



SECOND-TRIMESTER UTERINE RUPTURE : LESSON LEARNED

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ABSTRACTS

Uterine rupture is a rare obstetrics catastrophic especially if it occurs during early pregnancy. We experienced three cases of ruptured uterus in the second trimester that first line doctors and obstetrician could learn lessons from. **Objectives:** To study the presentations and outcome of uterine rupture in the second trimester. **Methodology:** A retrospective review of uterine rupture in Hospital Tengku Ampuan Afzan from the 1st of April 2010 to the 1st of April 2011. Data obtained from case records, histopathological and autopsy reports. **Result:** There were 3 cases of uterine rupture. First case, uterine rupture at 15 weeks post sexual intercourse, undiagnosed until postmortem. The case was misled by the fact of ultrasound finding of an intrauterine pregnancy and searching for other non gynaecological causes delayed the urgent surgical management. Second case: ruptured uterus at 24 weeks following medical termination. The case was diagnosed only at laparotomy with the indication of failed medical termination and chorioamnionitis. Third case: ruptured uterus at 21 weeks following abdominal massage with initial diagnosis of acute gastroenteritis. The final diagnosis was ruptured uterus secondary to placenta increta, related to medical induction and interstitium pregnancy respectively. **Conclusion:** The clinical presentations of ruptured uterus varies. Uterine rupture can occur regardless the gestational age. The presence of haemoperitoneum and ultrasound findings of intrauterine pregnancy do not exclude an intact uterus or ectopic pregnancy. Searching for non gynaecological causes in such clinical presentations might delay the crucial surgical intervention that lead to mortality, morbidity and future obstetrics function.

KEY WORDS:

Second trimester uterine rupture, placenta cretas, termination of pregnancy

Introduction

Uterine rupture is a rare, catastrophic events in obstetrics, carrying an increase risk of maternal and perinatal mortality and morbidity[1,2]. It occurs mainly during third trimester and is usually associated with prior uterine surgery, abnormal placentation, or induction of labor [3]. However uterine rupture early in the second trimester is rare. We experienced three cases of uterine rupture that first line doctors and obstetrician could learn lessons from. We reported rupture uterus secondary to, placenta increta, following termination of pregnancy and cornual pregnancy.

Case 1

A 38 year-old gravida six at fifteen weeks period of amenorrhoea, presented with sudden epigastric pain radiated to her back following sexual intercourse. Her first pregnancy was a caesarean delivery for term breech presentation followed by two successful vaginal deliveries with her first husband. During this second marriage she had two first trimester miscarriages where dilatation and curettage were performed.

She was brought at the middle of the night to the nearest health clinic because of the above complaint. Her blood pressure (BP) was 110/60, pulse rate (PR) of 100/min, temperature (T) of 37°C, respiratory rate (RR) of 26/min and SpO2 100%. She was given intravenous ranitidine, fluid and ambulance transfer to tertiary hospital was arranged.

On arrival to the hospital, she was gasping, pale, Glasgow coma scale of 5/15, her BP was 49/20, pulse rate of 138, T= 35°C and both pupils were 4mm fixed. Unfortunately she went into cardio respiratory arrest despite immediate intubation. A quick ultrasound by the casualty doctor revealed no free fluid in the abdomen and no evidence of aortic aneurysm. She was referred and managed by medical, surgical and obstetrics team.

However abdominal girth was noted to be increased. Abdominal and pelvic ultrasound showed evidence of free fluid with an intrauterine pregnancy of a nonviable fetus. A peritoneal tap confirmed haemoperitoneum. Her haemoglobin (Hb) dropped from 8.2 to 2.5g %, platelet of 385 to 81 x 103/mm3. She went into second asystole and succumbed.

Autopsy revealed a haemoperitoneum of 2000mls of fresh blood mixed with clots. Stomach, liver, spleen and kidneys were normal. There was ruptured of uterus at the fundus measured 8 x 5 cm exposed the fetal sac with the fetus (225gm) still inside the uterus. The placenta was not complete weighed 110gm. Histopathology confirmed placenta increta.

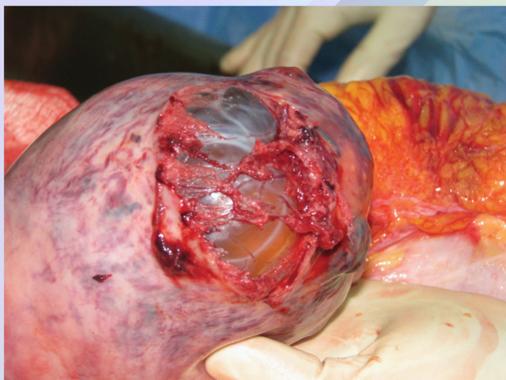


Fig. 1: Ruptured uterus at fundus exposing placenta tissue with intact gestational sac

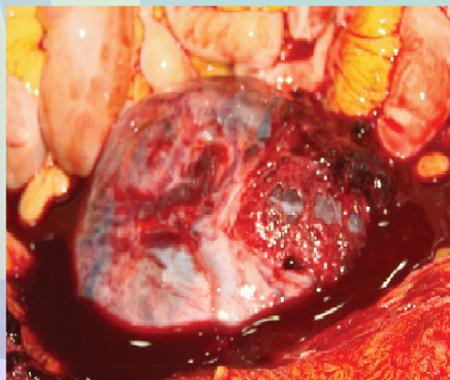


Fig. 2: Ruptured uterus at fundus exposing placenta tissue and intact gestation sac with haemoperitoneum

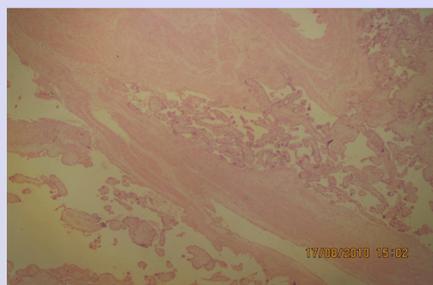


Fig. 3: Histopathology invasion of the chorionic villi to the myometrium

Case 2

A 36-yr-old grand multiparous woman at 24 week period of amenorrhoea was admitted for medical termination of pregnancy due to prenatal diagnosis of large encephalocele. Prior to induction, her vital sign were normal and uterus corresponding to date with unfavorable cervix. She had a total of four cervagem pessaries inserted at posterior fornix over four days duration.

The contractions pain started after second cervagem. She also had fever and minimal vaginal bleeding mixed with liquor. Vaginal examination revealed 1 cm effaced cervix with os dilated to 4 cm and intact membrane. The third cervagem was inserted in view of disappearance of uterine contractions despite abdominal pain.

The next day she experienced palpitation, shortness of breath and severe right iliac fossa pain. Her temperature was 38°C and SPO2 of 99%. Her abdomen was tender suprapubically. The cervical findings remained the same. Her Hb dropped from 10.4 to 8.5 g/dl and TWC increased from 13.45 to 21.17x10⁹/L. She was then treated as chorioamnionitis in which intra venous antibiotics and septic work out was carried out. The cervagem was repeated for the fourth time for early evacuation of the uterus.

On the following day she developed giddiness, intermittent abdominal pain, nausea, vomiting and the antibiotic was changed to a broader coverage in view of persistent high grade fever. The labour was augmented with intravenous oxytocin. There was no progress of labour despite eight hours of oxytocin infusion, therefore hysterotomy with bilateral tubal ligation was then decided.

Intraoperative: rupture of right wall extending from isthmus to body of the uterus. Fetus in the abdominal cavity with placenta loosely attached to the mesentery of small intestine.

Management: Total abdominal hysterectomy . Patient recovered well post operatively.

Case 3

A 34-year-old G4P3 at 21 week period of gestation, presented to public health clinic with worsening generalized abdominal pain and constipation following traditional massage. This is her first pregnancy with the third husband. She was treated with syrup lactulose .

On the next day was brought to our center, complaining of acute abdominal pain associated with vomiting and diarrhoea. There was no vaginal bleeding or syncopal attack. She appeared lethargic, dehydrated and pale. Her BP was 80/60 mmHg and PR was 100 bpm. The abdomen was mildly distended, soft with mild tenderness over the epigastric region and clinical fundal height was 20 weeks size.

Trans abdominal scan by first line doctor showed viable fetus with no free fluid in the pouch of Douglas. Her Hb was 6.5g/dl, normal platelets count and increased WBC of 28 x 10⁹/L. She was treated as acute gastroenteritis secondary to adverse effect of lactulose. Investigation for the cause of anemia was carried out prior to blood transfusion.

Her conditions deteriorated few hours later, she developed shortness of breath, hypotensive, tachycardia and increased abdominal distension. The abdomen was extremely tender suggestive of peritonitis which made assessment of uterus difficult.

A repeat ultrasound examination showed viable fetus where? with free fluid at the pouch of dougles. There was present of left adnexal mass measuring 7.5 x 5 cm. However the uterine outline was not clearly visualized.

The impression of possible extrauterine pregnancy with intra abdominal bleeding or perforated viscous, therefore laparotomy was decided.

Intra operative : haemoperitoneum of 3 L, globularly enlarged uterus of 20 week size with rupture of the posterior wall measuring 5x5cm expelling part of the placenta. The uterine fundus was extremely thin.

Management: total abdominal hysterectomy and blood transfusion due to massive blood loss. Patient recovered well post operatively.

Histopathology : Interstitium pregnancy



Fig. 5: Gross appearance of the uterus with attached placenta at the left upper part of uterus and fallopian tube

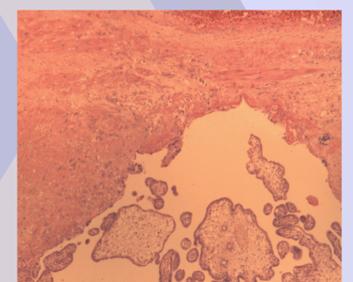


Fig. 6: Gross appearance of the uterus with attached placenta at the left upper part of uterus and fallopian tube

Discussion

From literatures review, most of the cases had various risk factors [1, 2, 3, 4, 5]. The most important risk factor in determining the risk of uterine rupture is whether the uterus has a previous scar or not [1]. It may occur in a patient who has high parity, placenta creta, adenomyosis, abortion with instrumentation, induced delivery , cocaine abuse [6]. The incidence of spontaneous rupture of unscarred uterus occurs in 1 in 15,000 [7]. In most cases uterine rupture mainly occur before or during labor in the third trimester.

In our first case the risk factors was caesarean and previous curettage. The misleading factors here were epigastric pain following sexual intercourse, and an intrauterine pregnancy. Ultrasound diagnosis of intrauterine pregnancy together with haemoperitoneum does not mean an intact uterus or ruled out an ectopic pregnancy and searching for other non gynaecological or obstetrics causes (perforated gastric ulcer, ruptured abdominal aortic aneurysm or viscous ruptured) would just delay the appropriate urgent management that affect the outcome.

For the second case, the risk factor is grandmultipara. One should be vigilant with the use of cervagem in grandmultipara, with the symptoms arises with medical induction, ie: cessation of uterine contraction with continuous abdominal pain and a non progressing cervical dilatation should give rise to a suspicion of uterine rupture.

The last case, the risk factor was an ectopic pregnancy in a multiple partner lady with evidence of pelvic inflammatory disease(intra operatively). The misleading was she presented with constipation later with diarrhoea and diagnosed as acute gastroenteritis by first line doctor. Careful pelvic examination and pelvic ultrasound may help to identify the exact location of the pregnancy.

Conclusion:

The presentation of ruptured uterus varies. Uterine rupture can occur regardless the gestational age. The presence of haemoperitoneum and ultrasound findings of intrauterine pregnancy do not exclude an intact uterus or ectopic pregnancy. Searching for non gynaecological causes in such clinical presentations might delayed the urgent surgical intervention that lead to mortality, morbidity and affect future obstetrics function.

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