

Post Caesarian Pelvic Abscess, a Rare Entity not to Miss

Deepa Chudal,¹ Sebak Shrestha,¹ Rojina Manandhar,¹ Sabita Singh,¹ Abhimanyu Shrestha,¹ Asha Singh¹

¹Department of Obstetrics and Gynecology, Nepal Police Hospital, Kathmandu, Nepal.

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CORRESPONDENCE:

Dr. Deepa Chudal

Department of
Obstetrics and Gynecology,
Nepal Police Hospital,
Kathmandu Nepal.

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ABSTRACT

Post caesarean pelvic abscess is a rare complication which may present without typical features of endometritis. It should remain as one of the differential diagnoses in any patient with refractory puerperal fever. Despite the use of antibiotic prophylaxis, it still can occur causing significant maternal morbidity requiring a complicated course of management with the need of an intensive care unit, drainage of pus under ultrasound guidance or sometimes may need surgical re-exploration or even hysterectomy. We report a case of pelvic abscess in a young lady following caesarean section who presented with puerperal pyrexia. She did not respond to broad spectrum antibiotic treatment and underwent ultrasound-guided trans abdominal drainage of the pelvic abscess following which she had rapid clinical improvement and good recovery.

INTRODUCTION

Caesarean section is the most common surgical procedure performed in modern obstetrics. However, it carries the risk of increasing complications contributing to severe maternal morbidity and many times even mortality. The risk of postpartum infection seems to be nearly five to twenty times increased after CS compared with vaginal birth. [1] Postpartum pelvic abscess is a rare complication of caesarean section occurring as a sequel to <1 % of postpartum endometritis accounting for <0.1% of all caesarean deliveries. [2] Although the use of antibiotic prophylaxis has reduced the endometritis by two thirds to three quarters, post caesarean pelvic abscess can still occur resulting in significant maternal morbidity and diagnostic enigma. [3] It may be followed by a complicated course of management with the need of intensive care unit, drainage of pus under ultrasound guidance or sometimes may need surgical re-exploration or even hysterectomy. [4,5]

CASE REPORT

We present a case of 22 years primigravida at 40 weeks 2 days period of gestation, with an uneventful obstetric and medical history. She underwent emergency lower segment caesarean section for oligohydramnios (AFI-4) after receiving antibiotic

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prophylaxis. The operation was uneventful, however, at the end of the procedure, while toileting the vagina significant fresh bleeding was noted. As the uterus was well contracted, with the possibility of other causes of bleeding, immediate re-exploration was done. Preoperatively, fresh bleeding was noted from the lower segment which was controlled with multiple hemostatic sutures. She was discharged on the 4th postoperative day after receiving intravenous antibiotics for 3 days. One day after discharge, she presented to an emergency with high grade fever of 103°F. Her vital signs revealed a temperature of 103°F, resting tachycardia, stable blood pressure, and respiratory rate. Her abdomen was soft and non-tender, the uterus was 2cm below the umbilicus and skin incision was normally healing with no signs of infection. On examination, her breasts and legs were unremarkable. Normal lochia was noted on speculum examination and bimanual examination revealed nontender uterus with no adnexal mass and tenderness. All laboratory parameters were normal except a leucocyte count of 21000 /mm³ with neutrophilic predominance of 92%. Urine and blood culture report was sent. Pelvic ultrasound did not show any abnormality. She was started on an intravenous antibiotic combination of ceftriaxone, metronidazole, and gentamicin. Blood culture had no growth and urine culture showed ceftriaxone resistant *E. coli* after which ceftriaxone was replaced by culture sensitive ofloxacin. Even with culture sensitive antibiotic she was persistently having high grade fever up to 104°F for 48 hours with chills and rigor without any other complaints. In view of the undulating fever curve, a repeat ultrasound was performed which revealed a 55 X 66mm hyperechoic collection with air foci in the vesico-uterine pouch following which the antibiotics upgraded to piperacillin/tazobactam combination. CT scan was done the next day which showed minimal collection in the pelvic cavity with air foci and adjacent fat stranding. On the same day ultrasound-guided transabdominal aspiration was done

using an 18-gauge spinal needle and 50 ml of thick pus drained, sent for culture and sensitivity and intravenous linezolid was added as per medical team advice. She became afebrile 24 hours after aspiration of pus. Culture of the pus produced heavy growth of *Staphylococcus aureus* and *Burgdorferi* sensitive to above antibiotics which was continued for a total of 14 days. Subsequent ultrasound examination after 5 days demonstrated an approximately 1.5 X 1.5cm hyperechoic area in the vesico-uterine pouch likely resolving collection. She had rapid clinical improvement and was discharged 18 days after admission in sound health.

DISCUSSION

Post caesarean pelvic abscess formation is a rare occurrence with the common sites being the leaves of the broad ligament, posterior cul-de-sac, and between the bladder and anterior uterine wall.^[6] Young age, low socioeconomic status, prolonged labor, premature rupture of membranes, multiple vaginal examinations, and cephalopelvic disproportion as an indication of cesarean section are considered as some of the risk factors for post-caesarean pelvic abscess.^[4] The use of antibiotic prophylaxis has caused a tremendous decrease in the incidence of postpartum endometritis, which however was not found significant in the study done by N Al-Abdullah et al. in 2016.^[7] Our case was also young lady with low socioeconomic status who underwent emergency caesarean section and ultimately developed pelvic abscess despite receiving antibiotic prophylaxis. This could be possibly justified by the fact that the antibiotic prophylaxis might not have covered the pathogens responsible for the abscess and recovered from the pus. Immediate re-exploration for postpartum hemorrhage leading to increased operating time and more blood loss thereby enhancing the chances of access of organisms to the uterine incision may be the additional risk factors for the development of abscess in our case.

Pelvic abscess should be a strong consideration in any post caesarean section case with puerperal pyrexia not responding to antibiotic treatment after exclusion of other common causes of puerperal pyrexia. It usually starts as endomyometritis and the symptoms deteriorate with recurrent temperature spikes, tachycardia, tachypnea, and an unusually tender uterus. They are usually inaccessible for palpation unless the abscesses are located at the apex of the vaginal vault or in the subcutaneous tissues of the caesarean incision.^[8] Patients with a pelvic abscess usually have an increased white blood cell count with neutrophilic predominance. Pelvic ultrasound is the most cost-effective way of diagnosis which may sometimes be aided by Computed Tomography scans and magnetic resonance imaging when there is doubt about diagnosis location and dimension of abscess.^[3] On initial investigation of pyrexia, pelvic ultrasound did not show any abnormality in our case. As the patient was refractory to treatment, a repeat pelvic scan was done to exclude the remote possibility of pelvic collection which then revealed a pelvic abscess and was followed by CT scan to confirm the diagnosis. Thus, one should not be hesitant to repeat the diagnostic tests during the evaluation of refractory puerperal febrile morbidity even if the findings are normal on the initial survey.

CT scan helps to differentiate abscess from postpartum ovarian thrombosis which may present with similar clinical features.^[9] A retained foreign body, especially gauze, is another rare differential diagnosis, which often evokes inflammation inside and subsequent pus formation with the need of an urgent laparotomy.^[10,11]

As the microbiology of pelvic abscesses is predominately anaerobic and aerobic gram-negative bacilli, the treatment should be started with broad-spectrum parenteral antibiotics that cover the full range of potential pathogens which results in satisfactory response to therapy without the need for surgery in 34% and 88% of cases.^[12] In

some cases, who do not respond to antibiotic treatment, percutaneous drainage under ultrasound, CT or fluoroscopy guidance has been the treatment of choice with success rate of 80-90%.^[13] Size of the abscess is an important factor which may have influence on the duration of hospitalization and need for surgical intervention. The average abscess size for those treated successfully with conservative management was 6.3 cm in a study done by Dewitt J et al.^[14] Under radio graphical guidance, abscesses can be drained via different routes like transvaginal, transrectal, transabdominal, transgluteal, and transperineal.^[15] As our patient was not responding to the empirical treatment with broad spectrum antibiotics, a prompt decision was made to drain the abscess transabdominal considering easy availability and its safety in relatively bigger uterus in immediate postpartum period. Drainage of the abscess resulted in dramatic clinical improvement of the patient with no need of additional procedures. However, some cases of pelvic abscess may need surgical intervention like small colpotomy for drainage of the abscess located in the cul-de-sac or more radical exploration of the abdomen and sometimes even hysterectomy.^[16]

The sequel of pelvic abscess may include ectopic pregnancy, secondary infertility, hydrosalpinx, and chronic pelvic pain.^[17] All possible future complications should be well explained and informed to the patient after successful treatment. Thus, proper counseling of the patient should even include discussion of options for further diagnostic investigations if needed in due course of time.

Pelvic abscess is rare complication following caesarean section and should be strongly considered in any patient with refractory puerperal pyrexia. Percutaneous drainage of the abscess under ultrasound guidance is a very effective way of management along with concomitant antibiotic therapy. This brings about rapid clinical improvement of patient, often avoiding the need for laparotomy.

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