

## CASE REPORT

### Gynecology

## A giant uterine leiomyoma with surgical challenges: A case report

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Received: 7 March 2022; Revised: 23 May 2022; Accepted: 22 June 2022; Available online: June 2022

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### Abstract

**Background:** Uterine leiomyomas are the most typical benign pelvic neoplasms in women. Giant leiomyomas are very rare and present diagnostic and management challenges.

**Case presentation:** A 50-year-old presented to the gynecology clinic with abdominal distension associated with mild lower abdominal pain, which had progressively worsened for five years. She reported no history of vaginal discharge or abnormal uterine bleeding. On examination, she had a grossly distended abdomen with a firm, nontender pelvic mass extending to the xiphisternum. An ultrasound scan revealed a giant leiomyoma. She underwent a

multidisciplinary total abdominal hysterectomy, which was complicated by a bladder injury. She recovered well postoperatively with a resolution of her symptoms.

**Conclusion:** Surgery for giant uterine leiomyomas can be challenging and requires careful surgical preparation with appropriate imaging and uterine artery embolization where available. Anticipation of complications and multidisciplinary team management are critical.

**Keywords:** giant leiomyoma, postmenopausal, total hysterectomy

### Introduction

Uterine leiomyomas or fibroids are the most typical benign pelvic neoplasms in women (1). They develop from smooth muscle cells and fibroblasts of the myometrium and are diagnosed during reproductive age due to their hormone-stimulated growth (1). The pathogenesis of these tumors remains uncertain. Several risk factors, including nulliparity, African descent, obesity, smoking, and dyslipidemia, have been implicated (1,2). Myomas may be asymptomatic for many years, depending on location, number, and size, leading to delayed detection (3). Poor health-seeking behavior,

financial constraints, and misdiagnosis can also contribute to late presentation and diagnosis (4). Symptomatology depends on the fibroids' size and location and may include abnormal uterine bleeding, pelvic pain or pressure, infertility, and adverse pregnancy outcomes (1). Giant myomas may present with respiratory embarrassment due to compression of the diaphragm, frequent urination, or bowel symptoms due to bladder and bowel compression (5). The growth rate varies intra- and interindividually, and malignant transformation is rare (6). The clinical diagnosis of uterine leiomyomas is usually based on pelvic examination

and ultrasound findings. Computed tomography (CT) and magnetic resonance imaging (MRI) can also be employed (7,8). This is a case of a 50-year-old female who presented with a five-year history of progressive abdominal distension associated with mild lower abdominal pain.

### Case presentation

A 50-year-old para 4+0 postmenopausal presented to the gynecology clinic at the Kenyatta National Hospital (KNH) with a five-year history of progressive abdominal distension associated with mild lower abdominal pain. She had no history of per-vaginal bleeding, vaginal discharge, or dyspnea. Her menarche was at 16 years of age, and the reproductive period was characterized by a regular menstrual cycle. She had four vaginal deliveries, the last being at 34 years of age, after which she had used progesterone implant for contraception until menopause. She had no history of chronic illnesses. She had no family history of chronic illnesses, malignancies, or fibroids. She had never undergone cervical cancer screening. She had not sought medical attention for her condition until her symptoms worsened three months before her current presentation. She had attained a secondary education level and lived and worked as a house help in a rural area. After her diagnosis, there was a three-month delay in definitive management due to financial constraints.

A physical examination revealed a middle-aged African lady in good general condition and overweight. She had gross abdominal distension with mass that was mobile, firm, nodular, and nontender with a fundal height similar to term gestation. The cervix was central, mobile, and nontender, with no contact bleeding. There was bilateral adnexal fullness. Pelvic ultrasonography demonstrated a massively enlarged uterus, unquantifiable in size, as it extended the entire abdominal-pelvic region. It had numerous coarse myometrial nodular masses of heterogeneous echo patterns and hypovascular on color Doppler. Her ovaries were bilaterally enlarged. A pap smear done was negative for intraepithelial lesion or malignancy. A full hemogram reported normal hemoglobin of 17.4g/dl and normal platelet and white blood cell counts. Urea, creatinine, and electrolyte tests were within the normal ranges. A diagnosis of uterine fibroids with a differential diagnosis of leiomyosarcoma was made. Preoperative treatment with gonadotropin-

releasing hormone (GnRH) analogs was not considered. Routine preoperative preparation and consent for a total abdominal hysterectomy and bilateral salpingo-oophorectomy were done.

Intraoperatively, an extended midline abdominal incision was made. There was mild ascites with clear peritoneal fluid. No pelvic or paraaortic lymphadenopathy was noted. Liver surface, omentum, and bowel were normal. A grossly enlarged uterus extending to the xiphisternum with multiple pedunculated subserosal and intramural soft masses was noted (**Figure 1**). The anterior and lateral surfaces of the mass were firmly adherent to the bladder, ureters, caecum, appendix, and pelvic side walls. The uterine arteries and veins were severely dilated and tortuous. Consultations were conducted with the gynecological oncologists, urologists, and general surgeons. The masses were carefully dissected off the bowel, bladder, ureter, and pelvic side walls. An iatrogenic bladder injury occurred and was repaired in two layers after completely isolating the bladder and ureters. Total abdominal hysterectomy and bilateral salpingo-oophorectomy were performed en bloc. Intraoperative blood loss was approximately 400ml.



**Figure 1:** A grossly enlarged uterus extending to the xiphisternum with multiple pedunculated subserosal and intramural soft masses.

The patient's postoperative clinical progression was unremarkable, and she was discharged on the fifth postoperative day. The urethral catheter was removed after 14 days with good urine continence. Gross examination confirmed a hysterectomy specimen measuring 42 x 40 x 20cm. Numerous large nodular masses distorted the surface of the

uterus, the largest measuring 22 x 15 x 8cm. The ovaries and fallopian tubes had typical dimensions (Figure 2). The tumor showed a firm white surface with a whirling appearance on sectioning. On microscopy, short intersecting bundles of benign smooth muscle fiber were consistent with leiomyoma. There was no evidence of malignancy.



**Figure 2:** Operative appearance of the hysterectomy specimen measuring 42 x 40 x 20cm.

## Discussion

Although uterine fibroids are the most typical female reproductive tract tumors, giant leiomyomas greater than 11.4kg are extremely rare (5,7). The potential for leiomyomas to grow silently without symptoms over a long period is possible because of the large abdominal cavity volume. The largest leiomyoma ever reported weighed 63.3kg and was discovered on autopsy (9). When symptoms arise, they could be due to compression of other intraabdominal organs by large subserosal and intramural fibroids with or without abnormal uterine bleeding that usually results from endometrial distortion by submucosal extension of the tumors (3). In this case, the patient's poor treatment-seeking behavior contributed to the late presentation and diagnosis. Despite experiencing lower abdominal pains and progressive abdominal distension, she did not seek medical attention until five years after the onset of symptoms. The late presentation was also occasioned by financial constraints and her level of education. The poor health-seeking behavior was also evidenced by the fact that she had not done any cervical cancer screening throughout her reproductive years. Had she presented earlier, before the uterine fibroids attained this massive size, treatment would have been less complicated (3).

In this case, the identifiable risk factors for uterine myoma were the African race, age above 50 years, high body mass index (BMI), and prior use of hormonal contraceptives (2). Surgery is the best treatment option for giant uterine leiomyomas. However, this is usually challenging given the significant distortion of anatomy that occurs in these cases (4,5). Surgical complications like injury to the bowel, bladder, ureters and major blood vessels can occur, coupled with excessive hemorrhage, postoperative vascular thromboembolism, and even death. These should be anticipated and prepared for with thorough preoperative assessment using imaging modalities like pelvic ultrasonography and MRI. Preoperative vessel embolization can also reduce the risk of hemorrhage (8,10). This was a missed opportunity in this case. While a pelvic ultrasound showed a grossly enlarged uterus, it could not ascertain the tumor's dimensions as it extended beyond the imaging field. An MRI scan might have provided additional information regarding the size and abdominal organ attachment but was not done due to financial constraints (8). It is crucial to involve a multidisciplinary team comprising urologists, gynecological oncologists, and general surgeons throughout the patient management period (5,7).

## Conclusion

Surgery for giant uterine leiomyomas can be challenging and requires careful surgical preparation with appropriate imaging and uterine artery embolization where available. Anticipating complications and multidisciplinary team management are critical. Patient education is also essential to improve health-seeking behaviors and promote early presentation, enabling less complex surgical interventions.

## Consent for publication

Informed consent for publication was obtained from the patient.

## Acknowledgement

The authors thank the patient for consenting to publish this case report.

## Declarations

## Conflict of interests

The authors declare no conflicts of interest.

**Funding**

None

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