

## Post-Caesarean Group B Streptococcal Pelviperitonitis: A Case Report

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### Abstract

**Introduction and Importance:** Surgical site infections are very common in developing countries, cesarean section is still not a harm less procedure. Indeed, it can be the source of complications such as endometritis, thrombophlebitis, pelviperitonitis, and surgical site infections.

**Case Presentation:** We report a rare case of post-caesarean group b streptococcal pelviperitonitis in a 20-year-old patient.

**Clinical Discussion:** The overall incidence of nosocomial infections in cesarean women is estimated at 19%. Postpartum Streptococcus B infections tend to be difficult to identify not only because of their rarity, but also because of the variety of ways they can present. Women with postpartum streptococcal B infection who have minimal pelvic tenderness and no fever are likely to develop pelviperitonitis due to delayed diagnosis, especially when endometrial sampling is difficult in the early postpartum period.

**Conclusion:** Antibacterial agents, antipyretics, and supportive therapy are essential in the treatment of postpartum endometritis but are insufficient in pelviperitonitis that requires surgical intervention. Prevention is based on early and adequate treatment of lower genital infections and on compliance with a septic measure during endo-uterine manoeuvres.

**Keywords:** *Caesarean; Pelviperitonitis; Streptococcal B; Penicillins; Case report*

### 1. Introduction

Caesarean section is one of the oldest and most commonly performed surgical procedures for women worldwide [1]. However, it has a 5- to 20-fold risk of infection compared to vaginal delivery [2]. Despite scientific advances, cesarean section is still not a harm less procedure. Indeed, it can be the source of complications such as endometritis, thrombophlebitis, pelviperitonitis, and surgical site infections with an increase in the average length of hospitalization from 2 to 7 days [3]. The overall incidence

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of nosocomial infections in cesarean women is estimated at 19% [2]. Although the advent of antibiotic therapy, improved surgical techniques and the establishment of active surveillance systems for nosocomial infections [6] have reduced post-caesarean section suppurations in developed countries, they are still frequent in developing countries.

## 2. Presentation of Case

This is a patient aged 20 years, second gesture, second pare, without particular pathological history, admitted in our structure for a premature rupture of the membranes for 12 hours with a clear amniotic liquid in phase of latency of the labor on pregnancy not followed estimated at 36SA. During her surveillance, the patient presented a pathological fetal heart rate recording, which led to the indication of an emergency caesarean section for a non-reassuring fetal condition.

The postpartum period was simple until the fourth day: the patient presented nauseating lochia with a feverish peak at 39.7°C and abdominal distension. A biological workup and imaging were performed which showed hyperleukocytosis with predominantly PNN with a CRP of 350; on ultrasound: soft tissue collections opposite the scar measuring 10 cm × 4 cm with an effusion layer. On abdominal-pelvic CT scan: anterior pelvic collection opposite the scar measuring 6 cm × 4 cm with soft tissue infiltration and a small effusion.

During the surveillance, the patient became tachycardia at 120 bpm/min febrile at 39.5 with abdominal defense, hence the indication for a surgical exploration. On examination: medium-sized effusion with false membranes on the hystero-graphy (FIG. 1), the patient underwent a thorough lavage with a sample of the peritoneal fluid.

The patient was put on tri-antibiotic therapy while waiting for the cultures of the sample taken in the operating room. The result: presence of streptococcus B sensitive to penicillin G only.

The postoperative course was simple, with apyrexia and good clinical and biological response.



**FIG. 1. Intra operative hysteroscopy image shows the presence of false membranes with necrotic hysteroscopy margins.**

### 3. Discussion

The puerperal infection is the one that occurs in the aftermath of childbirth and that has, in general, for entry the genital tract more precisely the placental surface. Several risk factors explain the occurrence of these infections, including: premature rupture of the membranes, which represents 3% to 10%, and the duration of labor. The infectious risk is proportional to the duration of labor [1.5]. Therefore, in any pregnancy, it is advisable to take systematic antibiotic therapy during delivery and in the immediate aftermath. Obstetrical interventions during caesarean section (5%-10%) are accompanied by a greater morbidity than delivery by natural means. Indeed, postpartum endometritis occurs 20 times more frequently (25; 43). 53% of postpartum mortality occurs after cesarean section [2.6]. The risk of infection increases if there has been labor and rupture of the membranes before the operation, not forgetting the factors linked to the surgical procedure.

The most frequently found germs are: Gram- bacilli: *Escherichia Coli* and other enterobacteria; Gram+ cocci: *Streptococcus, Staphylococcus*; Anaerobes: perfringens, bacteroidesfragilis, pectosterptococcus. These germs are, for the most part, usual saprophytes of the vagina. It is during a multiplication of these germs due to an ill-adapted Toin appropriate antibiotic therapy, corticosteroids, the trauma of childbirth, or the introduction of other germs during obstetric maneuvers that an infection develops [5].

Postpartum Streptococcus B infections tend to be difficult to identify not only because of their rarity, but also because of the variety of ways they can present. The majority of Streptococcus B infections occur within four days of delivery [7]. Although Streptococcus B is not a common cause of postpartum endometritis, it can still present typically with fever, pelvic pain, and foul-smelling vaginal discharge [8]. Fever usually exceeds 39°C, which is unusual in typical cases of postpartum endometritis [7]. Women with postpartum streptococcal B infection who have minimal pelvic tenderness and no fever are likely to develop pelviperitonitis due to delayed diagnosis, especially when endometrial sampling is difficult in the early postpartum period [8]. Pelviperitonitis can lead to septic shock and multivisceral failure, which are life-threatening conditions until treated appropriately, which is usually surgical treatment.

Because of the potentially aggressive course of Streptococcus B disease and the difficulties in identifying it, early diagnosis is essential to prevent mortality. Diagnosis involves positive blood cultures or isolation of GBS from a sterile site [9]. Streptococcal B disease can lead to multivisceral involvement, generalized erythematous macular rash that may desquamate, and soft tissue necrosis, including necrotizing fasciitis or myositis, or uterine gangrene [8]. Streptococcal B infection should be routinely included in the diagnosis in anyone presenting with atypical signs and symptoms during pregnancy or in the postpartum period [8]. In addition to signs of GBS disease, laboratory abnormal should also be noted. A complete blood count often demonstrates hyperleukocytosis, which maybe a normal finding in postpartum women. If GBS disease is suspected, it is important to identify the source of the infection and isolate the organism.

Blood cultures and an ECBU should be obtained to confirm GBS. Endometrial aspiration for Gram stain and culture should be performed. The presence of neutrophils and plasma cells confirms the diagnosis of endometritis [1]. Imaging modalities, such as CT, MRI, and ultrasound, will usually demonstrate a larger than expected meatus uterus; however, they may appear normal

and should not delay aggressive management. CT is an effective tool in the workup of a toxic patient in acute pain. In addition to identifying sites of infection, it can reveal or exclude other causes of sepsis.

Perioperative antibiotics have significantly reduced the incidence of endometritis. Although rare, due to the advanced development in the field of medicine, invasive GBS infection can be fatal in the postpartum period [7]. Antibacterial agents, antipyretics, and supportive therapy are essential in the treatment of postpartum endometritis but are insufficient in pelviperitonitis that requires surgical intervention. Penicillin is the mainstay of treatment for postpartum endometritis and sepsis because GBS is highly susceptible to it. The recommended dose is 4 million units every four hours of intravenous penicillin-g and then relay with Amoxicillin -acclavulanic for 4 weeks [10].

#### **4. Conclusion**

The diagnosis of pelviperitonitis is based on clinical examination. Fever, purulent leucorrhoea and strictly pelvic defense have a high positive predictive value for the diagnosis of pelvic.

Positive predictive value to make the diagnosis. Medical treatment must be the rule. While acute generalized peritonitis constitutes a surgical emergency, pelvic peritonitis of genital origin in the absence of a collection contraindicates surgery. Prevention is based on early and adequate treatment of lower genital infections and on compliance with a septic measure during endo-uterine manoeuvres.

#### **5. Patient Consent**

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

#### **6. Ethical Approval**

I declare on my honor that the ethical approval has been exempted by my establishment.

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None

#### **8. Authors Contribution**

All authors have read and approved the final version of the manuscript.

#### **9. Declaration of Competing Interest**

The authors declare having no conflicts of interest for this article.

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