ISSN 2321 – 7359 EISSN 2321 – 7367

discovery

Medical Science

The International Weekly Journal for Medicine

Spontaneous Rupture of the Uterus in Primigravida: A Case Report

Shailaja R Bidri[1☼], Sangamesh M[2], Ashwini V[2], Purushottam Jaju[1]

1.Professor Department of OBG, Shri.B.M.Patil Medical College and Research Centre, Sajjan Bangaramma Campus, Bijapur-586103, Karnataka, India

2.Senior Resident Department of OBG, Shri.B.M.Patil Medical College and Research Centre, Sajjan Bangaramma Campus, Bijapur-586103, Karnataka, India

☼**Corresponding author**: Department of OBG, Shri.B.M.Patil Medical College and Research Centre, Sajjan Bangaramma Campus, Bijapur-586103, Karnataka. India; E-mail: ashiastivar@yahoo.in

Publication History

Received: 16 January 2014

Accepted: 17 March 2014

Published: 19 March 2014

Citation

Shailaja R Bidri, Sangamesh M, Ashwini V, Purushottam Jaju. Spontaneous Rupture of the Uterus in Primigravida: A Case Report. *Medical Science*, 2014, 6(21), 74-77

ABSTRACT

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% - 13% and perinatal mortality between 74%-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.

Keywords: rupture, scarred uterus, laprotomy

1. 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, 1993; Phelan et al. 1998). Incidence of the ruptured uterus in general population is 0.3 % – 1.7 % in women with history of scar on uterus and

© 2014 discovery publication. All rights reserved

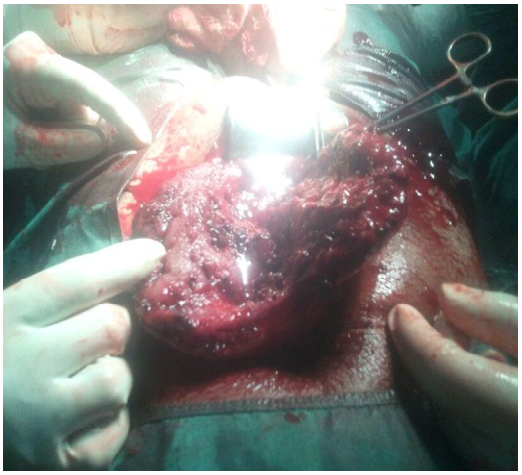

Figure 1
Uterus split into 2 halves

Figure 2
Fundus of the uterus

0.03 % to 0.08% among women with unscarred uterus (Hamilton, 2001; Yap et al. 2001; Bujold et al. 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 who 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.

2. CASE REPORT

Mrs. XY, aged 20 years primigravida with full term gestation was admitted to BLDE hospital, Bijapur, India on 13.8.2013 with labour pain since 2 hours prior to admission. There was no history of per vaginal bleeding, vomiting, pedal edema urinary tract infection and fever during pregnancy. There was no past history of IUCD usage, abortion, dilatation or curettage or surgeries on uterus. Her antenatal history revealed that she had irregular antenatal check ups & 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: 37^0 C, pulse rate: 82 beats per minute, blood pressure: 120/70 mmHg, respiratory rate: 16 cycles per minute, height: 154 centimeters, weight: 55 kilograms, 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 2-3 minutes for 35 to 40 seconds, head 3/5th palpable, fetal heart sound:regular,140 beats per minute, position: left occipito anterior. Per Vaginal examination showed cervix 1 centimeter 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 gm%, Blood group Rh type :B +ve and all other investigations like bleeding time, clotting time, Urine- albumin, sugar, microscopy, VDRL, RBS, HBsAg, HIV, peripheral smear & 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 hours 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 hours): 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 on 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 hours 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 (Figures 1 to 4).

Patient was rushed for emergency laparotomy. Intra-operatively there was gross haemoperitoneum and about 800 grams 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

Shailaja R Bidri et al.
Spontaneous Rupture of the Uterus in Primigravida: A Case Report,
Medical Science, 2014, 6(21), 74-77,
http://www.discovery.org.in/md.htm

© 2014 discovery publication. All rights reserved

Figure 3
Uterus being closed back in layers

Figure 4
After repair of the uterus

broken coconut. Uterus was ruptured from fundus up to lower uterine segment .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 & 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 & patient recovered well. There was no other complication intra-operatively or post-operatively. Patient was discharged after 2 weeks without any complication.

3. DISCUSSION

Uterine rupture is tearing of the uterine wall during pregnancy or delivery (WHO systematic review of maternal mortality and morbidity, 2005). It is one of the life threatening obstetric emergencies 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 who had spontaneous rupture of uterus in latent phase of labour.

There are several risk factors for rupture of uterus like multiparity (Neilson, 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 MTP, obstructed labour, instrumental delivery, scarred uterus following operations on uterus like ceasarean section, myomectomy, utriculoplasty. Impaired collagen synthesis havealso been implicated either secondary to chronic steroid use or known collagen synthesis disturbances 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 & vaginal examination excluded cephalo pelvic disproportion & she did not even have forceful uterine contractions. Non stress test was also reassuring at the time of admission but 5 hours 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:

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

© 2014 discovery publication. All rights reserved

Following signs appear after rupture of uterus: Initially tachycardia occurs following 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 & hysterectomy is required to save the patient's life. Maternal mortality ranges between 1% - 13% & perinatal mortality between 74%-94% in rupture uterus (WHO systematic review of maternal mortality and morbidity, 2005).

Reduction of prevalence of rupture of unscarred uterus requires the following: Reduction of unwanted pregnancies& 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 & uterine rupture with delayed diagnosis.

A. A silent or quiet rupture presents without initial dramatic signs & symptoms often with only a rise in maternal heart rate, pallor & 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& 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 & fetal movements & heart rate cease. Signs & symptoms of shock appear suddenly and complete cardiovascularcollapse 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, 2012). A similar case of ruptured uterus in primigravida at term who was not in labour was reported by Walsh et al in 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.

4. 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.

DISCLOSURE STATEMENT

There is no special financial support for this case report from the funding agency.

REFERENCES

1. Bjorklund K. Minimally invasive surgery for obstructed labour: a review of symphysiotomy during the twentieth century (including 5000 cases). *BJOG* 2002, 109, 236-248
2. Bujold E, Gauthier RJ. Neonatal morbidity associated with uterine rupture: what are the risk factors. *Am J ObstetGynecol*. 2002, 186, 311-314
3. Chen LH, Tan KH, Yeo GS. A ten-year review of uterine rupture in modern obstetric practice. *Ann Acad Med Singapore*, 1995, 24(6), 830-5
4. Hamilton EF, Bujold E, McNarma H, Gauthier R, Platt AW. Dystocia among women with symptomatic uterine rupture. *Am J Obstet Gynecol*. 2001, 184, 620-624
5. Leung AS, Leung EK, Paul RH. Uterine rupture after previous cesarean delivery: maternal and fetal consequences. *Am J Obstet Gynecol.* 1993, 169, 945-950
6. Mahbuba IP Alam. Uterine Rupture -Experience of 30 Cases at Faridpur Medical College Hospital. *Faridpur Med. Coll. J.* 2012, 7(2), 79-81
7. Neilson JP, Lavender T, Quenby S, Wray S. Obstructed labour. *Br Med Bull* 2003, 67, 191-204
8. Oxorn H. Human Labor and Birth. 5th ed. Norwalk, Conn: Apple-ton-Century-Crofts, 1986, 541-546
9. Phelan JP, Korst LM, Settles DK. Uterine activity patterns in uterine rupture: a case –control study. *Obstetrics Gynecol*. 1998, 92, 394-397
10. Topuz S. Spontaneous uterine rupture at an unusual site due to placenta percreta in a 21 week twin pregnancy with previous caesarean section. *ClinExpObstetGynecol.* 2004, 31, 239-241
11. Walsh, Colin A. O'Sullivan, Ray J. Foley, Michael E. Unexplained Prelabor Uterine Rupture in a Term Primigravida. *Obstetrics & Gynecology*, 2006, 108(3), 725-727
12. WHO systematic review of maternal mortality and morbidity: The prevalence of uterine rupture. *BJOG: an International Journal of Obstetrics and Gynaecology*. 2005, 112, 1221–1228
13. Yap OW, Kim ES, Laros RK Jr. Maternal and neonatal outcomes after uterine rupture in labor. *Am J Obstet Gynecol*. 2001, 184, 1576-1581

© 2014 discovery publication. All rights reserved