CASE REPORT

MASSIVE CYSTIC DEGENERATION OF NEGLECTED LEIOMYOMA MIMICKING AN OVARIAN TUMOUR IN A 48 YEAR OLD WOMAN

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Abstract

Introduction: Leiomyomas are common benign tumours of the female pelvis with growth and extension not limited to pelvis. The occurrence of solitary or multiple nodules are initially asymptomatic except when it is occurring within the cavity of the uterus. Symptoms would however develop with time if not properly treated or ignored, which could lead to live-threatening complications.

Case Presentation: This is a report of a 48-year-old woman with neglected leiomyoma who presented with an enormous abdominal distension due to massive cystic degeneration of the leiomyoma mimicking an ovarian tumor. An abdominal ultrasound scan performed revealed a large solid-cystic abdominal mass on which account an exploratory laparotomy where total abdominal hysterectomy left salpingectomy and bilateral oophorectomy was performed. The histopathology report of the tumour revealed it was a benign fibromyoma (leiomyoma) with degenerative changes. The ovaries and left tube were all normal.

Conclusion: Leiomyoma though a benign tumour, can grow disproportionately and undergo degenerative changes if neglected. This can result in life-threatening sequelae, mimicking a malignant tumour.

Key words: *Leiomyomas, Uterine fibroids, Degenerating myoma, Cystic degeneration, Abdominal distension*

Introduction

Leiomyomas are benign pelvic tumours in women with some studies reporting cumulative incidence of 70-80% independent of symptoms[1]. In a retrospective, study leiomyomas were found to be more common in premenopausal women; but incidence decreased in postmenopausal women to 0.25%[2]. Leiomyomas are hormone-dependent and typically grow during reproductive years. Their growth usually slows down and they may even regress after menopause due to decreased estrogen production[3,4]. However, there have been reported cases of leiomyomas growing aggressively in postmenopausal women[4,5]. Leiomyomas typically present with symptoms of menorrhagia, dysmenorrhea, and bulk-related symptoms, such as abdominal distension and pain[6]. Some cases of rapidly growing leiomyomas have been reported, with growth rates of up to 5 cm per year[7]. The growth rate of leiomyomas is influenced by several factors, including age, hormonal status, and genetic factors[8].Rapid growth of leiomyoma in the later part of reproductive years or in a postmenopausal woman is an unusual finding which could be attributed to several years of neglect resulting in degeneration mimicking a malignant tumour. When the leiomyoma nodule is sub-seroral or parasitic, it is not confined to the uterus and pelvis but can grows into the upper abdominal cavity especially if there are adequate extra-uterine sources of blood supply which could be favorable for unrestricted growth.

The differential diagnosis of a rapidly growing abdominal mass includes ovarian tumors, leiomyomas, and other rare tumors such as sarcomas[9,10]. Imaging studies, such as ultrasound and computed tomography (CT) scans, are essential in the evaluation of these patients. Biopsy or surgical excision may be necessary to establish a definitive diagnosis[11].

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Conflict of Interest: None Declared

Case Report

This case initially presented to the Amasaman District Hospital in September 2020 complaining of an abdominal distension and a productive cough of one mouth duration which was not responding to over-the-counter medications and herbal treatments. She tested positive for pulmonary tuberculosis when some laboratory investigations were conducted. She was started on tuberculosis treatment for six mouths and referred to the Greater Accra Regional Hospital on account of ovarian tumor in December 2020. An ultrasound scan done in September 2020 reported, the uterus was heterogeneous in echotexture and bulky in size measuring 8.9cm x 5.3cm x 8.1cm. The endometrial stripe thickness was normal. There was a large complex cystic mass arising from the pelvis into the abdomen with multiple septations measuring 8.8cm x 13.9cm on the left and 3.9cm x 7.5cm on the right suspected to be of ovarian origin. The liver, spleen, pancreas,

doi: 10.60014/pmjg.v12i2.317

gallbladder and both kidneys were all normal. The serum CA 125 was 29.9U/ml.

At presentation at the Greater Accra Regional Hospital, she complained of worsening abdominal distention, abdominal pain, early satiety, cough, easy fatigability, orthopnea and palpitations. She was diagnosed of a uterine mass for the first time 16 years ago at different hospital during pregnancy and delivery of her second child but she did not seek any treatment. She had her last pregnancy and delivery 9 years ago with the existing uterine mass/tumour and failed to make the needed follow-up appointments for the surgical treatment. She continued the use of herbal medications as treatment. The uterine mass became obvious with marked abdomen distension in the last 4 years due to gradual increase in size with recurrent episodes of abdominal pains. It started growing rapidly with worsening abdominal pain from august 2020. She consented and had laparotomy performed in May 2021 at a time her abdominal distension became very rapid and colossal severely restricting her daily activities after a series of defaults in follow-up while being prepared for surgery.

Her menarche was at 16 years and last menstrual period was in April 2021. The cycle length is usually 30 days, the menses were regular and usually last 2-3days. She had no history of sexually transmitted diseases, contraceptive use, cervical cancer screening or breast cancer screening. Her coitarche was at 20yrs and the first pregnancy was an ectopic for which she had a surgery performed 25 years ago. She had three other pregnancies subsequently all of which were normal during the antenatal period, labour and puerperium. All were delivered vaginally now aged 22, 16 and 9 years alive and doing well. She had no positive personal or family history of diabetes, hypertension, asthma, sickle cell disease. She had tested positive for pulmonary tuberculosis and was on treatment for six months which was duely completed. she had positive history of recurrent use of a local alcohol called akpeteshie, herbal and over the counter medications.

She looked chronically ill and was mildly pale but not jaundiced or febrile with temperature of 36.2C, hydration state was fair with bilateral pitting pedal oedema up to knee level. Her height was 166cm and her weight was 65kg when she presented in September 2020 but had increased to 75kg in May 2021. The abdomen was grossly distended and tense compatible with term size higher order multiple gestation with measurement of 100cm from symphysis pubis to xiphisternum. Size of abdomen both anterior and lateral views are shown in figure 1 below. A vague mass filling the entire abdomen was palpable. The bowel sounds were reduced. The pulse rate was 92 beats per minute, blood pressure was 109/92 mmHg and SPO2 was 97%. Both heart sounds were normal. The respiratory rate was 22 cycles per minute with broncho vesicular breath sounds with reduced air entry bilaterally at lower lung zones.

Pre-surgical investigations performed in May 2021 showed her Hb was 8.4g/dl, Wbc 4.5 x 10^9/L, neutrophils 45%, lymphocytes 49.6%, platelets 352 x 10^9/L. Renal function, liver function, fasting blood sugar and routine urine examination tests were all normal. Covid-19 screening, Hepatitis B and HIV tests were all negative. She was transfused a total of four units of whole blood and four units of fresh frozen plasma intraoperatively and post operatively. Entry of the abdomen was through a midline incision extending above the umbilicus, initially the cystic content of the tumour was drained before the tumour was separated from the anterior abdominal wall completely and exteriorized. The posterior part was separated from the bowels and omentum which was providing extra-uterine sources of blood to the tumour. This was followed by excision of the pedicle of the tumour as shown in figures 2-4 below. Total abdominal hysterectomy left salpingectomy with bilateral ophorectomy was performed subsequently. The post-operative period on admission during for five days in hospital was uneventful on analgesics, antibiotics and anticoagulation. She was discharged home on the fifth day after operation on haematinics. Her Hb was 10.5g/dL and wound healing was satisfactory at the outpatient follow-up visits to the clinic. There has not been any signs of recurrence of the disease or malignancy.

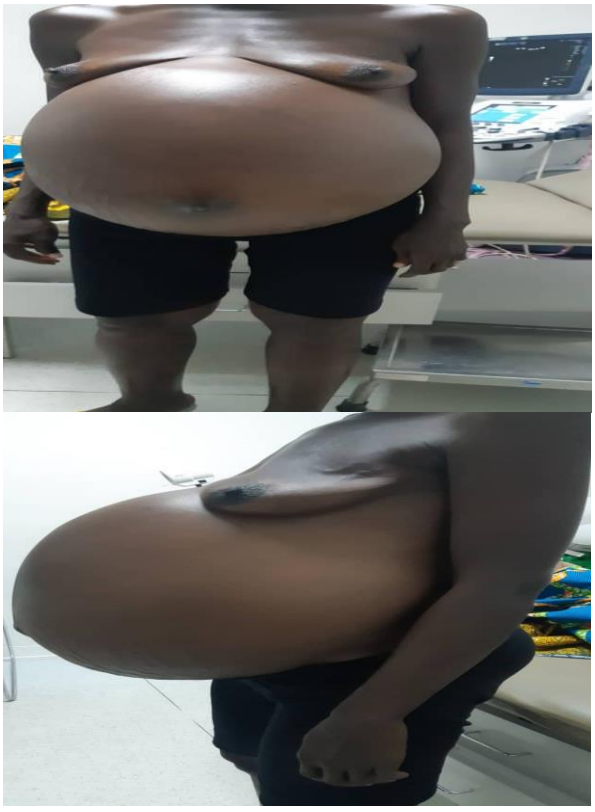

Figure 1*: Anterior and lateral views of colossal abdominal distention due to massive cystic degeneration of neglected leiomyoma in a 48-year-old woman.*

doi: 10.60014/pmjg.v12i2.317

The findings at laparotomy were (figure 2 below): A colossal solitary tumour arising from the pelvis and occupying the grossly distended abdominal cavity and compressing on the bowels, gastrum, omentum, the liver, the gall bladder and the rest of intra-abdominal organs against lateral parietal peritoneal surfaces and diaphragm. The retroperitoneal organs such the pancreas, both kidneys and ureters were all normal. The undersurface of the diaphragm, the liver and its ligaments and gallbladder were all normal. The tumour consisted of solid area from the point of its attachment by a broad pedicle about 6cm to the posterior fundal part of the uterus. The portion of the tumour mostly in the upper abdomen was an enormous cystic area firmly attached to the anterior abdominal wall containing a slightly haemorrhagic fluid which measured about 16 litres which had to be drained before full surgical access into the abdominal cavity was possible as in figure 2. The posterior part of the tumour had adhesions to the omentum and its blood vessels. There were no macroscopic tumour deposits or enlarged lymph nodes of the omentum. The uterus was slightly enlarged but normal. Both ovaries appeared normal, the ampullar and fimbrial portions of the right tube were absent, the left tube was grossly normal. The bladder and pelvic peritoneum were all normal. There was no enlarged pelvic or para-aortic lymph nodes. There was no free fluid in the abdomen. The estimated blood loss was about 1L.

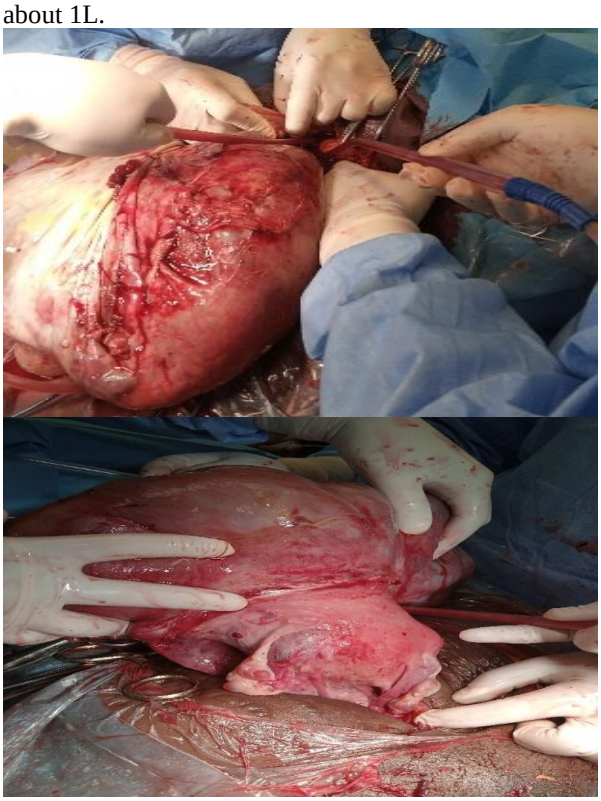

Figure 2*: showing the tumour with normal uterus, ovaries and left tube. The solid part of the tumour is at posterior fundal part of the uterus. The upper cystic part of the tumour is shown as collapsed sac after draining the 16 litres of hemorrhagic fluid content.*

Summary of histopathology report returned as: partially open uterus with cervix and adnexae weighed 269g. The cervix measured 5.5 cm x 4.0 cm x 2.0 cm; the uterus measured 9.0 cm x 10 cm x 3.0 cm. The left tube and ovary measured 7.0 cm x 4.0 cm x 2.0 cm. Partially cystic and solid tumour weighing 4563g and measuring 27 cm x 25 cm x 9 cm with cut sections showing a variegated white light grey dark brown haemorrhagic cystic tissue. The findings of the cervix, uterus, tubes and ovaries were unremarkable with no evidence of malignancy. The huge mass was composed of interlaced fascicles of smooth muscles and collagen, moderately vascular with multiple dilated vascular channels lined by flattened endothelial cells. The cystic areas of the mass contained amorphous material. There were areas with hyaline degeneration. Myxoid change was also present within the stroma. Only mild cellular atypia with no evidence of any mitotic activity or histologic features of malignancy. The conclusion of histology was a huge abdominal mass, showing histologic characteristics of a benign fibroyoma with degenerative changes. There are no overt features of malignancy.

Discussion

Solitary leiomyomas are rare, accounting for a fraction of all uterine leiomyomas[12]. These tumours can grow to a large size and present with symptoms that can mimic malignant ovarian tumours as seen in this case reported. The reason for the rapid or aggressive growth of these tumors when they are neglected for a long time without treatment vary. The rapid growth of the leiomyoma in this report was possibly due an initial massive cyst degeneration as inner part of large leiomyoma deficient in blood supply but with subsequent periodic hemorrhage into the cyst by enlarged peripheral and sub-serosal vessels. This is evident by the hemorrhagic nature of the cystic fluid and histology showing moderately vascular and multiple dilated vascular channels of the tumour. The patient had chronic cough due to pulmonary tuberculosis which could have mechanically resulted in the rupture of some of the blood vessels into a preexisting cystic degeneration of the solitary leiomyoma giving rise to the massive cystic component of the leiomyoma.

The abdominal symptoms progressively worsened and severely restricted her daily activities. She gained 10kg in weight between her presentation in September 2020 and just before the laparotomy in May 2021 mainly from the accumulation of cystic fluid distending the abdomen. The combined weight of the solid tumour 4563g with 16 litres of cystic fluid estimated weight of weight of 16kg gives a total weight estimate of 20.5kg tumour. This weight is more than the weight of cases reported in India and Nigerian[13,14]. The weight of 20.5kg is however, compares favorably with the combined weight of higher order multiple pregnancy fetuses such as septuplets-7 or octuplets-8 at delivery. Large subseroral or parasitic leiomyomas have been reported

  doi: 10.60014/pmjg.v12i2.317

with acute life-threatening complications even during pregnancy due to unrestricted growth in the abdominal cavity and degeneration especially if there is adequate extra-uterine sources of blood supply[15].

Unlike malignant tumours which spread via lymphatic, direct invasion of surrounding structures and hematogenous routes, the growth and extension of leiomyomas into the abdomen is related to development of new nodules, increasing size of existing nodules and degenerative changes that occur within the existing nodules. Rapid growth of the leiomyoma has been reported to be due to sarcomatous degeneration[9] which is associated with poor prognosis due the malignant change that has occurred in the tumour. Fortunately, the case reported here did not have sacomatous degeneration. The post-operative follow-up and prognosis in this case has been good after surgical removal of the benign tumour and histology did not confirm a malignancy that was suspected before the lapoarotomy was performed.

Conclusion

Leiomyoma though a benign tumour, can grow disproportionately and undergo degenerative changes if neglected. This could result life threatening sequelae characteristics of malignant tumours.

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  doi: 10.60014/pmjg.v12i2.317