

Giant Uterine Fibroid in a Low Resources Setting: A Case Report

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OPEN ACCESS JOURNAL**Abstract*****Background***

Uterine leiomyomas represent the most common benign tumors of the female reproductive tract. Giant uterine leiomyomas are exceedingly rare neoplasm and represents a great diagnostic and therapeutic challenge. The aim of this publication is that though the present era is of advanced technology and minimally invasive surgery but this may not be available everywhere and feasible in every case. Diagnosis and management of giant uterine myoma should permit greater management flexibility with safe options, which must be tailored to the individual clinical situation.

Case presentation

A 45-year old woman presented with a 12-month history of progressive increasing abdominal size, prolonged menstrual bleeding, menorrhagia, gradual weight gain, vague abdominal pressure sensations, dysmenorrhea, abdominal and pelvic pain, frequent urination, relative constipation and symptom of anemia but not in failure. Physical examination, laboratory evaluation and a trans-abdominal ultrasound were done and findings suggested a giant abdominal-pelvic mass. Abdominal supracervical hysterectomy with bilateral salpingo-oophorectomy was performed. Histologically, the specimen was 16.2 Kg uterine leiomyoma measuring 30/24/20 cm, intramural and subserosal myomatous, cellular leiomyoma that occurred without secondary changes, necrosis, cellular atypia, or mitosis. The patient's postoperative progress was uneventful and she was discharged from the hospital on the seventh postoperative day.

Conclusion

In uterine leiomyomas patient, the preferred imaging modality for initial evaluation is ultrasonography because it is the least invasive and most cost effective investigation especially in low resource settings where magnetic resonance imaging (MRI) and computed tomography (CT) Scan are usually not available and majority of the patients cannot afford its cost. The chosen treatment should be individualized, both severity of symptoms and patients desire to preserve fertility are very important. There is no single best approach to uterine fibroid treatment. However, women with giant uterine fibroids are best treated surgically and require adequate pre-operative preparations and an experienced skillful surgeon.

Keywords: Giant uterine leiomyoma, diagnosis, supracervical hysterectomy.

OPEN ACCESS JOURNAL**Background**

Uterine leiomyoma are the most common benign gynecological tumors. The pathogenesis is still unknown but it's believed that they arise from the smooth muscle cells of the uterus (1). Uterine leiomyomas are most commonly found in women over age 35 years (1). However other studies have reported that, about 70% of Caucasian women and 80% of African American women above 50 years of age have uterine leiomyoma (1,2,3). Some authors have reported uterine leiomyoma in nearly half of women over age 40 years (2), however the prevalence increases during the reproductive age and decreases after menopause (3).

Uterine leiomyoma originates from smooth muscles of the myometrium and they contain a variable percentage of fibrous tissue (4). The size of uterine leiomyoma varies from microscopical to giant tumors (4). Majority of uterine leiomyoma are small and Giant uterine leiomyoma (11.3 kg or more) are rare tumors (4). Depending on its location on the uterus myometrium, leiomyoma can be described as sub mucosal, intramural, subserosal or pedunculated (4). Majority of leiomyomas are small and often asymptomatic, but large tumors often produce: abnormal uterine bleeding, pelvic discomfort (pressure or pain), dysmenorrhea, infertility, frequent urination, relative constipation, "myomatous erythrocytosis syndrome" or pseudo Meigs syndrome (4). Clinical examination is the initial step in the diagnosis of uterine leiomyoma where you can feel an abdominal pelvic mass with irregular contour and firm consistency (4). Ultrasonography (USG), CT scan and MRI are also helpful to define the number, the size and the location of the leiomyomas (5).

The treatment option depends on the size of the tumor, symptoms and signs a patient is presenting with and need to preserve fertility or not. The treatment options may either be an expectant management, drug therapy gonadotropin-releasing hormone agonists (Gn-RH agonist), interventional procedure (uterine artery embolization) and surgical treatment (6). Surgical management includes: hysterectomy (performed vaginally, abdominally or laparoscopically), myomectomy (performed by laparotomy, laparoscopy or hysteroscopy) and myolysis (7). Myomectomy is performed in symptomatic women who decline hysterectomy or who desire to preserve fertility (8). Other treatment options like Myolysis (mono- or bipolar cautery, Nd-YAG laser vaporization or Cryotherapy) are currently experimental (9).

In Tanzania, management of uterine fibroids depends on various factors and varies from one health facility to another depending on availability of expertise surgeons, equipments and supplies. The current management strategies mainly involve medical or surgical interventions or both, but the choice of treatment is guided by patient's age and desire to preserve fertility or avoid complex surgery such as hysterectomy. Medical interventions are usually initiated primarily to provide symptomatic relief from excessive bleeding, correct anemia, and slow further fibroid growth and decrease pelvic pain. These include the use of combined oral contraceptives, progestin-only preparations, androgens, gonadotropin releasing hormone analogues and both estrogen and progesterone receptor antagonists and mixed receptor antagonist/agonists.

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The most common surgical treatment options in Tanzania are open myomectomy and hysterectomy compared to minimally invasive approach which is available only in very few health facilities because the equipments are expensive, very few doctors are trained and the cost of the procedures make them often out of the reach of most patients in Tanzania. We report a case of a giant uterine leiomyoma managed at Mawenzi Regional Referral Hospital in northern Tanzania

Case presentation

A 45year old woman presented to our gynecological outpatient clinic with the complains of increasing abdominal size, prolonged menstrual bleeding, menorrhagia, gradual weight gain, vague abdominal pressure sensations, dysmenorrhea, lower abdominal and pelvic pain for past 12months and increased frequency of urination, relative constipation and symptoms of anemia but not in failure for the last five months. She had two children and her last child was born 20 years back. Her medical-surgical history was non-contributory; she had no chronic illness or any previous surgical procedures. She had no family history of malignancies. Her vital signs were all within normal limits. General physical examination was normal except conjunctiva paleness and huge distended abdomen (Figure 1).

There was no generalized enlargement of lymph nodes and lower limbs oedema. On abdominal examination the abdomen was grossly distended, mild tender, slight mobile, irregularly multiple abdominal and pelvic masses of firm consistency and dullness percussion note. Bowel sounds were normal and heard in the flanks. Breast examination was normal (both breasts). On pelvic examination (speculum and bimanual examination) she had normal external genitalia and uterine cervix. The fornices of the vagina were full. Gynaecological examination revealed a very large, firm, mobile (horizontally); central mass that filled the pelvis and abdomen was difficult to specify the origin of tumour.



Figure 1: Patient-Grossly distended abdomen

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The results of routine laboratory testing including a levels of serum electrolytes, serum amylase, tests of liver and renal function and VIA/VILI (Visual inspections with acetic acid/Lugols iodine) were normal except for her Hemoglobin (Hb) level was 9.0g/dl. Transabdominal ultrasound confirmed the presence of a grossly soft tissue mass containing areas of mixed echogenicity, which filled the entire abdominal cavity. CT scan was not done as there are no such services at our hospital and the patient was not able to pay at private health facilities. Based on the clinical examination, the routine laboratory findings and Ultra sound results, a solid abdominopelvic tumor was the most likely diagnosis, but the exact origin was unclear.

It was an elective surgery and adequate pre operative preparations were done before surgery. An extended abdominal midline xiphopubic vertical incision was made and explorative laparotomy was done as the diagnosis before operation was not confirmed. Both the pelvis and the upper abdomen were systematically explored (the liver, stomach, large and small bowel, genital tract were examined). When we open the abdomen we found an enlarged multiple solid tumor arising from the uterus (subserosal and intra mural leiomyomas), that filled the entire abdomen and compressed the abdominal organs (Fig. 2).

Adheiolysis of bowel and omentum from the tumor was done first then the round and the infundibulopelvic ligaments were clamped, then ligated and transected. After the bladder mobilization, the uterine blood vessels were skeletonized, clamped, transected and ligated. One unit of blood (Packed cells) was given before the operation as the hemoglobin level was low then she was transfused with two units after the operation.



Figure 2: A solid tumor arising from the uterus, with multiple subserosal & intra mural fibroids, that filled the entire abdomen

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The biggest problem encountered during the operation was too narrow operation space and bleeding because of size of the tumor and adhesions. To reduce complication, uterus was cut off (sparing the cervix) and then removed with the ovaries and the fallopian tubes (supracervical hysterectomy and bilateral salpingo-oophorectomy). The top of the uterine cuff was closed with sutures (incorporating the uterosacral and cardinal ligaments) and hemostasis was achieved. All specimens were sent to pathology. Histologically, the specimen was a 16.2 Kg uterine leiomyoma measuring 30/24/20 cm, intramural and subserosal myomatous, cellular leiomyoma that occurred without secondary changes, necrosis, cellular atypia, or mitosis. After the surgical procedure the patient was hospitalized for 7 days. The patient's postoperative progress was uneventful and she was discharged from the hospital on the seventh postoperative day.

Discussions

Giant uterine leiomyomas are less common benign neoplasms, which weigh ≥ 11.4 kg or have a diameter which is more than 17 cm or dimension 33x28x22 cm (13). Worldwide, few cases of giant uterine myomas have been documented. The largest uterine fibroid ever reported weighed 63.3 kg, which was removed postmortem in 1888 and the largest one ever removed from a patient who survived the procedure weighed 45.4 kg (14).

The present case was the first one of giant uterine leiomyoma at our hospital, thus reaffirming its observed rarity. She was 43 years old, Para 2 and her last delivery was 20 years back. Uterine leiomyomas are most commonly found in women above 35 years (1) and the prevalence increases during the reproductive age as well as decreases after menopause (3). It has been reported that, about 70% of Caucasian women and 80% of African American women above 50 years of age have uterine leiomyoma (2). In Poland Konrad Wroński and co workers reported a case of a 63-year-old, post menopause, Caucasian woman with a giant uterine leiomyoma (15) while in India, Sonali Kalyan and co workers also has reported a case of 38-year Para 2 with a giant uterine myoma who also underwent hysterectomy (16).

The uterine fibroids have an unremarkable potential to grow to an extreme size before producing appreciable symptoms. Based on leiomyomas location they are classified as sub mucosal, intramural or subserosal (10). Clinical symptoms of the large myoma are: pain, distension constipation, occurring more often menstrual bleeding and micturation and reproduction effect (2, 11). Pelvic examination is very important evaluation step in such patients once uterine fibroid is suspected. However, usually the smaller ones are not palpated and it is only the very large myomas which can be felt during examination (17). Therefore, imaging studies should be considered as they are helpful in determining the location, number, size and extent of the leiomyomas (18).

Although Chopra and colleagues reported that diagnostic accuracy for USG and MRI are 73% and 100%, respectively (12) but the preferred imaging modality for the initial evaluation is USG because it is the least invasive and the most cost-effective investigation especially in

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low resources settings where MRI and CT Scan are usually not available and majority of patients cannot afford its cost. The CT scan is useful tool to diagnose cases of fibroids with necrosis complication and malignant transformation (12). MRI accurately shows location and number of leiomyomas (12) and also defines the anatomy of the uterus and ovaries, but availability and high cost are serious limitations (3).

There is no single best modality to diagnose giant uterine myoma pre-operatively. Usually giant uterine leiomyoma is diagnosed after laparotomy on histopathological examination. The differential diagnosis includes adenomyosis, hematometra, uterine cancer (carcinoma, sarcoma and carcinosarcoma), ovarian and retroperitoneal cysts or malignancy (19). In the present case study, it was confused with a uterine or an ovarian malignancy both clinically and radiologically, however, it turned out to be a case of giant uterine leiomyoma on histopathology.

The treatment of uterine fibroids may involve one of the following approaches or a combination of; expectant management, surgical management, medical management, myolysis management and selective uterine artery embolization (10). The chosen approach in treatment of giant uterine leiomyomas is usually individualized as both the symptoms severity and patients desire to preserve the fertility are very important factors in determining therapeutic intervention. Giant uterine leiomyomas unusually present a challenge even to the most experienced gynecologists due to massive blood loss caused by increased vascularity and postoperative possible complications like injury to bowel and urinary tract (20). Therefore, medical management (Gn-RH agonists) is efficient for small myomas and also in preoperative treatment to decrease giant tumors volume and blood loss before myolysis, myomectomy and hysterectomy but is associated with high cost, increased recurrence and majority of the patients especially in low income countries cannot afford.

The removal of giant uterine leiomyomas by total abdominal hysterectomy with or without salpingo-oophorectomy is the traditional treatment of choice but in this case reported the patient was well prepared before operation and supracervical hysterectomy and bilateral salpingo-oophorectomy were done because of the complications encountered during operation.

Conclusion

Giant uterine leiomyomas are rare and may present with variable clinical manifestations. In low resource setting areas, Ultrasound stays as the initial screening tool for its diagnosis, but most of them are usually diagnosed on laparotomy followed by histopathological examination. The chosen treatment approach should be individualized for every patient but a surgical management is the most frequent preferred.

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Written informed consent was obtained from the patient for publication of this case report and accompanying images.

Consent for publication

The patient consented to the publication of this study, knowing that the manuscript may include potentially identifying information.

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Availability of data and materials Data sharing

No datasets were generated or analysed during the current study.

Competing interests

All authors declare that they have no competing interests.

Authors' contributions

GSM, IM and LL performed the operation and patient follow-up. GSM and MJM wrote the manuscript. GSM, LL, IM, HM, AES and AM researched the literature. GSM and MJM revised the manuscript critically for important intellectual content. All authors read and approved the final manuscript.

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List of abbreviations

AMO Assistant Medical Officer
CT Scan-Computerized tomography
MRI- Magnetic resonance imaging
VIA Visual inspection with acetic acid
VILI Visual inspection with Lugols iodine
USG Ultrasonography

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