. The uterine rupture was repaired successfully. *Conclusion*: This case report demonstrated that acute abdomen in pregnancy should be high index of suspicion, prompt evaluation and diagnosis with immediate surgical intervention are life saving measures. In pregnant women with acute abdomen, uterine rupture should be kept as a differential diagnosis.

Keywords: Caesarean Section, Emergency care, Delayed Treatment, Pregnancy, Uterine Bleeding, Uterine Perforation.

Introduction

Uterine rupture is an emergency and life-threatening obstetric complication. It may be complete or partial tear of uterine wall and is usually associated with increased morbidity and mortality [1]. Spontaneous antepartum uterine rupture is rare in 1st and 2nd trimester of pregnancy. Previous hysterotomy scar, placenta increta, previous other uterine surgeries or myomectomy and uterine malformations are risk factors for antepartum uterine rupture [2]. In literature, observed incidence of uterine rupture in unscarred and scarred uteruses is 0.7 and 5.1 per 10,000 deliveries, respectively [3]. Women in antepartum period presenting with features of acute abdomen should be evaluated and managed promptly while uterine rupture should be kept as a differential diagnosis. Here, we are presenting a case of acute abdomen due to scarred uterine rupture in 14 weeks pregnant female.

Case Report

A 28-year-old gravida 2 para 1 at 14 weeks gestation presented with severe abdominal pain and distension in emergency department. She had history of lower segment caesarean section 2 years ago. There was no history of trauma. The patient had visited hospital for regular antenatal care. Patient had sudden onset of pain in lower abdomen in the night and progressively increased in severity to all over the abdomen.

Blood pressure was 74/50 mmHg, heart rate: 122 beats per minute, temperature: 37ºC and respiratory rate: 20 per min, on examination in emergency. Per abdominal examination revealed clinical features of acute abdomen with diffuse tenderness, guarding and distension. On vaginal examination, cervical os was closed and no evidence of per vaginal bleeding was seen. The patient was stabilized by prompt resuscitation with

intravenous fluids and medicines. Complete blood count (CBC) showed hemoglobin: 8.2 g/dL and total white cell count: 18.5×10^9/L. Ultrasonography (USG) of abdomen showed a defect in anterior uterine wall at previous caesarean scar site, gross intraperitoneal free fluid and blood clots and intrauterine fetus with non-recordable fetal heart rate. USG was indicative of uterine rupture with hemoperitoneum.

Blood transfusion was started in emergency department and patient was shifted to operation room immediately for exploratory laparotomy under general anaesthesia. On exploration, approximately 2 litters of blood and blood clots were noted in peritoneal cavity **[Fig.1]**. There was full thickness uterine rupture at previous caesarean scar site measuring approximately 6 cm long **[Fig.2]**. Fetus was dead and partially intrauterine **[Fig.3]**. There was no other uterine deformity noted. Fetus, placenta, blood and blood clots were removed, and peritoneal wash done. Ruptured uterus was repaired in two layers using No.1 polyglactin (vicryl) suture. An intraperitoneal drainage tube was placed and abdomen closure done. A total of 4 units of packed red blood cell were transfused. Post-operatively patient was kept in high dependency unit for 24 hours. The patient improved well and discharged on 5th post-operative day. Patient is doing well on regular follow up.

Discussion

Uterine rupture in second trimester is exceedingly rare. Abnormal placenta implantation, previous uterine surgeries, congenital uterine anomalies such as bicornuate uterus and uterine septum, etc. are etiologies mentioned in literature [4]. Idiopathic cases of uterine rupture were also reported in literature [5].

Previous caesarean section is the most important risk factor for the uterine rupture. The risks of uterine rupture following one caesarean section and two caesarean section rises, 0.7-0.9% and 0.9-1.8% respectively [6]. Increased rate of

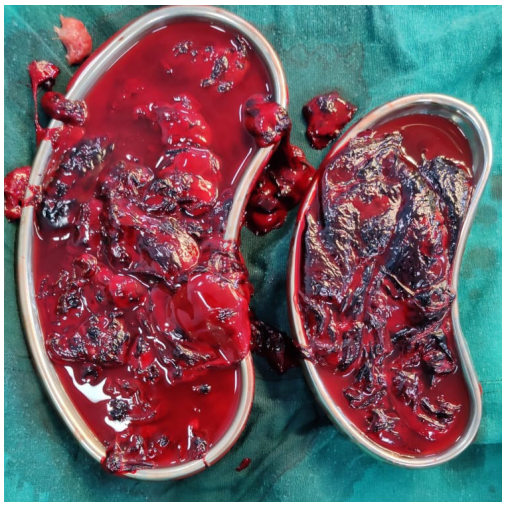

Fig.1: *Blood clots removed during emergency laparotomy.*

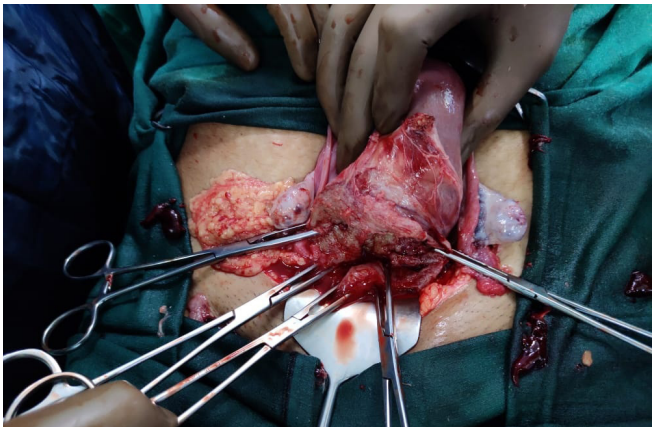

Fig.2: *Intraoperative photograph showing complete uterine rupture at previous hysterotomy site.*

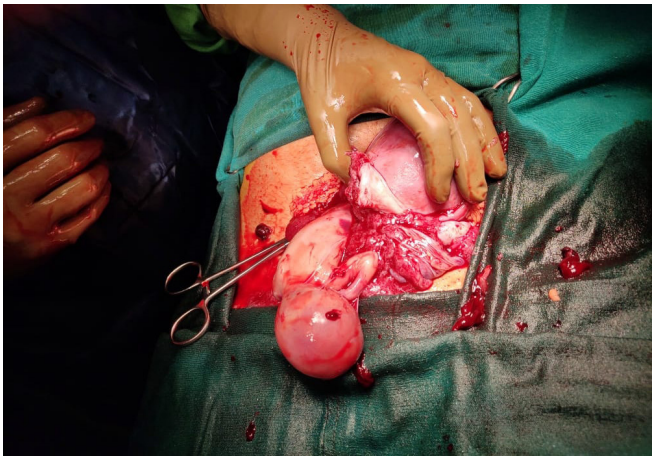

Fig.3: *Intraoperative photograph showing uterine rupture with partially intrauterine fetus.*

caesarean deliveries has risen the risk of uterine rupture specially in developed countries [7]. Uterine rupture can be a life-threatening event, especially if goes unrecognized and not managed promptly.

Abdominal pain, abdominal distension, fever, tachycardia, hypotension, hypovolemic shock, fetal heart rate decelerations etc. are common clinical features in most of the patients of uterine rupture presenting as acute abdomen [4]. In many women presenting with vague abdominal pain, uterine rupture is missed in the list of differentials. During evaluation of a pregnant lady, mild abdominal pain or discomfort may be acceptable, but severe abdominal pain with distension, sign of peritonitis should be considered seriously and uterine rupture should be differential diagnosis with possible obstetric etiologies [8]. It is difficult to diagnose uterine rupture timely. Diagnostic modalities such as computed tomography (CT) and magnetic resonance induction (MRI) are used less due to shortage of time to establish the diagnosis. Abdominal ultrasonography to detect uterine wall defect in rupture has been evaluated in several studies [9]. Diagnostic laparoscopy has been used to diagnose uterine ruptures in first trimester of pregnancy [10].

Emergency surgery is the mainstay of treatment in cases of uterine rupture with acute abdomen. Laparotomy with fetus extraction, hemostasis and primary repair of uterine defect is main stay of surgical management. Hemostasis may be achieved with closure of uterine defect. Hysterectomy is indicated if the bleeding could not be adequately controlled.

Conclusion

Uterine rupture in pregnant woman presenting with shock is a life-threatening complication if left untreated. Early diagnosis of uterine rupture, prompt resuscitation and immediate surgical intervention lower the loss of obstetric function, mortality and morbidity.

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