

# Typhlotomy Followed by Diffuse Paralytic Ileus after Myomectomy in Premenopausal Patient

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## ABSTRACT

Leiomyomas account for a large part of benign gynecologic surgery. Several approaches have been implemented, each with its benefits and drawbacks. The aim of this study is to present a case of a complicated post-operative course after leiomyoma surgery. We present on a 39-year-old (gravida 0 and para 0) patient who was operated on for multiple leiomyomas and had to undergo two reoperations due to post-operative bowel complications. Leiomyomas represent a common indication for gynecologic surgery. The gynecologic surgeon needs to be familiar with the possible complications since early diagnosis is of great importance.

**Key words:** Leiomyomas, obstruction, paralytic ileus

## INTRODUCTION

Leiomyomas are the most common benign neoplasms of the uterus. Their incidence is reported as 20–25%, but it may be substantially higher, as high as 70–80% in studies with sonographic or histologic examination.<sup>[1,2]</sup>

Risk factors associated with the development of leiomyomas include increasing age, early menarche, low parity, tamoxifen use, obesity, and, in some studies, a high-fat diet. Since their growth depends on gonadal steroids, their presence is diagnosed after menarche and they tend to regress after menopause.

Leiomyomas are usually multiple and the majority of them are found in the uterine corpus. Occasionally, they may be found in the fallopian tube or the round ligament, while about 5% of leiomyomas originate from the cervix. They are classified into subgroups by their relationship to the uterine layers, and the three most common types are intramural, subserous, and submucous.<sup>[3]</sup>

One-third of leiomyomas will become symptomatic, causing abnormal and excessive uterine bleeding, pelvic pain, pelvic pressure, bowel and bladder dysfunction, infertility, recurrent miscarriage, and abdominal protrusion. Often,

the growth of the leiomyoma is disproportionate to its blood supply, leading to its degeneration, causing pelvic pain and localized peritoneal irritation.

The incidence of malignant degeneration of a leiomyoma to leiomyosarcoma is estimated between 0.3% and 0.7%; however, it still remains unclear whether leiomyomas degenerate to sarcomas or sarcomas arise *de novo* in myomatous uterine.

Rapid growth of a known leiomyoma after menopause is an alarming feature, suggestive of malignancy.<sup>[3]</sup>

Indications for treatment include persistent abnormal bleeding, iron deficiency anemia, bulk effects, and/or reproductive issues. Treatment of women with uterine leiomyomas should be individualized, based on symptomatology, the size and

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location of fibroids, age, and the needs and desires of the patient for the preservation of fertility or the uterus.

Symptomatic leiomyomas may be treated medically or surgically. Medical management includes the use of progestins and levonorgestrel intrauterine systems, gonadotropin-releasing hormone agonists (GnRH), GnRH antagonists, androgens (danazol), aromatase inhibitors (letrozole), estrogen receptor antagonists (fulvestrant), selective estrogen receptor modulators (tamoxifen and raloxifene), and selective progesterone receptor modulators (mifepristone and ulipristal acetate).

Other conservative treatments include uterine artery embolization, focused energy delivery systems, magnetic resonance-guided focused ultrasound, and radiofrequency myolysis.

Surgical treatment includes myomectomy (hysteroscopic, laparoscopic, or open) and hysterectomy (reserved for women with no desire for fertility preservation or women with postmenopausal enlargement of an asymptomatic leiomyoma).<sup>[4-7]</sup>

## CASE REPORT

Here, we present the case of a 39-year-old (gravida 0 and para 0) woman who presented at our department for the management of uterine leiomyomas. On ultrasound examination, she had multiple leiomyomas, the biggest of which were 59 mm × 54 mm and 41 mm × 31 mm in dimensions. The patient had an insignificant medical history, a history of appendectomy, a normal Pap smear, and a normal menstrual cycle.

After the appropriate pre-operative imaging and laboratory examinations, she underwent an open enucleation of her leiomyomas, with no unexpected intraoperative occurrences.

On the 2<sup>nd</sup> post-operative day, the abdomen was distended and the patient had a feeling of nausea. The laboratory tests demonstrated a leukocytosis of  $25.1 \times 10^9/L$  with neutrophilia, and the abdominal X-ray showed increased intramural gas.

During the following day, the patient developed a fever and due to the presence of air-fluid levels, a nasogastric tube was placed. After 2 days, the patient developed a symptomatology of bowel obstruction, despite the presence of pseudodiarrhea. She underwent a contrast abdominal CT which demonstrated a collapse of the large bowel and of parts of the small bowel, a finding which was considered indicative of blockage [Figure 1].

Therefore, the patient was led to the operation room for exploratory laparotomy.

During surgery, any blockage was revealed. On the other sides, the bowel distention was relieved through an incision to the cecum (typhlotomy) which was afterward sutured.

Over the following days, the patient's general condition was improving, but she continued to have a temperature of approximately 38.3°C. On the 6<sup>th</sup> post-operative day, after the second surgery, her temperature raised to 38.6°C with a shiver, while she had pseudodiarrhea. Specimens for cultures were collected from the patient's blood, wound, and stools.

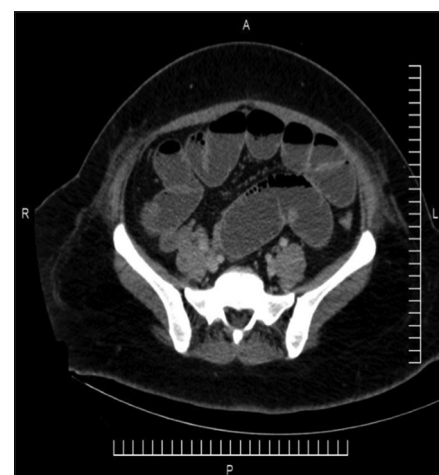
On the 7<sup>th</sup> day, we performed a new contrast CT which revealed free intraperitoneal Gastrografin, diagnostic of perforation [Figure 2].

An attempt of percutaneous drainage was unsuccessful. The patient was led to surgery again. During exploratory laparotomy, a leak from the cecum was noticed.

This led to an excision of the affected part of the cecum using a cutter stapler. The patient's post-operative course was uneventful. Her laboratory tests showed thrombocytosis ( $935,000/\mu L$ ) for which she was administered aspirin. She



**Figure 1:** Computed tomography scan suggestive of obstruction



**Figure 2:** Computed tomography scan suggestive of perforation

was discharged on the 7<sup>th</sup> post-operative day. The histology report demonstrated leiomyomas.

## DISCUSSION

Open enucleation of leiomyomas is an operation commonly performed. As with all operations performed through a laparotomy, the immediate post-operative course may be complicated with pain, fever, paralytic ileus, wound infection, anemia, hypoproteinemia, a chest infection, wound dehiscence, superficial or deep abscesses, anastomotic leaks, or evisceration.<sup>[8]</sup>

Post-operative ileus consists of vague abdominal pain, abdominal distention, fullness, and bloating, often accompanied by nausea, vomiting, and a poor appetite. Patients may or may not continue to pass flatus and stool. The abdominal cavity may be distended and tympanic, depending on the degree of abdominal distention.

A distinguishing feature is absent or hypoactive bowel sounds, in contrast to the high-pitched sound of obstruction. The differential diagnosis includes pseudo-obstruction (also known as Ogilvie syndrome) and mechanical bowel obstruction.<sup>[9]</sup>

CT scanning with Gastrografin may have the best specificity and sensitivity for differentiating between post-operative ileus and other conditions.<sup>[10]</sup> However, as our case demonstrates, even when implementing the appropriate diagnostic tool, reaching a definitive diagnosis can be challenging.

In this case, CT imaging of colon obstruction was not confirmed intraoperatively.

Therefore, the operation was directed toward bowel decompression, which was achieved through an incision to the cecum that was subsequently sutured.

However, this was followed by a dehiscence, leading to diffuse peritonitis. Risk factors for breakdown of intestinal or bowel suturing, same as for anastomotic leakage, include the American Society of Anesthesiology class, body mass index, steroid treatment, weight loss and malnutrition, fluid and electrolyte disturbances, alcohol consumption, and smoking.<sup>[11,12]</sup>

Most often, a leakage deriving from the cecum is managed surgically with a right colectomy. However, our surgical team decided on a more minimal approach, which proved to be equally beneficent to our patient.

We performed an excision of the basis of the cecum, removing only the affected portion to healthy margins, with the use of a linear cutter stapler. Minimal surgical approaches have the additional benefit of a shorter post-operative hospital stay,

with less pain and fewer complications, which proved to be accurate in our case, after the definitive surgical treatment.

## CONCLUSION

Leiomyomas represent a common cause for gynecologic surgery. This case report demonstrates that surgical complications may arise even after uneventful intraoperative conditions and that the gynecologic surgeon should be alert to symptoms that may warrant further investigations and/or treatment.

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