Inside the labyrinth of postpartum fever: *Sphingomonas paucimobilis* sepsis associated to pyomyoma

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**Abstract**

**Background**

Pyomyoma is a life-threatening complication of uterine leiomyoma and it may occur in post-menopausal women, during pregnancy and also in the postpartum period. Fever may be the unique symptom especially in early stage of the disease.

**Case presentation:** We describe the case of a female patient with a two-week history of fever during postpartum period. On admission, a septic state without evidence of the site of infection was documented. Blood cultures grew *Sphingomonas paucimobilis*. Explorative laparotomy was performed and a suppurative process of uterine leiomyoma was diagnosed. Myoma was dissected from the uterus and hysterectomy was avoided. Intravenous antimicrobial polichemotherapy was given for fifteen days and the patient was discharged from hospital in good condition.

**Conclusion:** Pyomyoma should be considered in the broad differential diagnosis of postpartum fever. Early surgery and appropriate antibiotic treatment can also avoid hysterectomy and preserve potential fertility.

**Keywords:** Pyomyoma, Fever, *Sphingomonas paucimobilis* septicemia
**Background**

Pyomyoma is a life-threatening complication of uterine leiomyoma (1). This suppurative process is very rare especially in the postpartum period and it develops insidiously after pregnancy. Generally it causes abdominal pain but the fever is the unique symptom especially in early stage. A high level of suspicion is required in patients with fever and leiomyoma because also radiologic examination is often nonspecific. This complication is usually associated with polymicrobial infection and it is fatal without a surgical approach. Here we report the case of a woman who developed during puerperal period a pyomyoma associated to *Sphingomonas paucimobilis* bacteremia.

**Case presentation**

In September, 2012, a 37-year-old female was admitted to our hospital because of two-week history of persistent fever. Thirty days before she gave birth a healthy child by normal vaginal delivery. On admission her temperature was 39°C, the blood pressure 105/50 mm Hg, heart rate 100 beats/min, and the respiratory rate was 30 breaths/min. The lungs and heart were normal as was the neurologic evaluation. The patient showed an abdominal tenderness. A gynecological examination revealed only deformed uterus without tenderness to the deep palpation. Laboratory tests showed leukocytosis. C-reactive protein (CRP) and procalcitonin were 10.8 mg/dL and 59.71 ng/mL, respectively. Chest X ray was negative for pleuro-parenchimal lesions. Ultrasound examination of abdomen revealed epatosplenomegaly, but it was negative for effusion and nodular lesions. A total body CT scan showed mild bilateral hydroureteronephrosis; in addition, the presence of an enlarged uterus with disomogeneous masses suggestive for leiomyoma was found. Empirical therapy with meropenem and amikacin was started. Despite a three-day course of antibiotic therapy, the temperature remained elevated (39°C), with onset of dyspnea and prostration. Considering the increasing severity of the septic state
without evidence of the site of infection, teicoplanin and metronidazole were added. Blood cultures grew *Sphingomonas paucimobilis* full responsive to carbapenems.

A new CT scan was performed and documented a thickening of pulmonary interstitium and bilateral basal pleural effusion, slight effusion in the Douglas’s pouch and in the pelvis. A transthoracic echocardiogram was negative. Transvaginal ultrasounds examination confirmed the presence of enlarged uterus with two hypoechoic solid masses, as for subserous uterine leiomyoma, located on the fundal portion and the left side of the uterine body.

At this point, explorative laparotomy was performed. An abnormally enlarged uterus with large myoma (10 cm) located on fundus and another myoma (3 cm) on left side of the uterine body was found. A modest amount of ascitic fluid was also present in the Douglas’s pouch. The fundus myoma was dissected from the uterus with the outflow of purulent fluid and colliquative necrotic material (Figure 1). Hysterectomy was avoided. Post-operative course occurred without complication. Intravenous antimicrobial polichemothepathy was prolonged for fifteen days. The hystopatologic examination confirmed the diagnosis of pyomioma. Aerobic and anaerobic cultures obtained from the specimen did not reveal bacterial growth. The patient was discharged from hospital in good condition on postoperative day 16.

**Conclusions**

Pyomioma is a rare but life-threatening complication of uterine leiomyoma (1). This suppurative process may occur especially in post-menopausal women, during pregnancy and in the postpartum period (2). Generally it causes abdominal pain, but, as seen in our case, the fever could be the unique symptom especially in early stage. A high level of suspicion is required in patients with postpartum fever and leiomyoma because also radiologic examination is often nonspecific. Pelvic ultrasound may still be nonspecific in this disease
process, but should be done to rule out retained products of conception (which may be infected), pelvic abscess, or ovarian process (tubo-ovarian abscess).

Pyomyoma is usually associated with polymicrobial infection (3). Microorganisms reported to cause pyomyomas include *Clostridium* sp, *Staphylococcus aureus, Streptococcus milleri*, *Steptococcus hemolyticus, Proteus* sp, *Serratia marcescens, Actinomyces myeri, Enterococcus faecalis*. The present case is the first report of *Sphingomonas paucimobilis* septicemia associated to pyomyoma in puerperal period. *S. paucimobilis* is a glucose-nonfermenting Gram-negative bacillus that is widely distributed in nature and hospital environments. This organism is commonly associated with nosocomial infection especially in patients with indwelling intravascular devices, but its role in unusual life-threatening infections should be kept in mind (4).

In summary, pyomyoma should be considered in the broad differential diagnosis of postpartum fever because it is invariably fatal without surgical approach (5). Early surgery and appropriate antibiotic treatment can also avoid hysterectomy and preserve potential fertility (6).

**Consent**

Written informed consent has been obtained from the patient for publication of this Case report. A copy of the written consent is available for check by the Editor of BMC Infectious Diseases, if needed.

**Competing interests**

The authors declare that they have no competing interests.

**Authors’ contributions**

CDB collected the clinical data and drafted of the manuscript, VB, FM, AV, and ML managed the patient, and supported CDB in the collection of clinical data and drafting of the manuscript, RM and TT performed the literature search and support CDB in the drafting of
the manuscript, FM contributed to the clinical and therapeutic management from a
gynecologic point-of-view, and revised the gynecologic details of the manuscript, CMM
supervised the clinical case interpretation, participated in the coordination and concept of the
manuscript, and helped with the draft of the manuscript. All authors read and approved the
manuscript.

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Legend

**Figure 1**
Surgical specimen: anterior view of 10 cm dissected pyomioma of uterine fundus.