

Case Report

Severe Parametritis after Vaginal Delivery with Delayed Response to Broad Spectrum Antibiotics: A Case Report

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Abstract

Background: Postpartum infections, also known as puerperal fever, are bacterial infections of the female reproductive tract following childbirth or miscarriage. Symptoms usually include a fever greater than 38.0°C (100.4°F), chills, lower abdominal pain, and possibly bad-smelling vaginal discharge. It usually occurs after the first 24 hours and within the first ten days following delivery, but life-threatening infection may occur within hours of delivery.

Cases Report: We reported a case of severe parametritis in the first 24 hours of delivery. Cesarean section is a risk factor for postpartum infections, and response to treatment is lower than vaginal delivery. Our case was a severe pelvic infection after vaginal delivery, and its risk factor was prolonged rupture of the membrane. Therefore, rapid diagnosis and treatment are necessary to prevent abscess formation and sepsis.

Conclusion: In this case, rapid treatment with broad-spectrum antibiotics prevented abscess formation, sepsis, and hysterectomy.

Keywords: Postpartum infections, Puerperal fever, Severe parametritis, Postpartum endometritis

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Introduction

A puerperal infection occurs when bacteria infect the uterus and surrounding areas after a woman gives birth. It is also known as a postpartum infection. Uterine infections include infection of the uterine lining (endometritis), infection of uterine muscle (myometritis), an infection of the areas around the uterus (parametritis). It is a common cause of postpartum fever and uterine tenderness. Although most infections are mild and cured with antibiotic therapy, the extension of infection to the peritoneal

cavity can result in peritonitis, intra-abdominal abscess, or sepsis. Necrotizing myometritis, necrotizing fasciitis of the abdominal wall, septic pelvic thrombophlebitis, and toxic shock syndrome are rare complications. The widespread use of prophylactic antibiotics has reduced the incidence of postpartum endometritis. Postpartum endometritis is tenfold to 20-fold more common among women delivered by Caesarean section than women who delivered vaginally¹. Postpartum endometritis is usually adequately treated by any of a large number of practical and safe antibiotics. We reported a case of severe parametritis after vaginal delivery due to

prolonged rupture of membrane, who received broad-spectrum antibiotics, but the response to antibiotics was delayed. Early diagnosis and treatment prevented abscess formation.

Case Report

A 22-year-old woman, primigravida and 38 weeks pregnant was presented to the emergency department with rupture of membrane and labor pain. She had a history of prolonged rupture of the membrane four days before admission. Her pregnancy was wanted and in a spontaneous conception. On examination, her vital signs were blood pressure 100/70 mm Hg, heart rate 110 beats per minute, respiratory rate 16 beats per minute, temperature 37°C. The cervical dilatation was 4 centimeters, effacement was 60%, and the station was 3. Amniotic fluid was evident in the examination. She progressed with spontaneous contractions, and vaginal delivery with mediolateral episiotomy occurred after 4 hours. Her baby's weight was 3200 grams with a good APGAR score. About 3 hours after delivery, she had sinus tachycardia, and her temperature was 38°C. With the diagnosis of endometritis, broad-spectrum antibiotics (ampicillin, clindamycin, and gentamicin) were started. Despite receiving broad-spectrum antibiotics, she had chills, fever, and a temperature of 39°C after 24 hours. Ultrasound showed severe parametritis and gas in the endometrial cavity and suspicious myonecrosis. Antibiotics changed to meropenem and vancomycin, and due to suspicious myonecrosis in ultrasound, pelvic CT scan with IV contrast was done. It showed severe parametritis involving the uterus, Fallopian tubes, and ovaries without myonecrosis.

Twenty-four hours after starting meropenem and vancomycin, she was febrile; the temperature was 39°C. Infectious consultation was done, and antibiotics were continued. Fever was stopped 72 hours after starting meropenem and vancomycin. Finally, she was discharged from the hospital in excellent condition after one-week of antibiotic therapy.

Discussion

As in our case, amniotic fluid colonization and postpartum infection rates are directly related to the duration of labor and rupture of membranes. Patients

can develop infections, occasionally serious infections, within the first 24 hours postpartum (as our case), and early infections require the same prompt and effective treatment as those occurring later. The life-threatening infection may occur within hours of delivery². Early postpartum endometritis usually results from colonization or infection of the amniotic fluid before delivery³. Often the amniotic fluid infection will not be recognized during labor, mainly if the fever has not developed. Febrile postpartum women manifest bacteremia as commonly in the first 24 hours postpartum as in the next several days⁴. Life-threatening infection may occur within hours of delivery. Early postpartum endometritis is usually diagnosed based on a temperature of 38.5°C or higher in the first 24 hours or 38°C or higher for four consecutive hours beyond the first 24 hours from delivery. A wide variety of antibiotics have been used to treat postpartum endometritis successfully. The antibiotic should be active against the most common facultative and anaerobic bacteria⁵. Over 90% of patients with postpartum endometritis readily respond to antibiotic therapy. Several possibilities must be checked when patients do not respond to antibiotic therapy (subtherapeutic antibiotic dose, resistant organisms, abscess formation, wound infection, septic thrombophlebitis). In our case, the delayed antibiotic response was due to severe infection (resistant organism).

Conclusion

Early detection of rupture of the membrane in term pregnancies is essential. Prolonged rupture of the membrane is a risk factor for endometritis, especially after Caesarean section. Therefore, early detection and treatment of endometritis are essential to prevent severe infections. Endometritis after vaginal delivery is usually lower than Caesarean section and has an excellent response to antibiotic therapy. However, overall early endometritis (in the first 24 hours) is severe and may be fatal. Also, diagnosis and early treatment are needed.

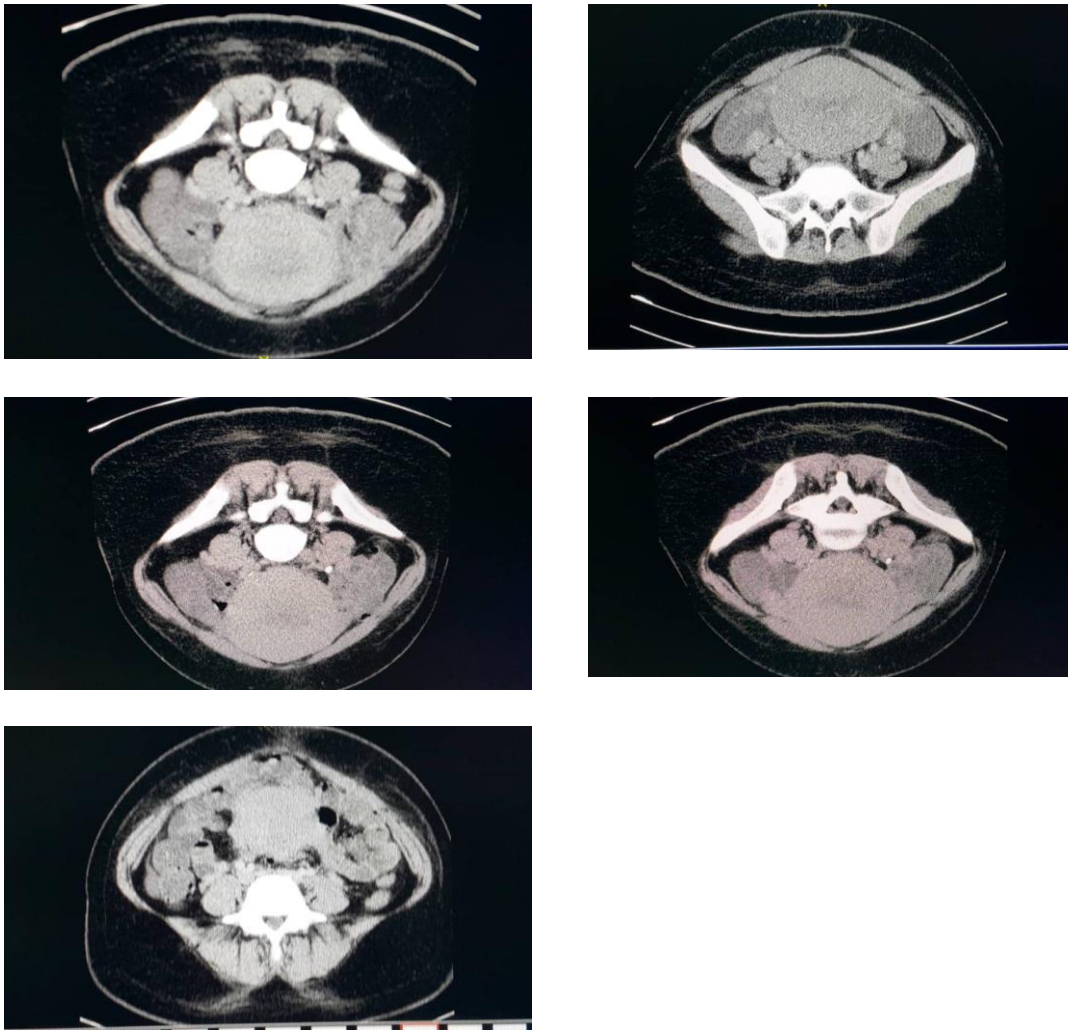


Figure 1. Severe parametritis in pelvic CT scan.

References

1. Eschenbach DA, Wager GP: puerperal infection. *Clin Obstet Gynecol.* 1980;23:1003.
2. David A, Eschenbach MD. Serious postpartum infections. *The Global Library of Women's Medicine.*
3. Blanco JD, Gibbs RS, Castaneda YS et al: Correlation of quantitative fluid cultures with endometritis after Caesarean section. *Am J Obstet Gynecol.* 1982;143:897.
4. Rosene K, Eschenbach DA, Tompkins L et al: Poly microbial early postpartum endometritis with facultatively anaerobic bacteria, genital mycoplasma and chlamydia trachomatis. *J Infect Dis.* 1986;153:1028.
5. Gibbs RS, Jones PM, Wilder CJ: Antibiotic therapy of endometritis following Caesarean section: Treatment successes and failures. *Obstet Gynecol.* 1987;52:31.