A Pregnant Woman with Recurrent Uterine Rupture; Case Report and Review of Literature

Tekrarlayan Uterus Rüptürü Olan Gebe Kadın; Olgu Sunumu ve Literatür Derlemesi

Cenk YAŞA,[a]
Özlem DURAL,[a]
Ercan BAŞTU,[a]
İbrahim KALELİOĞLU[a]

[a]Department of Gynecology and Obstetrics,
İstanbul University Faculty of Medicine, İstanbul

Geliş Tarihi/*Received:* 27.10.2013
Kabul Tarihi/*Accepted:* 06.02.2014

Yazışma Adresi/*Correspondence:*
Cenk YAŞA
İstanbul University Faculty of Medicine, Department of Gynecology and Obstetrics, İstanbul, TÜRKİYE/TURKEY
cenk_yasa@yahoo.com

ABSTRACT Uterine rupture is an obstetric emergency needs immediate surgery and is associated with poor fetal and maternal outcomes. The risk of uterine rupture and its associated morbidities increases as the incidence of cesarean deliveries increases. Women with prior uterine rupture are potentially fertile and will be at a greater risk of recurrent uterus rupture. There is little evidence guiding the management of pregnancy in patients with a history of rupture. Postpartum counseling regarding risk of rerupture with subsequent pregnancies is an important piece of management of these patients. Here we report a case of recurrent rupture of uterus in a pregnancy at 31 3/7 weeks of gestation in woman with history of uterin rupture in prior pregnancy. She was admitted to our hospital with lower abdominal pain. Initial evaluation at admission was normal. After 2 hours later she felt diziness and increase in abdominal pain. After evaluation she was found tachycardic and hypotensive and fetus was bradycardic on ultrasonographic examination. Emergent laparotomy was done and rupture of uterus from prior rupture site was detected. Primary repair of rupture site was performed.

Key Words: Uterine rupture; pregnancy outcome; risk factors

ÖZET Uterin rüptür acil cerrahi müdahale gerektiren, fetal ve maternal sonuçların iyi olmadığı bir obstetrik acildir. Sezaryen ile doğum insidansı arttıkça, uterus rüptürü riski ve buna bağlı morbiditeler artmaktadır. Öncesinde uterus rüptürü olan kadınlar potansiyel olarak fertil olup, tekrarlayan uterus rüptürü için büyük risk altındadırlar. Daha önce uterus rüptürü hikayesi olan hastaların yönetimine kılavuz olabilecek az sayıda bilgi mevcuttur. Bu hastaların yönetiminde önemli bir parçayı da postpartum dönemde sonraki gebeliklerde oluşacak tekrarlayan rüptür riski için yapılacak danışmanlık oluşturmaktadır. Biz burada daha önceki gebeliğinde uterus rüptürü öyküsü olan 31 hafta 3/7 günlük gebeyi vaka olarak sunuyoruz. Kliniğimize alt karın ağrısı ile başvuran hastanın ilk başlangıç değerlendirmesi normaldi. Başvurudan sonra 2. saatte karın ağrısında artış ve baş dönmesi şikayeti olması üzerine yapılan değerlendirmesinde hipotansif ve taşikardik saptanan hastanın ultrasonografisinde fetus bradikardik olarak izlendi. Yapılan acil laparatomide daha önceki rüptür alanından tekrar rüptür olduğu saptandı. Rüptür alanı primer olarak onarıldı.

Anahtar Kelimeler: Uterus rüptürü; gebelik sonucu; risk faktörleri

Turkiye Klinikleri J Gynecol Obst 2014;24(4):261-4

Despite advances in modern obstetric practice, uterine rupture continues to be an obstetric emergency that can be associated with poor neonatal outcome and maternal hemorrhage. During labour, separation of a previous cesarean delivery scar is responsible of most of cases of uterine rupture.[1] Uterine surgery involving the myometrium, coincidental

uterine trauma, congenital uterine anomalies, grandmultiparity, uterine overdistention, external trauma, abnormal placentation, fetal anomalies, augmentation of labour, and difficult labour dystocia also increase the risk of uterine rupture.[2]

Here, we report of a case of rupture of the uterus at 31 3/7 weeks of gestation in woman with a history of uterine rupture in prior pregnancy.

CASE REPORT

A 37-year-old pregnant woman, who was at 31 3/7 weeks of gestation, gravida 2, para 1, admitted to our hospital with lower abdominal pain. Her medical history was significant, 5 years ago she had undergone emergent laparatomy and primary two-layered repair of vertical anterior uterine wall for spontaneous uterine rupture at 27 weeks of gestation at our hospital. She had no other medical or surgical illnesses. the course of her current pregnancy was unremarkable. She had received two doses of betamethasone to promote lung maturity 3 weeks before admission prophylactically due to previous history of preterm labor. On presentation she was mildly tachycardic with a pulse of 106 beats per minute, blood pressure of 110/80 mmHg and temperature of 37.8 C. Physical examination revealed slight tenderness in the suprapubic region. On vaginal examination there was no dilatation and effacement of the cervix. A non-stress cardiotocography was normal and no uterine contractions were detected. Her hemoglobin, hematocrit and platelet levels on admission were 12.3, 35.4%, 149.000, respectively. Nitrite test was positive on urine analysis and urinary sediment revealed 129 red blood cells and 47 white blood cells. Ultrasonographic examination of the abdomen was normal. Urine culture was taken, ampisilin-sulbactam was introduced for urinary tract infection.

Two hours later she was complaining of increase in abdominal pain and dizziness. On reevaluation of the patient, abdominal distention and tenderness were found. Her pulse rate was 136 bpm and blood pressure was 60/40 mmHg the fetus was bradycardic on sonography. This raised a clinical suspicion of a ruptured uterus and the decision was made to proceed with emergent laparotomy.

So emergent laparotomy was done through a midline incision and hemoperitoneum was detected. More than 1500 ml fresh blood and coagulum was removed. The rupture site was about 10-12 cm long and was located vertically on the anterior uterine wall (Figure 1). Amniotic sac and plasenta were visible at rupture site. A female neonate with birth weight 2035 g and Apgar scores of 0 and 2 was delivered through the rupture site. There was no active bleeding at the site of rupture. Uterine tone was achieved with oxytocin. The rupture site was repaired with 1 polyglactin vicryl in two layers (Figure 2). Inspection revealed an otherwise normal uterus. Three units of packed red blood cells and one unit fresh frozen plasma was transfused during the procedure. Her postoperative period was well and she was discharged home on postoperative day 3 and neonate was discharged home on postpartum day 5.

DISCUSSION

Tearing of uterine wall during pregnancy or delivery is termed as uterine rupture. Due to its higher

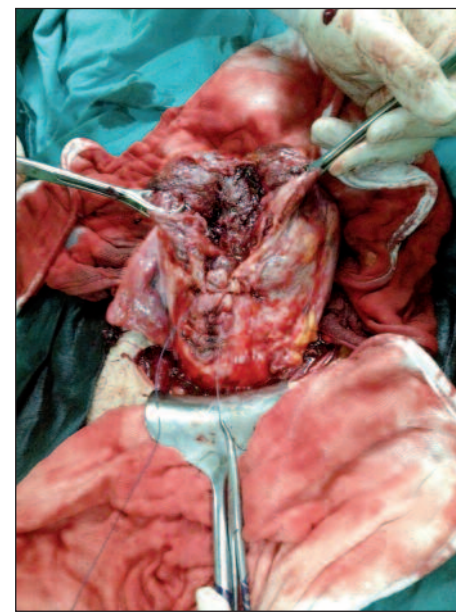

FIGURE 1: Gross picture of rupture site at anterior wall.
(See color figure at
http://www.turkiyeklinikleri.com/journal/jinekoloji-obstetrik-dergisi/1300-0306/)

FIGURE 2: After repair of rupture site.
(See color figure at
http://www.turkiyeklinikleri.com/journal/jinekoloji-obstetrik-dergisi/1300-0306/)

maternal and perinatal mortality and morbidity uterine rupture is one of the most distressing complications of pregnancy. In developed countries the risk of uterine rupture is mainly associated with separation of a previous cesarean delivery scar.[3]

Also one of the major risk factors is the previous uterine rupture with recurrence risk of 4-13%.[4] In our case, the patient had suffered complete uterine rupture at 27th week of gestation from anterior uterine wall and uterus was treated with primary repair of rupture site five years ago. Peham reported earliest report of uterine rupture in 1902, three cases of pregnancy after uterine rupture who all had recurrent uterine rupture.[5] Ley and Mahfouz reported 86 pregnancies after uterine rupture, 52 of them had repeated uterine rupture with very high maternal mortality.[6] In 1971, earliest review of case reports of pregnancy after uterine rupture was published. Ritchie reviewed total of 253 pregnancies in 194 woman who had previous uterine rupture. Twenty-five of the women (12.8%) had a repeat uterine rupture; two of them died.[7] Lim and collagues reported total of 84 pregnancies in 65 patients after uterine rupture.[8] As the preferred mode of delivery elective cesarean delivery was recommended and uterine rupture was reported in four women but there was no maternal mortality. Usta and collagues reported total of 24 pregnancies in 12 patients.[9] This resulted in 5 recurrent uterine rupture and 5 perinatal mortality. Chibber and collagues studied 22 pregnancies in 22 patients with previous uterine rupture.[10] They reported 2 maternal and 2 perinatal mortality in 2 cases of recurrent rupture of uterus.

Pathognomonic findings of uterine rupture are fetal bradycardia and loss of contractions. A common scenario is initial presentation of maternal tachycardia, sudden fetal distress followed by vaginal bleeding and abdominal pain.[3] In addition our patient felt increase in abdominal pain, and after initial evaluation she was found tachycardic and hypotensive and fetus was bradycardic on ultrasound examination. The diagnosis of uterine rupture is mainly clinical, confirmed with laparotomy. In more suspicious cases, sonography could be useful to help in diagnosis. But anytime if the risk factors are present, a physician should remember the possibility of uterine rupture.

Depending on the extent, location and type of rupture as well as the patient's hemodynamic stability and desire of fertility, surgical treatments alternate between a hysterectomy or primary repair. Due to high recurrence rate and high maternal and perinatal morbidity and mortality in recurrent cases, if there is no desire for future fertility, hysterectomy to be the best treatment.[11] But in the cases in which main concern is fertility preservation, especially in young patients, primary repair of rupture is a good option in selected cases.[12] Following uterine rupture, primary repair was done in 14.3-47.4% of cases, repair with tubal ligation in 11.6% and partial or total hysterectomy in 41.2%.[13-15] Because our patient was primipara and she declared her desire for future pregnancies and there was adequate hemostasis without hemodynamic instability, we made primary repair of the ruptured site, leaving unhealthy tissue with uterine repair may lead to increased risk for infection, abscess formation, hemorrhage.

For the women with prior uterine rupture major concern is the recurrence of uterine rupture. Therefore, patients should be counseled re-

garding high risk of re-rupture, sterilization options, and for future pregnancy regular antenatal care for high-risk patients and scheduled cesarean delivery.

As a conclusion, there is high risk for maternal and perinatal mortality and morbidity associated with recurrent uterine ruptures. If predisposing conditions exist, re-rupture should always be kept in mind. Prevention of the uterine rupture is more important than management, regular antenatal care and scheduled cesarean delivery could prevent development of uterine rupture. Physician should be aware and watchful for signs and symptoms of uterine rupture. With increased awareness, accurate diagnosis, optimal replacement of blood loss, and skillful surgical management and neonatal care, perinatal and maternal mortality and morbidity related to uterine rupture could be significantly decreased.

REFERENCES

1. Catanzarite V, Cousins L, Dowling D, Daneshmand S. Oxytocin-associated rupture of an unscarred uterus in a primigravida. Obstet Gynecol 2006;108(3 Pt 2):723-5.
2. Cunningham F, Leveno K, Bloom S, Hauth CJ, Rouse D, Spong C. Obstetrical hemorrhage. Williams Obstetrics. 23rd ed. New York: McGraw-Hill Professional; 2010.p.757-803.
3. Sweeten KM, Graves WK, Athanassiou A. Spontaneous rupture of the unscarred uterus. Am J Obstet Gynecol 1995;172(6):1851-5; discussion 1855-6.
4. Al Qahtani N. Fertility after complete uterine rupture. Curr Opin Obstet Gynecol 2013;25(3): 214-9.
5. Eden TW. The operative treatment of rupture of the uterus, with an account of three cases treated by abdominal hysterectomy. BJOG: An International Journal of Obstetrics & Gynecology 1909;15(6):363-81.
6. Sheth SS. Results of treatment of rupture of the uterus by suturing. J Obstet Gynaecol Br Commonw 1968;75(1):55-8.
7. Ritchie EH. Pregnancy after rupture of the pregnant uterus. A report of 36 pregnancies and a study of cases reported since 1932. J Obstet Gynaecol Br Commonw 1971;78(7): 642-8.
8. Lim AC, Kwee A, Bruinse HW. Pregnancy after uterine rupture: a report of 5 cases and a review of the literature. Obstet Gynecol Surv 2005;60(9):613-7.
9. Usta IM, Hamdi MA, Musa AA, Nassar AH. Pregnancy outcome in patients with previous uterine rupture. Acta Obstet Gynecol Scand 2007;86(2):172-6.
10. Chibber R, El-Saleh E, Al Fadhli R, Al Jassar W, Al Harmi J. Uterine rupture and subsequent pregnancy outcome--how safe is it? A 25-year study. J Matern Fetal Neonatal Med 2010;23(5):421-4.
11. Pedowitz P, Perell A. Rupture of the uterus. Am J Obstet Gynecol 1958;76(1):161-71.
12. 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.
13. Al Sakka M, Dauleh W, Al Hassani S. Case series of uterine rupture and subsequent pregnancy outcome. Int J Fertil Womens Med 1999;44(6):297-300.
14. Catanzarite VA, Mehalek KE, Wachtel T, Westbrook C. Sonographic diagnosis of traumatic and later recurrent uterine rupture. Am J Perinatol 1996;13(3):177-80.
15. Farrell PJ. Rupture of the uterus. Am J Obstet Gynecol 1967;97(3):332-7.