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Case Report

Spontaneous rupture of the uterus in primigravida: A case report

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Rupture of pregnant uterus is a very rare and one of the life threatening obstetrical emergency. It is commonly diagnosed with a history of previous scar on uterus, but rupture of the uterus in a primigravida with no high risk factors is extremely rare. The incidence of ruptured uterus is 0.3 to 1.7% in women with scarred uterus, and 0.03 to 0.08% among women with unscarred uterus. The most common risk factor for ruptured uterus is previous caesarean section in scarred uterus and cephalo pelvic disproportion in unscarred uterus, with mortality rate ranging between 1 to 13% and perinatal mortality between 74 to 94%. Herewith, we are reporting a case of primigravida with full term pregnancy with no high risk factors admitted, with complaints of labour pain and who had spontaneous rupture of uterus in latent phase of labour, and laparotomy was done. Still born fetus was lying in abdominal cavity which was removed. Blood clots were removed. Uterus was ruptured like two halves of a coconut. Successful conservative operative procedure was done on the rare and dangerous ruptured uterus by suturing it back in two layers.

Key words: Rupture, scarred uterus, laprotomy.

INTRODUCTION

Ruptured uterus is a catastrophic obstetric complication. It is an unexpected, relatively uncommon occurrence in the general obstetric population which must be diagnosed and treated promptly (Leung et al., 1993; Phelan et al., 1998). Incidence of the ruptured uterus in general population is 0.3 to 1.7% in women with history of scar on uterus and 0.03 to 0.08% among women with unscarred uterus (Hamilton et al., 2001; Yap et al., 2001; Bujold and Gauthier, 2002). The commonest risk factor for rupture of uterus is previous cesarean section in scarred uterus and cephalo pelvic disproportion in unscarred uterus (Chen et al., 1995). Herewith, we are reporting a case of primigravida with full term pregnancy with no high risk factors, which was admitted to BLDE hospital, Bijapur, India, with complaints of labour pains and had spontaneous rupture of uterus in latent phase of labour, and successful operative procedure with conservation of uterus was done.

CASE REPORT

Mrs. XY, aged 20 years primigravida with full term gestation was admitted to BLDE hospital, Bijapur, India on 13th August, 2013 with labour pain for 2 h prior to admission. There was no history of per vaginal bleeding, vomiting, pedal edema urinary

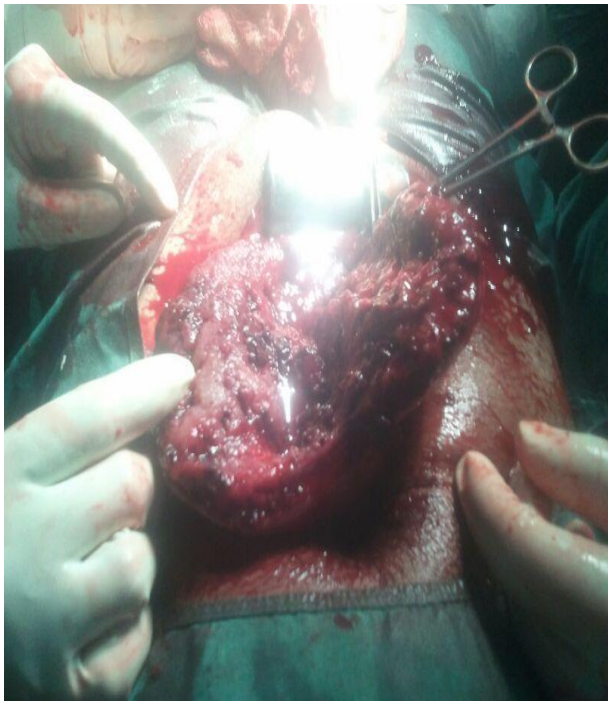

Figure 1. Uterus split into 2 halves.

tract infection and fever during pregnancy. There was no past history of intrauterine contraceptive device (IUCD) usage, abortion, dilatation or curettage or surgeries on uterus. Her antenatal history revealed that she had irregular antenatal checkups and had not taken iron, calcium and proteins supplementation regularly. She had taken 2 doses of injection, tetanus toxoid.

The vital signs upon examination of the patient were as follows: Temperature: 37°C; pulse rate: 82 beats per minute; blood pressure: 120/70 mmHg; respiratory rate: 16 cycles per minute; height: 154 centimeters; weight: 55 kg; mild pallor present, no oedema, breast, spine and thyroid: normal; cardio vascular system and respiratory system: normal. Per abdominal examination showed uterus full term size, contracting once in 2 to 3 min for 35 to 40 s; head 3/5th palpable; fetal heart sound: regular,140 beats per minute; position: left occipito anterior. Per vaginal examination showed cervix 1 cm dilated, 25% effaced, soft, midposition, vertex at -1 position, membranes present, head could be brought up to spines, no cephalo pelvic disproportion. Provisional diagnosis of primigravida with full term pregnancy with vertex presentation in latent phase of labour with mild anaemia was made. Investigations showed haemoglobin: 9 g%; blood group Rh type: B +ve and all other investigations like bleeding time, clotting time, urine-albumin, sugar, microscopy, venereal disease research laboratory (VDRL), RBS, HBsAg, HIV, peripheral smear and ultrasonography (USG) were within normal limits. As the patient was in latent phase of labour without any high risk factors, patient was monitored for spontaneous progression of labor. Soap water enema was given after preparing the parts. After 4 h of admission, patient complained of 2 episodes of vomiting and severe pain in the abdomen and sudden onset of bleeding per vagina.

On examination (after 4 h), patient was haemodynamically stable. Per abdominal examination revealed fetal bradycardia for which she was treated with ringer lactate with sodium bicarbonate and left lateral position. Upon local examination, there was active bleeding. Per speculum examination revealed that active bleeding was seen coming from the external os of the cervix. Emergency ultrasound imaging revealed intrauterine death of fetus with no evidence of abruption or haemoperitoneum or rupture of uterus. After 5 h of admission, pulse rate rose to 120 beats per minute, blood pressure: 100/60 mm Hg, respiratory system: tachypnoea +, respiratory rate: 28 cycles per minute, per abdomen examination: uterine tenderness was present, contractions ceased, fetal parts were felt easily and fetal head which was engaged earlier was now freely mobile in the abdomen. Fetal heart sound was absent. Provisional clinical diagnosis of rupture of uterus was made. Patient was gradually slipping into shock, pulse rate: 160 beats per minute, blood pressure: 70/40 mmHg, per abdomen examination: severe tenderness +, local examination: profuse bleeding per vagina +. She was looking very pale. Patient was rushed for emergency laparotomy. Intra-operatively, there was gross haemoperitoneum and bout 800 g of clots were removed suggesting massive intraperitoneal bleeding. Dead fetus was floating in the abdominal cavity. Fetus was removed first followed by placental extraction. Uterus was split into 2 halves like a broken coconut (Figure 1). Uterus was ruptured from fundus up to lower uterine segment (Figure 2). This unusual and rare life threatening ruptured uterus was an ideal case for hysterectomy but in view of first parity, cost effectiveness and speedy recovery, hysterectomy was not done and uterus was sutured in layers with chromic catgut no. 2. There were no anomalies in the uterus. 4 pints of blood were transfused post operatively and patient recovered well. There was

Figure 2. Fundus of the uterus.

Figure 3. Uterus being closed back in layers.

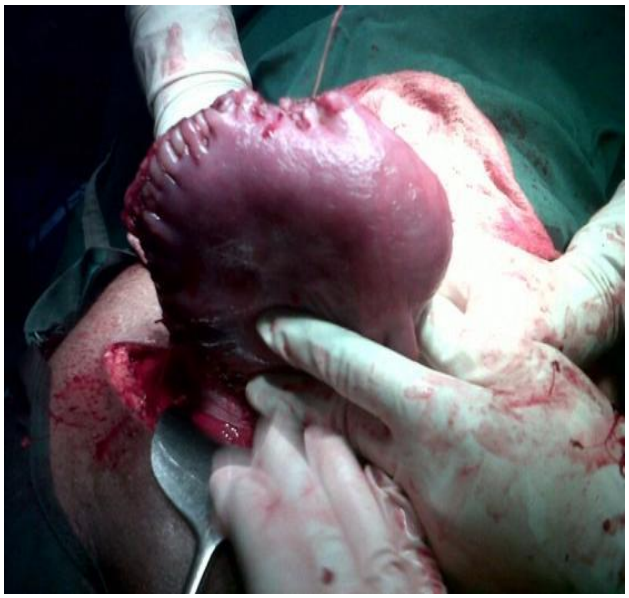

Figure 4. After repair of the uterus.

no other complication intra-operatively or post-operatively. Patient was discharged after 2 weeks without any complication (Figures 3 and 4).

DISCUSSION

Uterine rupture is tearing of the uterine wall during pregnancy or delivery (WHO, 2005). It is one of the life threatening Obstetric emergency, with a significant effect on the reproductive function of women. Uterus can rupture during pregnancy or delivery. It is commonly encountered in a case of previous caesarean section case but rupture in a primigravida is extremely rare. In this current study we are reporting a case of primigravida, with full term gestation which had spontaneous rupture of uterus in latent phase of labour. There are several risk factors for rupture of uterus like multiparity (Neilson et al., 2003), uterotonic drugs, placenta percreta (Topuz, 2004), intrauterine manipulations such as internal podalic version, cephalo pelvic disproportion, forceful uterine contractions, malpositon, malpresentation, multiple pregnancy, perforation of uterus during mid termination of pregnancy (MTP), obstructed labour, instrumental delivery, scarred uterus following operations on uterus like ceasarean section, myomectomy, utriculoplasty. Impaired collagen synthesis have also been implicated either secondary to chronic steroid use or known collagen synthesis disturbance

such as Ehlers Danlos disease which causes ruptured uterus. This patient had no known risk factors for ruptured uterus. She had no previous intrauterine instrumentation or surgeries on uterus, had no medical history steroid, and even ultrasonography showed normally situated placenta during antenatal checkups. Per abdominal and vaginal examination excluded cephalo pelvic disproportion and she did not even have forceful uterine contractions. Non stress test was also reassuring at the time of admission but 5 h after admission uterine contractions ceased, and fetal parts were felt easily and superficially which was not felt earlier.

The national maternity hospital pioneered the well documented active management of labour protocol. This system describes the nulliparous uterus as “literally immune to rupture”. Warning signs of rupture uterus during pregnancy include:

1. Frequent and strong uterine contractions occurring more than 5 times in every 10 min and/or each contraction lasting for 60 to 90 s or longer.
2. Bandl’s ring formation.
3. Tenderness in the lower uterine segment.
4. Vaginal bleeding (Yap et al., 2001).

The following signs appeared after rupture of uterus: Initially, tachycardia occurs in which contractions stop completely. Other signs which rapidly follow are tender swollen abdomen, bladder may also be obstructed, easily palpable fetal parts, absent fetal heart sounds. The damage to the uterus is sometimes beyond repair and hysterectomy is required to save the patient’s life. Maternal mortality ranges between 1 to 13% and perinatal mortality between 74 to 94% in ruptured uterus (WHO, 2005). Reduction of prevalence of rupture of unscarred uterus requires the following: reduction of unwanted pregnancies and decreasing high parity, accessibility of obstetric services including caesarean section for obstructed labour where conventional caesarean section facilities are not accessible, innovative solutions like symphysiotomy (Bjorklund, 2002) or caesarean section with local analgesia should be considered.

The author Oxorn in his study divides uterine rupture into several groups: quiet, violent and uterine rupture with delayed diagnosis.

A. A silent or quiet rupture presents without initial dramatic signs and symptoms often with only a rise in maternal heart rate, pallor and slight vaginal bleeding. This variety of rupture develops over several hours characterized by abdominal pain, rapid maternal heart rate, pallor, tenderness on palpation and absent fetal heart sounds. If not diagnosed, hypotension and shock may occur.
B. A violent rupture is apparent almost immediately, characterized by sharp pain following a hard uterine contraction, the presenting fetal part is no longer at the pelvic rim and fetal movements and heart rate cease. Signs and symptoms of shock appear suddenly and complete cardiovascular collapse may occur (Oxorn, 1986).
C. Uterine rupture with delayed diagnosis is a condition that is not evident until the patient is in a process of gradual deterioration.

A prospective cross sectional study was conducted in Faridpur Medical College Hospital by Mahbuba and IP Alam in 2012. In this study, out of 3606 deliveries in 1 year duration,16 patients (53.3%) had ruptured uterus in unscarred uterus (Mahbuba and Alam, 2012). A similar case of ruptured uterus in primigravida at term who was not in labour was reported by Walsh et al. (2006). Rupture of the uterus was diagnosed intraoperatively after patient was taken for emergency laparotomy in view of worsening maternal condition. Uterus was repaired in two layers and patient did well post operatively.

Conclusion

We report this case to highlight the fact that although rupture uterus is a very rare complication in primigravida, it can occur and it should be diagnosed and treated promptly and it should be included in the differential diagnosis of shock during labor regardless of parity.

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