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**Date:** 3 January 2018

**Sources:** Medline, Embase.

## Uterine Scar Dehiscence

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### 1. The consequences of previous uterine scar dehiscence and cesarean delivery on subsequent births.

**Author(s):** Baron, Joel; Weintraub, Adi Y; Eshkoli, Tamar; HersHKovitz, Reli; Sheiner, Eyal

**Source:** International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Aug 2014; vol. 126 (no. 2); p. 120-122

**Publication Date:** Aug 2014

**Publication Type(s):** Journal Article

**PubMedID:** 24825500

Available at [International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

**Abstract:**OBJECTIVE To determine whether women with a previous uterine scar dehiscence are at increased risk of adverse perinatal outcomes in the following delivery.METHODS A retrospective cohort study was conducted of all subsequent singleton cesarean deliveries performed at the Soroka University Medical Center, Beer-Sheva, Israel, between January 1, 1988, and December 31, 2011. Clinical and demographic characteristics, maternal obstetric complications, and fetal complications were evaluated among women with or without a previous documented uterine scar dehiscence.RESULTS Of the 5635 pregnancies associated with at least two previous cesarean deliveries, 180 (3.2%) occurred among women with a previous uterine scar dehiscence. Women with this condition in a prior pregnancy were more likely than those without previous uterine scar dehiscence to experience subsequent preterm delivery (86 [47.8%] vs 1350 [24.7%];  $P<0.001$ ), low birth weight (47 [26.1%] vs 861 [15.8%];  $P<0.001$ ), and peripartum hysterectomy (5 [2.8%] vs 20 [0.4%];  $P<0.001$ ). Nevertheless, previous uterine scar dehiscence did not increase the risk of uterine rupture, placenta accreta, or adverse perinatal outcomes, such as low Apgar scores at 5 minutes and perinatal mortality.CONCLUSION Uterine scar dehiscence in a previous pregnancy is a potential risk factor for preterm delivery, low birth weight, and peripartum hysterectomy in the following pregnancy.

**Database:** Medline

## **2. Pregnancy outcomes in patients with prior uterine rupture or dehiscence.**

**Author(s):** Fox, Nathan S; Gerber, Rachel S; Mourad, Mirella; Saltzman, Daniel H; Klauser, Chad K; Gupta, Simi; Rebarber, Andrei

**Source:** Obstetrics and gynecology; Apr 2014; vol. 123 (no. 4); p. 785-789

**Publication Date:** Apr 2014

**Publication Type(s):** Journal Article

**PubMedID:** 24785605

Available at [Obstetrics and gynecology](#) - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

**Abstract:**OBJECTIVE To report obstetric outcomes in a series of women with prior uterine rupture or prior uterine dehiscence managed with a standardized protocol.METHODS Series of patients delivered by a single maternal-fetal medicine practice from 2005 to 2013 with a history of uterine rupture or uterine dehiscence. Uterine rupture was defined as a clinically apparent, complete scar separation in labor or before labor. Uterine dehiscence was defined as an incomplete and clinically occult uterine scar separation with intact serosa. Patients with prior uterine rupture were delivered at approximately 36-37 weeks of gestation or earlier in the setting of preterm labor. Patients with prior uterine dehiscence were delivered at 37-39 weeks of gestation based on obstetric history, clinical findings, and ultrasonographic findings. Patients with prior uterine rupture or uterine dehiscence were followed with serial ultrasound scans to assess fetal growth and lower uterine segment integrity. Outcomes measured were severe morbidities (uterine rupture, hysterectomy, transfusion, cystotomy, bowel injury, mechanical ventilation, intensive care unit admission, thrombosis, reoperation, maternal death, perinatal death).RESULTS Fourteen women (20 pregnancies) had prior uterine rupture and 30 women (40 pregnancies) had prior uterine dehiscence. In these 60 pregnancies, there was 0% severe morbidity noted (95% confidence interval [CI] 0.0-6.0%). Overall, 6.7% of patients had a uterine dehiscence seen at the time of delivery (95% CI 2.6-15.9%). Among women with prior uterine rupture, the rate was 5.0% (95% CI 0.9-23.6%), whereas among women with prior uterine dehiscence, the rate was 7.5% (95% CI 2.6-19.9%).CONCLUSION Patients with prior uterine rupture or uterine dehiscence can have excellent outcomes in subsequent pregnancies if managed in a standardized manner, including cesarean delivery before the onset of labor or immediately at the onset of spontaneous preterm labor.

**Database:** Medline

### **3. Clinical significance of uterine scar dehiscence in women with previous cesarean delivery: Prevalence and independent risk factors**

**Author(s):** Bashiri A.; Burstein E.; Rosen S.; Smolin A.; Sheiner E.; Mazor M.

**Source:** Journal of Reproductive Medicine for the Obstetrician and Gynecologist; Jan 2008; vol. 53 (no. 1); p. 8-14

**Publication Date:** Jan 2008

**Publication Type(s):** Article

**PubMedID:** 18251354

**Abstract:**OBJECTIVE: To determine the prevalence and risk factors for uterine scar dehiscence in women following cesarean delivery (CD). STUDY DESIGN: Our computerized database was used to identify patients with recurrent CDs in the index pregnancy (1988-2002). Women with uterine dehiscence were compared to those without dehiscence. Multiple logistic regression analysis was used to determine independent risk factors for dehiscence. RESULTS: Of 7,833 women with at least 1 previous CD and a CD in the index pregnancy, 81 (1.03%) had uterine scar dehiscence. This finding was associated with nonprogress of labor during the first stage, number of previous CDs, parity, preterm delivery and low Apgar scores at 5 minutes. For patients with only 1 previous CD, failure to progress during the first stage of labor and lower parity were associated with uterine scar dehiscence. The numbers of previous CDs, gravidity and placenta previa rate were significantly higher in the group with dehiscence who delivered preterm. CONCLUSION: Preterm delivery, nonprogress of labor during the first stage and number of previous CDs were found to be independent risk factors for uterine scar dehiscence. In contrast, parity had a protective effect against dehiscence. © Journal of Reproductive Medicine, Inc.

**Database:** EMBASE

### **4. When a cesarean section scar is more than an innocent bystander in a subsequent pregnancy: Ultrasound to the rescue.**

**Author(s):** Singh, Divya; Kaur, Ladbans

**Source:** Journal of clinical ultrasound : JCU; Jul 2017; vol. 45 (no. 6); p. 319-327

**Publication Date:** Jul 2017

**Publication Type(s):** Journal Article Review

**PubMedID:** 28440856

Available at [Journal of clinical ultrasound : JCU](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

**Abstract:**Over the years, cesarean section has played a pivotal role in reducing maternal and perinatal morbidity and mortality. With the rising trend of this surgery, a substantial number of pregnant women have a cesarean section scar. The scar can serve as the abode of grave conditions in subsequent pregnancies, namely cesarean scar pregnancy, morbidly adherent placenta, and scar dehiscence. Sonography has emerged as a robust tool for the diagnosis of these potentially life-threatening conditions. This review highlights the key sonographic features of various complications that can occur at the cesarean scar site in subsequent pregnancies. © 2016 Wiley Periodicals, Inc. J Clin Ultrasound 45:319-327, 2017.

**Database:** Medline

**5. Vaginal delivery with prior cesarean delivery following appendix rupture and diffuse purulent peritonitis in a patient with complete wound dehiscence.**

**Author(s):** Zahumensky, Jozef; Braticak, Michal; Hlavek, Robert; Bucko, Marek

**Source:** International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Mar 2017; vol. 136 (no. 3); p. 355-356

**Publication Date:** Mar 2017

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 28099718

Available at [International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

**Database:** Medline

**6. Treatment and repair of uterine scar dehiscence during cesarean section.**

**Author(s):** Sawada, Masaaki; Matsuzaki, Shinya; Nakae, Ruriko; Iwamiya, Tadashi; Kakigano, Aiko; Kumasawa, Keiichi; Ueda, Yutaka; Endo, Masayuki; Kimura, Tadashi

**Source:** Clinical case reports; Feb 2017; vol. 5 (no. 2); p. 145-149

**Publication Date:** Feb 2017

**Publication Type(s):** Journal Article

**PubMedID:** 28174640

Available at [Clinical case reports](#) - from Europe PubMed Central - Open Access

**Abstract:**The incidence of cesarean section (c-section) has increased worldwide. Because the major risk factor for uterine scar dehiscence (USD) is a previous c-section, the rate of this complication has also increased. Its clinical significance and management strategies are unclear. Here, we discuss USD particularly pertaining to its surgical treatment.

**Database:** Medline

**7. Sonographic assessment of uterine dehiscence during pregnancy in women with a history of cesarean section: A case series**

**Author(s):** Hatstat L.M.

**Source:** Journal of Diagnostic Medical Sonography; Sep 2016; vol. 32 (no. 5); p. 283-286

**Publication Date:** Sep 2016

**Publication Type(s):** Article

**Abstract:**Uterine scar dehiscence is a complication seen in pregnancy commonly from previous cesarean scars. It increases the risk for uterine rupture, which carries a high incidence for maternal and neonatal morbidity and mortality. Ultrasound is an effective method to monitor the defect closely throughout pregnancy to help predict uterine rupture or neonate complications. Repair of a dehiscence may be possible, allowing for future pregnancies. Copyright © Society of Diagnostic Medical Sonography.

**Database:** EMBASE

#### **8. Two pregnancy cases of uterine scar dehiscence after laparoscopic myomectomy.**

**Author(s):** Song, Soo-Youn; Yoo, Hee-Jun; Kang, Byung-Hun; Ko, Young-Bok; Lee, Ki-Hwan; Lee, Mina

**Source:** Obstetrics & gynecology science; Nov 2015; vol. 58 (no. 6); p. 518-521

**Publication Date:** Nov 2015

**Publication Type(s):** Journal Article

**PubMedID:** 26623418

Available at [Obstetrics & gynecology science](#) - from Europe PubMed Central - Open Access

**Abstract:**Uterine scar dehiscence following laparoscopic myomectomy rarely occurs but can compromise both maternal and fetal well-being in subsequent pregnancy. We here present two cases of pregnancy complicated by preterm birth that resulted from uterine scar dehiscence following laparoscopic myomectomy. First case was a nulligravida who had scar dehiscence at 26 weeks of gestation after having a laparoscopic myomectomy 3 months prior to conception. Two weeks later, we observed her fetal leg protruding through the defect. The other case was a primigravida with a history of prior cesarean delivery, whose sonography revealed myomectomy scar dehiscence at 31 weeks of gestation. Within a few hours after observing, the patient complained of abdominal pain that was aggravating as fetal leg protruded through the defect. In both cases, babies were born by emergency cesarean section. Conservative management can be one of treatment options for myomectomy scar dehiscence in preterm pregnancy. However, clinicians should always be aware of the possibility of obstetric emergencies.

**Database:** Medline

#### **9. Asymptomatic uterine dehiscence in a second-trimester twin pregnancy.**

**Author(s):** Greenwald, Sally R; Gonzalez, Juan M; Goldstein, Ruth G; Rosenstein, Melissa G

**Source:** American journal of obstetrics and gynecology; Oct 2015; vol. 213 (no. 4); p. 590

**Publication Date:** Oct 2015

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 26071921

**Database:** Medline

#### **10. From cesarean scar dehiscence to large incomplete uterine rupture in the second trimester**

**Author(s):** Boujenah J.; Tigaizin A.; De La Hosseraye C.; Oldani E.; Carbillon L.

**Source:** Gynecologie Obstetrique et Fertilité; Apr 2015; vol. 43 (no. 4); p. 327-328

**Publication Date:** Apr 2015

**Publication Type(s):** Letter

**PubMedID:** 25800859

**Database:** EMBASE

## **11. Rare complications of cesarean scar**

**Author(s):** Mahajan D.; Kang M.; Sandhu M.; Kalra N.; Khandelwal N.; Jain V.

**Source:** Indian Journal of Radiology and Imaging; 2013; vol. 23 (no. 3); p. 258-261

**Publication Date:** 2013

**Publication Type(s):** Article

Available at [Indian Journal of Radiology and Imaging](#) - from Europe PubMed Central - Open Access

**Abstract:** Cesarean scar pregnancy (CSP) and cesarean scar dehiscence (CSD) are the most dreaded complications of cesarean scar (CS). As the incidence of CS is increasing worldwide, so is the incidence of CSP, especially in cases with assisted reproduction techniques. It is of utmost importance to diagnose CSP in the early first trimester, as it can lead to myometrial rupture with fatal outcome. On the other hand, CSD may be encountered during pregnancy or in the postpartum period. CSD in the postpartum period is very rare and can cause secondary postpartum hemorrhage (PPH) leading to increased maternal morbidity or even death if not diagnosed and managed promptly. Both complications can be diagnosed on ultrasonography (USG) and confirmed on magnetic resonance imaging (MRI). These two conditions carry high morbidity and mortality. In this article, we highlight the role of imaging in the early diagnosis and management of these conditions.

**Database:** EMBASE

## **12. Persistent abdominal pain over uterine scar during labor as a predictor of delivery complications**

**Author(s):** Cohen A.; Cohen Y.; Laskov I.; Maslovitz S.; Lessing J.B.; Many A.

**Source:** International Journal of Gynecology and Obstetrics; Dec 2013; vol. 123 (no. 3); p. 200-202

**Publication Date:** Dec 2013

**Publication Type(s):** Article

**PubMedID:** 24063747

**Abstract:** Objective To evaluate the significance of persistent lower abdominal pain in women with previous cesarean delivery. Methods Various maternal outcomes were compared between women who underwent repeated cesareans owing to persistent lower abdominal pain (study group) and women who underwent repeated cesareans without persistent abdominal pain (control group). Results The incidence of uterine rupture was significantly higher in the study group than in the control group (8/81 [9.9%] vs 0/119 [0.0%];  $P < 0.001$ ). While all women with persistent lower abdominal pain and uterine rupture had an additional sign or symptom, only 6/73 (8.2%) women with persistent abdominal pain without uterine rupture had any additional symptoms ( $P < 0.001$ ). There was no difference in incidence of uterine scar dehiscence between the groups. However, the hospitalization period was significantly longer in the study group (4 vs 3.7 days;  $P < 0.05$ ). Trial of labor was a contributing factor to uterine rupture. Conclusion Isolated persistent lower abdominal pain in women with previous cesarean is a poor indicator of uterine rupture. However, the positive predictive value for uterine rupture is 57% when an additional sign or symptom is present. Dehiscence of the uterine scar is relatively common and it is not associated with persistent abdominal pain. © 2013 International Federation of Gynecology and Obstetrics.

**Database:** EMBASE

### 13. The significance of a previous uterine scar dehiscence on subsequent births

**Author(s):** Baron J.; Weintraub A.; Eshcoli T.; Sheiner E.

**Source:** American Journal of Obstetrics and Gynecology; Jan 2013; vol. 208 (no. 1)

**Publication Date:** Jan 2013

**Publication Type(s):** Conference Abstract

**Abstract:**OBJECTIVE: To determine whether women with a previous uterine scar dehiscence have a higher risk of adverse perinatal outcomes in subsequent births. STUDY DESIGN: We retrospectively compared all subsequent singleton cesarean deliveries (CD) of women with a previous documented uterine scar dehiscence, with recurrent CD of women with no such history, during the years 1988-2011. RESULTS: Out of 5635 singleton with recurrent CD that occurred during the study period, 3.2% (n = 180) were of women with a previous uterine scar dehiscence. Uterine scar dehiscence was significantly associated with subsequent peripartum hysterectomy and preterm delivery (<37wks). However, pregnancies following a previous uterine scar dehiscence were not found to be at an increased risk for uterine rupture, placenta accreta or adverse perinatal outcomes such as low Apgar scores at 5 minutes, low birthweight (<2500gr) and perinatal mortality (Table). CONCLUSION: In our population, uterine scar dehiscence is not a risk factor for subsequent uterine rupture, placenta accreta or perinatal mortality. However, uterine scar dehiscence is a risk factor for peripartum hysterectomy in the following pregnancy. (Table Presented).

**Database:** EMBASE

### 14. Uterine dehiscence in early second trimester.

**Author(s):** Zuckerwise, Lisa C; Cakmak, Hakan; Sfakianaki, Anna K

**Source:** Obstetrics and gynecology; Aug 2011; vol. 118 (no. 2); p. 497-500

**Publication Date:** Aug 2011

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 21768866

Available at [Obstetrics and gynecology](#) - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

**Abstract:**BACKGROUNDThe diagnosis of uterine dehiscence in the early second trimester by ultrasonography is rare and its effect on pregnancy outcome is unclear.CASEAn asymptomatic woman presented for anatomy survey in the 19th week of pregnancy. Uterine dehiscence at the site of previous hysterotomy was diagnosed by ultrasound scan. She was admitted to the hospital for expectant management and eventually opted for termination of pregnancy in the 22nd week of pregnancy. Termination was performed by classical hysterotomy without any complications.CONCLUSIONGiven the increasing cesarean delivery rate and improvements in ultrasound technology, obstetricians should expect to face the management dilemma of antenatally diagnosed uterine dehiscence. The risks of expectant management compared with termination remain theoretical, and timing of delivery and methods of termination are important questions to consider.

**Database:** Medline

**15. Reproductive outcomes in subsequent pregnancies after a pregnancy complicated by open maternal-fetal surgery (1996-2007).**

**Author(s):** Wilson, R Douglas; Lemerand, Kerrie; Johnson, Mark P; Flake, Alan W; Bebbington, Michael; Hedrick, Holly L; Adzick, N Scott

**Source:** American journal of obstetrics and gynecology; Sep 2010; vol. 203 (no. 3); p. 209

**Publication Date:** Sep 2010

**Publication Type(s):** Journal Article

**PubMedID:** 20537307

**Abstract:**OBJECTIVEThe reproductive and gynecologic outcomes for women after the pregnancy complicated by open maternal-fetal surgery (OMFS) were evaluated.STUDY DESIGNThe retrospective review identified 93 women with OMFS from a single institution (1996-2007). Consent and questionnaires were sent to women. Institutional review board approval was obtained from the Committee for Protection of Human Subjects.RESULTSThe total return rate was 57.3%. Total pregnancies reported were 47, with 36 delivering after 20 weeks' gestation. The uterine dehiscence and rupture rates were 14% and 14%, respectively. Fetal anomalies occurred in 4 subsequent pregnancies. Normal conception occurred in 98% of subsequent pregnancies. Gynecologic issues were reported by 8 women, with infertility, abdominal pain, and ovarian and uterine factors.CONCLUSIONThe reproductive outcomes of uterine dehiscence (14%) and rupture (14%) in a subsequent pregnancy continue to be a major counseling issue for OMFS. Fertility and gynecologic factors do not appear to be increased for women undergoing OMFS.

**Database:** Medline

**16. Management of asymptomatic mid-trimester lower segment scar dehiscence.**

**Author(s):** Gorthi, Srilatha; Simpson, Nigel A B; Lodge, Virginia; Dunham, Richard J C; Lane, Geoffrey

**Source:** European journal of obstetrics, gynecology, and reproductive biology; Dec 2009; vol. 147 (no. 2); p. 241-242

**Publication Date:** Dec 2009

**Publication Type(s):** Letter Case Reports

**PubMedID:** 19762141

**Database:** Medline



## **17. Management of scarred uterus in subsequent pregnancies**

**Author(s):** Hamid R.; Arulkumaran S.

**Source:** Current Obstetrics and Gynaecology; Jun 2006; vol. 16 (no. 3); p. 168-173

**Publication Date:** Jun 2006

**Publication Type(s):** Article

**Abstract:**Caesarean section (CS) rates continue to rise. Vaginal birth after Caesarean section (VBAC) for a woman needs to be determined on an individual basis. With careful selection, the majority of women (60-80%) will achieve vaginal delivery with minimal risks. There are two randomized controlled trials underway that are likely to have an impact on clinical management of women who have undergone prior Caesarean. The first is the CAESAR study, which will evaluate whether the single or two layers closure of the uterine incision has a significant impact on immediate morbidity and that of future pregnancies. The second is the ACTOBAC trial (A collaborative trial of birth after Caesarean) in which women who have undergone prior Caesarean will be randomized to vaginal versus Caesarean birth. Until data from these studies are available, the evidence to date suggests that for most women who have undergone prior low segment Caesarean a trial of labour should be offered after providing adequate information. The fetal condition and progress of labour should be monitored closely. Prompt resort to emergency CS should be undertaken with signs of fetal compromise or of scar dehiscence. © 2006 Elsevier Ltd. All rights reserved.

**Database:** EMBASE

## **18. Repair of uterine dehiscence with continuation of pregnancy.**

**Author(s):** Matsunaga, Jon S; Daly, Cornelia B; Bochner, Clifford J; Agnew, Connie L

**Source:** Obstetrics and gynecology; Nov 2004; vol. 104 (no. 5); p. 1211-1212

**Publication Date:** Nov 2004

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 15516456

Available at [Obstetrics and gynecology](#) - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

**Abstract:**BACKGROUNDUterine dehiscence in the past has been treated with delivery of the pregnancy and repair of the uterus or cesarean hysterectomy. Uterine repair and continuation of the pregnancy has not been attempted to our knowledge.CASEA patient with a history of a laparoscopic myomectomy presented at 28 weeks of gestation with a uterine dehiscence. This was repaired and the pregnancy continued until fetal lung maturity at 34 weeks.CONCLUSIONRepair of a uterine dehiscence in a hemodynamically stable patient and continuation of the pregnancy should be considered in a very premature pregnancy to improve neonatal outcome.

**Database:** Medline

### **19. Expectant management of uterine dehiscence in the second trimester of pregnancy**

**Author(s):** Hamar B.D.; Levine D.; Katz N.L.; Lim K.-H.

**Source:** Obstetrics and Gynecology; Nov 2003; vol. 102 (no. 5); p. 1139-1142

**Publication Date:** Nov 2003

**Publication Type(s):** Article

**PubMedID:** 14607034

Available at [Obstetrics and Gynecology](#) - from Ovid (LWW Total Access Collection 2015 - Q1 with Neurology)

**Abstract:**BACKGROUND: Uterine dehiscence and rupture are serious complications of pregnancy after a cesarean delivery. Management of uterine dehiscence diagnosed in second trimester can be controversial. CASE: A woman with a previous cesarean delivery was diagnosed with a uterine dehiscence at 20 weeks in the area of her prior cesarean incision. Although she was counseled regarding risks to herself and the fetus, she decided to continue the pregnancy. She was, therefore, managed expectantly until 31 weeks and delivered by cesarean because of fetal heart rate decelerations. The infant did well and was discharged home at 3 weeks of age. The patient remained asymptomatic after delivery. CONCLUSION: With close monitoring, expectant management of uterine dehiscence diagnosed in the second trimester is possible. © 2003 by The American College of Obstetricians and Gynecologists.

**Database:** EMBASE

### **20. Silent dehiscence of a caesarean section scar with placenta praevia accreta**

**Author(s):** Maria N.E.; Mishra N.; Mubarek M.; Reginald P.W.

**Source:** Journal of Obstetrics and Gynaecology; Jan 2003; vol. 23 (no. 1); p. 77

**Publication Date:** Jan 2003

**Publication Type(s):** Article

**PubMedID:** 12647706

**Database:** EMBASE

## **21. Maternal and neonatal outcomes after uterine rupture in labor.**

**Author(s):** Yap, O W; Kim, E S; Laros, R K

**Source:** American journal of obstetrics and gynecology; Jun 2001; vol. 184 (no. 7); p. 1576-1581

**Publication Date:** Jun 2001

**Publication Type(s):** Journal Article

**PubMedID:** 11408884

**Abstract:**OBJECTIVE There is significant controversy about the risks related to attempted vaginal birth after cesarean and the implications for informed consent of the patient. Recent data suggest that women who deliver in hospitals with high attempted vaginal birth after cesarean rates are more likely to experience successful vaginal birth after cesarean, as well as uterine ruptures. We conducted a study to evaluate maternal and neonatal morbidity and mortality after uterine rupture at a tertiary care center. STUDY DESIGN We performed a retrospective chart review of cases of uterine rupture from 1976 to 1998. All women who had a history of uterine rupture were identified with International Classification of Diseases, Ninth Revision, identifiers with hospital discharge data cross-referenced with a separate obstetric database. We abstracted demographic information, fetal heart rate patterns, maternal pain and bleeding patterns, umbilical cord gas values, and Apgar scores from the medical record. Outcome variables were uterine rupture events and major and minor maternal and neonatal complications. RESULTS During the study period there were 38,027 deliveries. The attempted vaginal birth after cesarean rate was 61.3%, of which 65.3% were successful. We identified 21 cases of uterine rupture or scar dehiscence. Seventeen women had prior cesarean deliveries (10 with primary low transverse cesarean delivery, 3 with unknown scars, 1 with classic cesarean delivery, 2 with two prior cesarean deliveries, and 1 with four prior cesarean deliveries). Of the 4 women who had no history of previous uterine surgery, one had a bicornuate uterus whereas the others had no factors increasing the risk for uterine rupture. We confirmed uterine rupture and scar dehiscence in 19 women. Specific details were not available for 2 patients. Uterine rupture or scar dehiscence was clinically suspected in 16 women with 3 cases identified at delivery or after delivery. Sixteen women had symptoms of increased abdominal pain, vaginal bleeding, or altered hemodynamic status. There were 2 patients who required hysterectomies and 3 women who received blood transfusions; there were no maternal deaths related to uterine rupture. The fetal heart rate pattern in 13 cases showed bradycardia and repetitive variable or late decelerations. Thirteen neonates had umbilical artery pH >7.0. Two cases of fetal or neonatal death occurred, one in a 23-week-old fetus whose mother had presented to an outlying hospital and the second in a 25-week-old fetus with Potter's syndrome. All live-born infants were without evidence of neurologic abnormalities at the time of discharge. CONCLUSION Our data confirm the relatively small risk of uterine rupture during vaginal birth after cesarean that has been demonstrated in previous studies. In an institution that has in-house obstetric, anesthesia, and surgical staff in which close monitoring of fetal and maternal well-being is available, uterine rupture does not result in major maternal morbidity and mortality or in neonatal mortality.

**Database:** Medline

## **22. Preoperative diagnosis of dehiscence of the lower uterine segment in patients with a single previous Caesarean section**

**Author(s):** Suzuki S.; Sawa R.; Yoneyama Y.; Asakura H.; Araki T.

**Source:** Australian and New Zealand Journal of Obstetrics and Gynaecology; 2000; vol. 40 (no. 4); p. 402-404

**Publication Date:** 2000

**Publication Type(s):** Article

**PubMedID:** 11194423

Available at [Australian and New Zealand Journal of Obstetrics and Gynaecology](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

**Abstract:**Preoperative diagnoses were checked during surgery in 39 patients who underwent elective repeat Caesarean section with (n = 20) and without (as control, n = 19) a preoperative diagnosis of wall dehiscence (thinning) of the lower uterine segment (LUS). All patients were examined manually and by ultrasonography at 36 weeks gestation before labour. A preoperative diagnosis of wall dehiscence was made when the wall thickness was less than 2 mm and/or the patient felt pain and tenderness in the LUS. Surgical findings of dehiscence were defined as subperitoneal separation of the uterine scar in the LUS. The sensitivity and specificity of our ultrasonographic evaluations were found to be 100% and 83% (p < 0.05), respectively. On the other hand, there were no surgical findings of dehiscence in patients who felt pain and tenderness in the LUS with a wall thickness greater than 2 mm, nor among those in the control group.

**Database:** EMBASE

## **23. Uterine rupture during preinduction cervical ripening with misoprostol in a patient with a previous Caesarean delivery.**

**Author(s):** Sciscione, A C; Nguyen, L; Manley, J S; Shlossman, P A; Colmorgen, G H

**Source:** The Australian & New Zealand journal of obstetrics & gynaecology; Feb 1998; vol. 38 (no. 1); p. 96-97

**Publication Date:** Feb 1998

**Publication Type(s):** Randomized Controlled Trial Clinical Trial Journal Article

**PubMedID:** 9521403

Available at [The Australian & New Zealand journal of obstetrics & gynaecology](#) - from Wiley Online Library Science , Technology and Medicine Collection 2017

**Abstract:**We report a case of uterine rupture in a patient with a previous low transverse Caesarean delivery, in which transvaginal misoprostol was used for preinduction cervical ripening.

**Database:** Medline

#### **24. Uterine rupture and scar dehiscence.**

**Author(s):** Gudgeon, C W

**Source:** Anaesthesia and intensive care; Aug 1997; vol. 25 (no. 4); p. 434

**Publication Date:** Aug 1997

**Publication Type(s):** Letter Comment

**PubMedID:** 9288397

**Database:** Medline

#### **25. Uterine rupture and scar dehiscence. A five-year survey.**

**Author(s):** Lynch, J C; Pardy, J P

**Source:** Anaesthesia and intensive care; Dec 1996; vol. 24 (no. 6); p. 699-704

**Publication Date:** Dec 1996

**Publication Type(s):** Journal Article

**PubMedID:** 8971320

**Abstract:**A review of the medical records from two public hospitals in Sydney was undertaken to determine the incidence of this uncommon complication. Twenty-seven cases of uterine rupture were reported out of 31,115 deliveries with an incidence of 0.086% (versus 0.05% in the current literature). The incidence associated with previous caesarean section was 0.038% (versus 0.8% in the current literature). Predisposing and associated factors in this review were similar to those reported by others. There was no maternal mortality in our series but the fetal mortality rate was 5 out of 27 cases. Uterine ruptures in the midtrimester were associated with high rates of maternal morbidity and fetal loss. Forty-eight per cent of patients with uterine rupture received epidural analgesia. The associated factors and outcomes are discussed. The current literature is reviewed in relation to this high-risk group of patients.

**Database:** Medline

#### **26. Ultrasonographic diagnosis of uterine dehiscence during pregnancy**

**Author(s):** Shrout A.B.; Kopelman J.N.

**Source:** Journal of Ultrasound in Medicine; May 1995; vol. 14 (no. 5); p. 399-402

**Publication Date:** May 1995

**Publication Type(s):** Article

**PubMedID:** 7609020

**Abstract:**The diagnosis of uterine dehiscence and rupture is difficult to establish. A variety of symptoms ranging from minimal discomfort to sudden complete cardiovascular collapse may obscure the diagnosis and prevent timely intervention. Dehiscence of the gravid uterus results in a neonatal mortality rate of up to 22% despite dramatic improvement in neonatal intensive care. Sonographic examination is a modern addition to the diagnostic armamentarium that may improve preoperative diagnosis of this rare clinical entity. Spontaneous uterine dehiscence in the third trimester of pregnancy after cornual wedge resection of an ectopic pregnancy is a rare event. We describe such a case diagnosed with the aid of ultrasonography.

**Database:** EMBASE

## **27. Unknown uterine scars, unknown risks**

**Author(s):** Lau T.K.; Chan F.

**Source:** Australian and New Zealand Journal of Obstetrics and Gynaecology; 1994; vol. 34 (no. 2); p. 216-217

**Publication Date:** 1994

**Publication Type(s):** Article

**PubMedID:** 7980320

Available at [Australian and New Zealand Journal of Obstetrics and Gynaecology](#) - from Patricia Bowen Library & Knowledge Service West Middlesex University Hospital NHS Trust (lib302631) Local Print Collection [location] : Patricia Bowen Library and Knowledge Service West Middlesex university Hospital.

**Database:** EMBASE

## **28. Sonographic detection of an asymptomatic rupture of the uterus due to necrosis during the third trimester.**

**Author(s):** Osmers, R; Ulbrich, R; Schauer, A; Kuhn, W

**Source:** International journal of gynaecology and obstetrics: the official organ of the International Federation of Gynaecology and Obstetrics; Apr 1988; vol. 26 (no. 2); p. 279-284

**Publication Date:** Apr 1988

**Publication Type(s):** Case Reports Journal Article

**PubMedID:** 2898406

**Abstract:**This is a report on the first sonographic detection of a silent rupture of the uterus in the 33rd week of pregnancy of a 35-year-old patient. On the basis of the clear sonographic picture immediate cesarean section was (considered) indicated in spite of lack of clinical symptoms. The intraoperative situs confirmed the sonographic diagnosis of a ruptured uterus related to an old cesarean section, combined with partial necrosis of the lower uterine segment.

**Database:** Medline

## Strategy 342910

#	Database	Search term	Results
1	Medline	(scar ADJ2 dehiscence).ti,ab	189
2	Medline	exp "SURGICAL WOUND DEHISCENCE"/	6962
3	Medline	(1 OR 2)	7091
4	Medline	(cesarean* OR caesarean* OR "c section").ti,ab	52134
5	Medline	exp "CESAREAN SECTION"/	40337
6	Medline	(4 OR 5)	64403
7	Medline	(3 AND 6)	396
8	Medline	(scar ADJ2 necrosis).ti,ab	102
9	Medline	(6 AND 8)	1
10	Medline	("uter* scar dehiscence").ti,ab	57
11	Medline	(6 AND 10)	54
12	EMBASE	(scar ADJ2 dehiscence).ti,ab	271
13	EMBASE	exp "WOUND DEHISCENCE"/	15000
14	EMBASE	(scar ADJ2 necrosis).ti,ab	99
15	EMBASE	(12 OR 13 OR 14)	15258
16	EMBASE	(cesarean* OR caesarean* OR "c section").ti,ab	74649
17	EMBASE	exp "CESAREAN SECTION"/	84535
18	EMBASE	(16 OR 17)	100354
19	EMBASE	(15 AND 18)	740

20	EMBASE	exp "LABOR COMPLICATION"/	173971
21	EMBASE	(19 AND 20)	332
22	EMBASE	*"WOUND DEHISCENCE"/	2060
23	EMBASE	(18 AND 22)	143
24	Medline	exp "UTERINE RUPTURE"/	4492
25	Medline	(3 AND 24)	117