Case Report

Open Access

Caesarean Section Scar Dehiscence with Peritonitis: Does late Surgical intervention minimize the risk of Hysterectomy? CS Dehiscence with Peritonitis

Nourah Al Qahtani^{*1}, Hatoun Al Taifi²

¹FRCOG, Fetomaternal medicine, Associate Professor, Imam Abdulrahman Bin Faisal University, College of Medicine, Department of Obstetrics and Gynecology

²Demonstrator, Imam Abdulrahman Bin Faisal University, College of Medicine, Department of Obstetrics and Gynecology, Senior Resident, King Fahd Hospital of the University, haataifi@uod.edu.sa

Corresponding Author: Nourah Al Qahtani, Fetomaternal medicine, Associate Professor, Imam Abdulrahman Bin Faisal University, College of Medicine, Department of Obstetrics and Gynecology, 7356 Alhussam, Dammam 32222-4669, Saudi Arabia. E-mail: nhqahtani@uod.edu.sa

Citation: Nourah Al Qahtani et al. (2017), Caesarean Section Scar Dehiscence with Peritonitis. Does late Surgical intervention minimize the risk of Hysterectomy. Int J clinical & case. 1:5, 108-110. DOI:[10.25141/2472-102X-2017-5.0105](https://doi.org/10.25141/2472-102X-2017-5.0105)

Copyright: ©2017 Nourah Al Qahtani et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Received: May 29, 2017; **Accepted:** June 09, 2017; **Published:** June 30, 2017

Abstract:

A 27 years woman in her first pregnancy had an uncomplicated Caesarean section due to foetal distress of one of the twins. The postoperative period was complicated by Caesarean section uterine wall dehiscence, bacteraemia and generalized peritonitis. She was started on antibiotics. The main objective was to treat the infection and to try to avoid hysterectomy as the patient was strongly wishing to keep her uterus. CT scan guided aspiration of the peritoneal fluid was done with two drains. In addition to the patient's refusal to have hysterectomy, she was also at a great risk for anaesthesia due to the development of bilateral pleural effusion, hepatosplenomegaly and marked thrombocytosis. After two weeks, she improved clinically. The pleural effusion, hepatosplenomegaly and the thrombocytosis disappeared. She had laparotomy to repair the uterine defect. This was done and the patients was discharged home in good condition

Keywords: Cesarean Section, Scar Dehiscence, Peritonitis, Hysterectomy

Background:

Caesarean section has increased dramatically all over the world over the last few decades. It is expected that more complications will be encountered as the Caesarean section rate increases. Infection is becoming one of the leading causes of maternal morbidity and mortality [1]. In the last confidential inquiry in maternal death, maternal sepsis was among the causes of maternal mortality [2]. In developing countries, infection and sepsis plays even larger role in maternal mortality and morbidity.

Case Presentations:

A 27-year-old primigravid lady, with twin pregnancy, was admitted at 36 weeks of gestation. She had emergency Cesarean section due to fetal distress at 2cm cervical dilatation with intact membrane. It was done smoothly with no intraoperative complications; the estimated blood loss was 800 ml. Ampicillin, 2 grams IV, was given after clamping the cord of the second baby. She did not have any medical or surgical problems and her BMI was 23kg/m². She started to feel unwell after 24 hours post-delivery. She was afebrile

and appeared clinically well despite having slight tachycardia and a blood pressure at the lower normal limits. Two days later, she developed a persistent high grade fever. She had no respiratory or urinary signs or symptoms of infection, her uterus was non-tender, involuted, with normal lochia. The abdomen was soft, lax and distended with no tenderness. The wound was well healed with no evidence of infection. Septic workup was done. Blood cultures were positive for E. coli as well as the high vaginal swab. In addition, her platelet count was markedly elevated reaching 900x10³. CRP as well as ESR were markedly elevated. Lactic acid and renal function were normal. At that time, a provisional diagnosis of endo-myometritis was made and the patient was started on Meropenem. Therapeutic dose of enoxaparin was given because of the marked thrombocytosis as well as the relative immobility. A team of obstetrician, intensivist, general surgeon, hematologist, nurses and infectious disease clinician were involved in the care of this patient under the obstetrician's leadership.

The patient condition started to deteriorate with a clinical picture of peritonitis. CT scan of the abdomen and pelvis showed peritonitis, with no sizable collection. Air seen within the Caesarean scar at lower uterine segment, indicated a possibility of a small wound dehiscence. There was no collection in front of the uterus neither retained products of conception inside the uterine cavity. Meropenem was replaced by Tazocin and Metronidazole. At that time, the patient was counselled regarding the need for surgery if there is bowel perforation. A water-soluble radiologic contrast media was given orally and there was no evidence of intraperitoneal leak. Once bowel perforation was ruled out, the patient was reluctant to have surgery in fear of hysterectomy. Repeated CT scan three days later showed evidence of generalized peritonitis, a large loculated collection was seen anterior to the uterus, extending up towards the sub hepatic region, measuring

Figure 1: Longitudinal view showing the fluid collection in front of the uterus and the dehiscence of the Caesarean scar with gas bubbles. 16.5 by 7.5 cm with ascites, bilateral pleural effusion, and hepatosplenomegaly. (Figure 1) Uterine scar dehiscence was clearly seen. No pneumoperitoneum or significantly enlarged lymph nodes. There was no evidence of thrombophlebitis. CT scan guided aspiration was done, with the insertion of two drains, right sub hepatic and right iliac fossa tubes. Culture of the aspirated fluid revealed three types of gram-negative organisms: E coli, klebsiella pneumoniae, and proteus mirabilis. Meropenem was re-started again replacing Tazocin. Laparotomy was discussed to control the source of infection and perform hysterectomy if needed, but the patient was not in favour of surgical intervention. There was also concern regarding the general anaesthesia in the presence of the bilateral pleural effusion and the marked thrombocytosis. Throughout this period there was no evidence of end-organ failure. After completing a total of 15 days of antibiotics, the patient clinically improved. Despite the occasional low grade fever. The

white blood cells and Platelets counts returned to normal, repeated blood cultures were negative for bacteraemia. Plural effusion and hepatosplenomegaly resolved. Throughout this period, she was managed in the obstetric ward.

On day 19 post Caesarean section, the temperature spiked again and laparotomy was done. The abdominal wall was intact including the rectus sheath. Intra operatively, a yellowish necrotic material was found covering the surface of the uterus with a little serous clear

Figure 2: Intra-Operative view showing the dehiscence of the scar and the necrotic tissue fluid. Small uterine wound dehiscence was found, with a whitish necrotic material protruding through it. (Figure 2) The anterior uterine wall was adherent to the rectus sheath. The necrotic tissue was removed by forceps followed by gentle curettage of the uterine cavity. About half centimetre margin from the wound edges were excised by tissue scissor. Healthy bleeding margins were obtained. Copious irrigation was done and the uterine wound was re-sutured. A drain was inserted in the peritoneal cavity. Culture of the necrotic tissues showed pseudomonas infection. Histopathology showed necrotic endometrium with fibrino-purulent exudate. The immediate post-operative course was complicated by atelectasis. She was admitted to the surgical IUC for two days. Supportive treatment was instituted in addition to chest physiotherapy. She continued to receive Meropenem and metronidazole. The fever improved gradually, she became afebrile two days later. The drain was draining minimal amount of serous fluid and was removed on the third day. She was discharged on the 8th day post laparotomy with her baby boy and girl in good condition. She already had three normal menstrual cycles at the time of writing. She was counselled regarding contraception and elected to use injectable progesterone.

Discussion:

Peritonitis is defined as infection of the peritoneal layer covering the abdominal organs. It can be localized or generalized. The diagnosis of peritonitis is usually a clinical diagnosis but other investigations may help in confirming the diagnosis. Ultrasound is a simple method that may help in the diagnosis of peritonitis and it is available in many low resource settings [3]. The presence of fluid collection in a postoperative patient with pain and fever is highly suggestive of peritonitis. Other investigations include CT

scan and abdominal x-ray. Because peritonitis is a real medical emergency, usually empirical antibiotic treatment is started even before confirming the diagnosis. In addition to the antibiotics, on many occasions, laparotomy is performed to control the source of infection if there is suspicion of bowel injury or other organs. Hysterectomy is likely to be performed to control the source of infection if the uterus is the source of infection. from the vagina. In many patients, the vagina is cleaned after the Caesarean section with swab to remove any blood clots. Rigorous cleaning may introduce the vaginal bacteria into the endometrial cavity. She also had vaginal cleaning before the Caesarean section as well as insertion of a urinary catheter. It has been shown that preoperative vaginal preparation with povidone-iodine decrease the risk of developing endometritis but has no effect on wound infection rate [4]. Post-operative uterine wall dehiscence is reported to be around 0.6%. This dehiscence could lead to localized or generalized peritonitis. The usual scenario is first there is severe infection in the endometrial and myometrial layer of the uterus. The pus either drains through the cervix or rarely the infection leads to necrosis of the weakest part of the uterine wall which is usually the Caesarean incision. Once there is dehiscence of the uterine wall, the infection will spread to the peritoneal cavity. Although the recommended treatment in such cases is to perform laparotomy and remove the infected uterus (hysterectomy), there have been few reported cases of conservative management after debridement of the necrotic tissue [5-9]. In our case, the patient refused to have hysterectomy despite our trials to convince her that this is a risky choice. It is prudent to evaluate each case rigorously and base the decision accordingly. It is recommended that the least physiologic insult should be chosen when deciding to control the source of infection [10]. In this case, CT scan guided aspiration of the loculated fluid was done. We are not sure whether the delay in performing laparotomy played a role in saving the uterus. At the time of acute infection, tissues are usually hyperaemic, infected and friable. Manipulation of such tissues usually leads to bleeding and ultimately hysterectomy. In this case, tissues of the uterus were not friable which could be a result of the delayed intervention. Further reports are needed to confirm this observation. Learning points

- 1 Antibiotics and control of the source of infection are the mainstay treatment for peritonitis.
- 2 CT scan guided drainage of the fluid could be an option in draining fluid in peritonitis.
- 3 High index of suspicion should be maintained even in low risk women undergoing Caesarean section.

4 Timing (early vs. late) and method of drainage (laparotomy vs. CT guided drainage) should be individualized.

5 Infection control team should be involved in the management of severe post-operative infections for both treatment options and to try and find the source of the infection.

Reference:

- 1.Shakespeare J, Knight M. [Maternal health in pregnancy: Messages from the 2014 UK confidential enquiry into maternal death. The British journal of general practice : the journal of the Royal College of General Practitioners.](#) 2015;65(638):444-445.
- 2.Ansong-Tornui J, Armar-Klemesu M, Arhinful D, Penfold S, Hussein J. [Hospital based maternity care in ghana - findings of a confidential enquiry into maternal deaths.](#) Ghana Med J. 2007;41(3):125-132.
- 3.Halfon J, Small M, Rulisa S. [EP19.04: Use of ultrasound in diagnosis and management of post-Caesarean section peritonitis at a referral hospital in rwanda.](#) Ultrasound in Obstetrics & Gynecology. 2016;48(S1):349.
- 4.Asghania M, Mirblouk F, Shakib M, Faraji R. [Preoperative vaginal preparation with povidone-iodine on post-caesarean infectious morbidity.](#) J Obstet Gynecol. July 2011; 31(5): 400–403.
- 5.Madhuri, Sunita, Ratna. [Generalized peritonitis with uterine incision necrosis with dehiscence following cesarean section presenting as genitourinary fistula: A unique complication.](#) Journal of Evolution of Medical and Dental Sciences. 2014;3(3):762-766.
- 6.Mahmoud A, Silapaswan S, Lin K, Penney D. [Vernix caseosa: An unusual cause of post-caesarean section peritonitis.](#) Am Surg. 1997;63(5):382.
- 7.Kourounis G, Panayiotou Y, Tabet PP, Richards BDW, Petrou A, Loizou M. [A case of pneumococcal peritonitis after caesarean section in a healthy woman. Case reports in surgery.](#) 2015;2015:350573.
- 8.Shimoni Z, Mamet Y, Niven M, Mandelbaum S, Valinsky L, Froom P. [Bacillus cereus peritonitis after cesarean section. Surgical infections.](#) 2008;9(1):105.
- 9.Halfon JK, Small M, Bagambe P, Rulisa S. 855: [Post-caesarean section peritonitis at a referral hospital in rwanda.](#) Obstet Gynecol. 2016;214(1):S445
- 10.Dellinger RP, Levy MM, Rhodes A, et al. [Surviving sepsis campaign: International guidelines for management of severe sepsis and septic shock, 2012.](#) Intensive Care Med. 2013;39(2):165-228.