

Case Report

Late Presentation of a Splenic Abscess after Vaginal Delivery

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A 31 year old primigravid patient was induced for chronic hypertension superimposed pre-eclampsia with severe features at 34 weeks. After her uncomplicated vaginal delivery, her postpartum course was complicated by endometritis and suspected pelvic thrombophlebitis. After more than 48 hours afebrile, her antibiotics and anti-coagulation were discontinued, and she was discharged home. The patient presented back to the hospital on postpartum day 30 with a fever of 105°F, severe sepsis, and altered mental status. She was admitted to the Intensive Care Unit and was started on broad spectrum antibiotics. Blood cultures demonstrated *E.coli* in 1 out of 2 cultures. A 3.8 x 5.0 cm splenic cyst was noted on CT scan and abdominal ultrasound but deemed clinical irrelevant. The patient clinically improved on antibiotics. She was discharged on hospital day 5 with oral antibiotics. The patient returned the next day on postpartum day 35 for another fever, and she was admitted. An IR guided drainage of the splenic lesion revealed an *E.coli* positive abscess. The patient was then maintained on IV antibiotics for 45 days before being transitioned to oral antibiotics for another 28 days. Sequential imaging showed resolution of the splenic lesion, precluding her need for a splenectomy. This patient had no risk factors for development of a splenic abscess. There was a low clinical suspicion for a splenic abscess based on the characteristics of the lesion on imaging. However since there was no obvious other source, the drainage of this lesion proved reasonable and consequently, clinically significant for diagnosis. The source of the *E.coli* is still unknown but suspected to be hepatobiliary or genitourinary in origin.

INTRODUCTION

Splenic abscesses are rare, and abscess formation more than 1 month after a vaginal delivery is also rare (Williams and Steffes 2007). Risk factors for splenic abscesses include endocarditis, splenic trauma, sickle cell disease, immunodeficiency, diabetes mellitus, metastatic cancer, and alcoholism (Poggi and Greenspoon 2000). Splenic abscesses usually present with non-specific symptoms and signs of sepsis (Carroll and Platell 2002).

Historically, there is a report from 1966 linking splenic abscess formation with puerperal sepsis (Carroll and Platell 2002). Other case reports note development either after a cesarean delivery or early in the postpartum period (Carroll and Platell 2002). This is the first case of a splenic abscess presenting at 30 days after an uncomplicated vaginal delivery.

CASE REPORT

A 31 year old primigravid nurse at 34+0 weeks was induced for chronic hypertension with superimposed pre-eclampsia with severe features. Her induction of labor lasted 25 hours. After her uncomplicated vaginal delivery with a first degree laceration, her postpartum course was complicated by a postpartum fever of 101.6° F, 37 min after delivery. She re-

ceived gentamicin and clindamycin for 40 hours. On postpartum day #4, endometritis was suspected after her clinical exam. She was noted to have a fever of 103° F. Gentamicin and clindamycin were restarted at that time. On postpartum day #5 ampicillin was added for continued fevers of 103° F. Blood cultures were negative at that time. She was started on a therapeutic dose of enoxaparin for presumed septic pelvic thrombophlebitis. After more than 48 hours afebrile, her antibiotics and anti-coagulation were discontinued on postpartum day #6.

The patient presented back to the hospital on postpartum day #30 with a fever of 105°F, severe sepsis, and altered mental status. Her lactate was 6.9 mmol/L. She was transferred to the Intensive Care Unit and was started on vancomycin, ceftriaxone, ampicillin, and acyclovir. She underwent an Interventional Radiology (IR) guided lumbar puncture which was negative. Blood cultures demonstrated pan-sensitive *E.coli* in 1 out of 2 cultures. Her urine culture was a sterile result. A 3.8 x 5.0 cm splenic cyst was noted on Computed tomography (CT) scan and abdominal ultrasound on postpartum day #31 (Figure 1). Her echocardiogram, pelvic ultrasound, brain magnetic resonance imaging, pulmonary ventilation/perfusion scan, and lower extremity doppler ultrasound were normal. The patient clinically improved and was discharged on hospital day 5 with oral ciprofloxacin for 10 days. The patient returned the next day on postpartum day #35 for another fever, and she

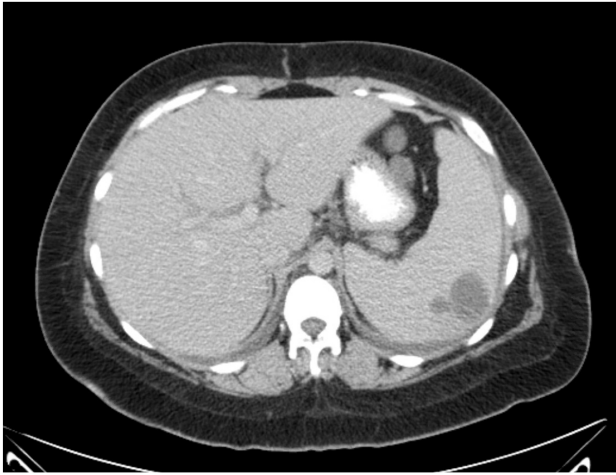


Figure 1. Postpartum Day #31, CT scan showing a splenic lesion

was admitted for further management with vancomycin, meropenem, and doxycycline. Repeat abdominal ultrasound showed two splenic lesions of 4 cm and 2.5 cm – determined to be splenic cysts by radiology. Her serology was negative for *Borrelia*, *Brucella*, Cytomegalovirus, Toxoplasmosis, and Rocky Mountain Spotted Fever. Infectious disease specialists recommended drainage of the splenic cyst as a potential source. On postpartum day #39, an IR guided drainage of the splenic lesion was performed with a 5 French needle – resulting in 40 mL purulent fluid removed with collapse/resolution of the cyst (Figure 2). Wound culture revealed an *E.coli* positive culture. The patient was then maintained on IV ceftriaxone daily for 45 days before being transitioned to cephalexin 750 mg twice a day for another 28 days. Due to side effects, she changed to ciprofloxacin after 10 days to complete her antibiotic course. Sequential imaging showed resolution of the splenic lesion on postpartum day# 52, postpartum day #79, postpartum day #121, postpartum day #145, and finally postpartum day #205. On her final CT scan, the residual small area of hypoattenuation was small enough to preclude her need for a splenectomy.

DISCUSSION

The overall infection rate after vaginal delivery is 5.5%, and 94% of all postpartum infections are detected after hospital discharge (Williams and Steffes 2007). This patient had no risk factors for development of a splenic abscess, an extremely rare complication. All previous postpartum adrenal, liver, and splenic abscesses presented at less than 1 month postpartum (Williams and Steffes 2007). While there was a low clinical suspicion for a splenic abscess based on the characteristics of the lesion on imaging, there was no obvious other source in this patient. Thus, drainage of her splenic lesion was performed and was found to be diagnostic. The source of the *E.coli* is still unknown but suspected to be hepatobiliary or genitourinary in origin. Although rare, it is important to consider splenic abscesses



Figure 2. Postpartum Day #39, Splenic lesion prior to drainage

on a differential diagnosis for a postpartum patient with an unknown source of fever. A multidisciplinary approach to this patient was extremely helpful.

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SUBMISSION DECLARATION

This has not been previously published nor under consideration elsewhere.

INFORMED CONSENT

Patient has given me consent to present her case.

AUTHOR CONTRIBUTIONS

100% Nicolette Holliday, MD

DATA AVAILABILITY

I have access to the full medical record including imaging

CORRESPONDING & SUBMITTING AUTHOR

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