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Postpartum pyomyoma caused by Clostridium Ramosum: a case report

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Summary

Background: Uterine fibroid is the most common benign pelvic tumor in women. Pyomyoma is a rare complication of uterine fibroid and potentially fatal if not treated with antibiotics and surgical intervention. *Case Report:* Initially the patient presented with heavy vaginal bleeding and fever, temperature of 38°C, pulse of 125 per minute. Ultrasound (US) revealed a large intramural fibroid measuring (11.8×11.2 cm). A CT revealed gas within the fibroid and pyomyoma was the most likely diagnosis. The patient was successfully treated with antibiotics and myomectomy. Microbiology results demonstrate clostridium ramosum as the causative organism conforming rare diagnosis of pyomyoma. *Conclusion:* Pyomyoma is rare but potentially fatal condition if not treated. It is usually associated with super-added infection. The most prominent symptom of the condition is fever with no obvious origin. Fever which is not responding to antibiotic is also an evident feature of pyomyoma. Although rare, it must be a differential diagnosis in postpartum women who present with pyrexia of unknown origin.

Key words: Pyomyoma; Leiomyoma; Myomectomy; Clostridium ramosum.

Introduction

Uterine fibroids or leiomyoma are the most common pelvic benign tumor in women [1]. Leiomyoma represents approximately 12 to 25 percent of all reproductive age groups [2]. Pyomyoma is a rare complication of leiomyoma and potentially fatal with high mortality rate reaching 21 percent that develops due to infarction and super-added infection of the fibroid [3]. The most evident symptoms of pyomyoma is fever, and may present with abdominal pain in some patients. Antibiotics and surgical treatment is essential, as it is fatal without surgical intervention [4]. Causative organisms of pyomyoma are diverse, including Staphylococcus aureus, Escherichia coli, Candida albicans, Sphingomonas paucimobilis, and Clostridium species [5]. A case study and literature review conducted in 2016 showed that since 1945, only 51 cases of pyomyoma (including their case study) have been reported [6]. The present authors report this case of a young female who developed Pyomyoma in an intramural fibroid caused by Clostridium Ramosum. Clostridium species are a very rare causative organism of pyomyoma and only three cases have been found in the literature [6]. To the authors' knowledge, no reported cases were found in the Kingdom of Saudi Arabia and the Gulf region. The aim of the case report is to highlight the rare gynecological condition in the region for better diagnosis and management of such rare diseases.

Case Report

A 37-year-old Saudi lady had an emergency cesarean section (CS) three months prior to her presentation due to intrauterine growth restriction (IUGR) and abnormal cardiotocography (CTG). She had history of a first-trimester abortion. The lady is a known case of uterine fibroid which was diagnosed before pregnancy. The writing of this case report was accepted by the ethical committee in the National Guard Hospital-Jeddah.

The patient presented to the emergency department with heavy vaginal bleeding and fever. She had a temperature of 38°C, pulse of 125 per minute. CBC showed WBC: 11.1 (neutrophil count: 8.72), Hb: 8.9, PLT: 297, her Hb dropped to 7 g/dl. Ultrasound (US) showed a large intramural fibroid. The patient was admitted and a full septic screen was done which included blood, throat, urine, and genital cultures. The patient was given two units of packed red blood cells, Tranexamic acid 1 gram orally three times a day, and daflon 500 mg orally three times a day.

The patient was re-evaluated at the same day and the bleeding became moderate but still continued to have a spiking fever and remained tachycardic. The patient was prescribed augmentin empirically and infectious disease consultation was given. Their impression was that there was no clear source of infection, and they recommended augmentin to be stopped, to begin tazocin 4.5 grams every eight hours, to follow the results of the cultures, and to perform abdominal and pelvic CT. The latter showed large uterine hypodense lesion with multiple air pockets measuring 12×10×16.5 cm. It communicated with the endometrium and opened to the cervix and the vagina. There was fat stranding and traces of free fluid within the pouch of Douglas. The bowel loops appeared unremarkable. The liver, spleen, pancreas, adrenals, and kidneys also appeared unremarkable. No abdominopelvic lymphadenopathy was noted. Osseous structures also appeared unre-

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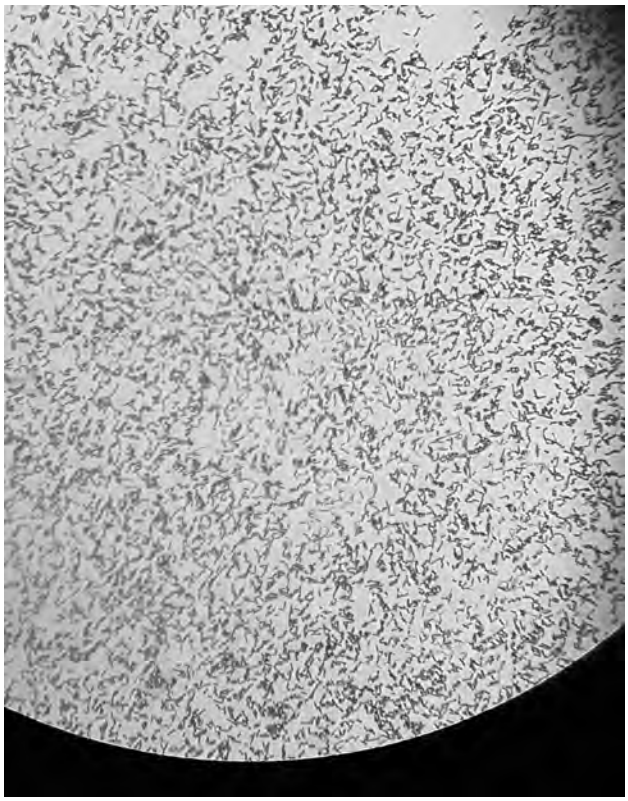

Figure 1. — Microbiology slide showing Clostridium Ramosum.

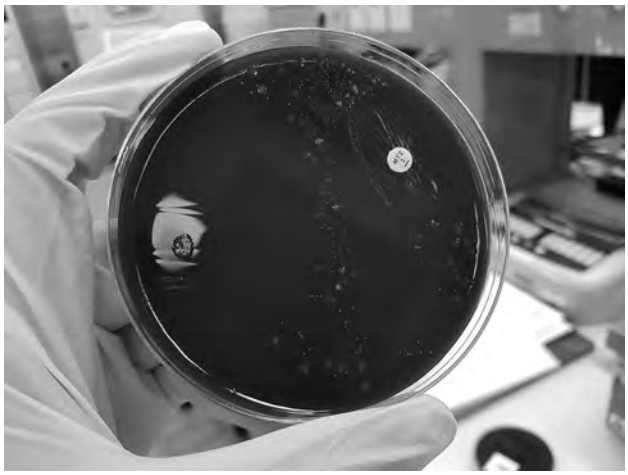

Figure 2. — Microbiology results showing Clostridium ramosum sensitive to augmentin.

markable. Radiological findings confirmed that the fibroid with new degeneration and super-added infection was consistent with the rare diagnosis of pyomyoma.

Based on the radiological findings, and as the patient was not responding to medications, she was booked for surgical removal of the fibroid +\- hysterectomy. Intraoperative findings: uterus was soft, fibroid was enucleated using myomectomy screw and removed. Pus was coming out which was swabbed and there was also an area of necrosis. Irrigation was done using warm normal saline after removing the infected fibroid. Gauze was soaked with

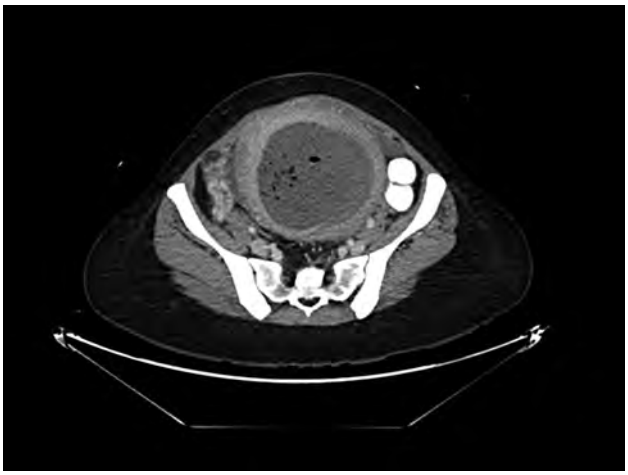

Figure 3. — CT axial view showing air pockets in the fibroid.

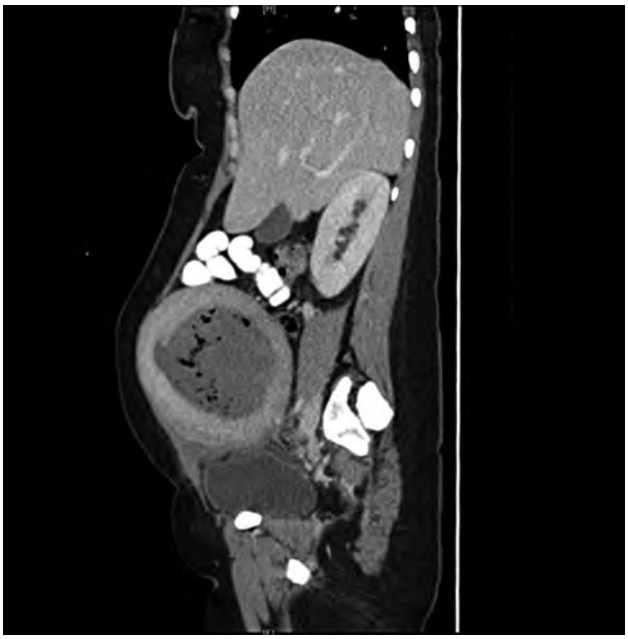

Figure 4. — CT sagittal view showing air pockets.

gentamicin and used to clean the myometrium. The uterine cavity was closed with 2-0 vicryl and the myometrium was closed with Stratafix. Irrigation was done again to the peritoneal cavity using warm normal saline.

The patient was seen post-operatively, and she was improving. She was kept on tazocin for four days. Then vancomycin was added by the Infectious diseases team until the septic culture was negative and then vancomycin was stopped. The patient was discharged five days post-operatively in good condition on augmintin 625 orally every eight hours for two weeks.

Histopathologic findings showed leiomyoma with infarction and secondary bacterial Infection (postpartum pyomyoma) and no evidence of malignancy. Microscopic description of sections of the uterine leiomyoma showed circumscribed lesion formed predominantly of infarcted muscle fibers with thrombosed and infarcted vessels with the presence of focal neutrophil polymorph infiltration and gram-positive bacterial colonies in small capillar-

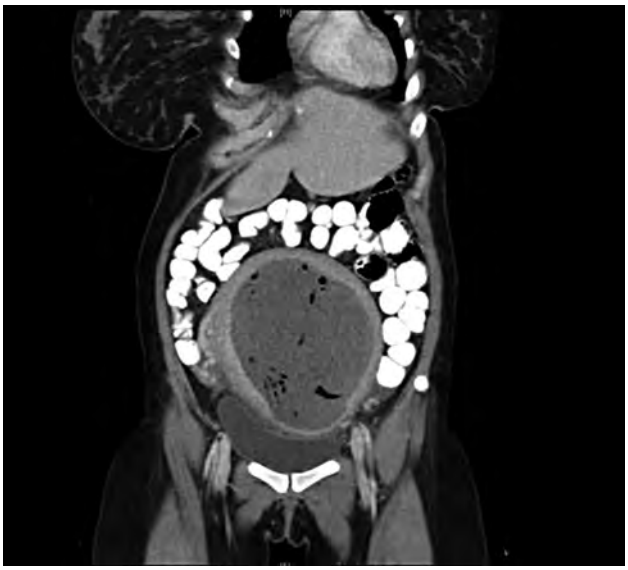

Figure 5. — CT coronal view showing air pockets.

Figure 6. — Pus originating from the fibroid.

ies. There was no increase in cellularity and cytological atypia or mitosis was not noted.

Figure 7. — Area of pus and necrosis.

Figure 8. — Myometrium is irrigated with warm water after the removal of the infected fibroid.

Figure 9. — Myometrium is cleaned with gentamicin after removal of the fibroid.

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Discussion

Pyomyoma is a rare condition that occurs due to infarction and infection of leiomyoma [3] Women who are vulnerable to develop pyomyoma include pregnant women, postpartum, abortion, immunocompromised, and postmenopausal periods [7-10]. Another possible cause is uterine artery embolization [11]. In the present case, the patient was in her postpartum period and she was vulnerable because of the increased risk of ischemia and infection of the already known leiomyoma.

There are some possible routes of infectious spread described in the literature, which include contiguous spread from the endometrium, direct spread from the bowel or adnexa, as well as lymphatic and hematogenous spread [3, 5]. Since the causative organism in the present case was clostridium ramosum (Figures 1 and 2). Clostridium ramosum is part of the normal gut flora in humans, hence the authors assume that the spread was from the bowel.

Fever, bacteremia, and no source of infection is described in the literature as the triad of pyomyoma [7]. Abdominal pain may present with this condition. Although it is described as a triad in the literature, the present patient was only febrile with no source of infection and a full septic screen was negative.

Some case reports showed similar findings in CT scans and the presence of air pockets or gas within the fibroid could be diagnostic of pyomyoma [13, 14]. The present patient showed a large intramural fibroid on ultrasound measuring (11.8×11.2 cm). After obtaining the results of CT scan (Figures 3-5) demonstrating gas within the fibroid, pyomyoma was the most likely diagnosis.

A literature review of 50 cases reported since 1945 demonstrated that 27 non-pregnant women were affected with pyomyoma, while 23 cases were associated with pregnancy and abortion [6]. The most common surgical intervention in the literature was total abdominal hysterectomy (TAH) and removal of the ovaries in some of the case studies [5, 6]. Preserving fertility of young women in the reproductive years is prefered; thus other surgical interventions rather than TAH could be performed including CT guided-drainage, myomectomy, and vaginal expulsion of pyomyoma [5, 6]. Subtotal hysterectomy is also an option as a surgical intervention [15].

Although pyomyoma is a rare and potentially fatal if not treated, the present patient was managed successfully within a short period of time with aggressive broad spectrum antibiotics and myomectomy (Figures 6-9). Pyomyoma should be considered a differential diagnosis if a woman in the postpartum period presents with fever of unknown origin and known to have uterine fibroid.

Conclusion

Pyomyoma is rare but potentially fatal condition if not treated by early administration of antibiotics and surgical intervention. It is usually associated with super-added infection. The most prominent symptom of the condition is fever with no obvious origin. Fever which is not responding to antibiotic is also an evident feature of pyomyoma. Although rare, it must be a differential diagnosis in postpartum women who present with pyrexia of unknown origin.

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