



Giant Uterine Fibroid: A Case Report of a Young Nulliparous Woman and Literature Review

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Authors' contributions

This work was carried out in collaboration among all authors. Authors MTM and AAO performed the surgery and wrote the case report. Author BO did the histology. All authors read and approved the final manuscript.

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Case Report

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ABSTRACT

Uterine leiomyoma, which arises from uterine smooth muscle, is the most common benign gynaecologic tumour of the female pelvis, however, giant fibroids are very rare in current practice, posing a management challenge. A 28-year-old nulliparous woman presented in a private clinic in Makurdi, Benue State, Nigeria with severe pain and slow growing abdominal mass with pressure symptoms due to a giant uterine fibroid. Intraoperatively, the mass was huge, weighed 11.6kg, was continuous with the uterus and tightly occupied the abdominal cavity with restricted mobility. Myomectomy was done after consideration of the patient's wishes, fertility concerns and intra operative findings. Patient did well without complications and was discharged on day six.

Keywords: Giant fibroid; uterus; leiomyoma; myomectomy.

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1. INTRODUCTION

Uterine fibroids (Leiomyoma or Myomas) are very common benign tumours of the uterus and female pelvis. Myomas have been reported in 25% of Caucasian American women and 50% of African American women with increased frequency during the later reproductive years causing significant morbidity and reproductive ill-health. [1-3]. In fact, they are said to be present in as many as 70% of uteri removed at hysterectomy while some ultrasound studies have indicated the presence of at least one small myoma in 51% of women [3,4]. Among Nigerian women, an incidence rate of up to 80% has been reported. [1,5].

Giant uterine leiomyomas are defined as weighing 11.4 kg or more [6]. They are rare in the current healthcare landscape of increased patient awareness as most women present earlier either incidentally on routine health screening or when they become symptomatic by causing abnormal menstruation. As they grow to massive dimensions, they may be life threatening by exerting pressure effects on surrounding organs and compromising their functions. [6,7].

We present a case of a 28-year-old nulliparous woman with a giant uterine fibroid complicated by severe anaemia.

2. CASE REPORT

A 28-year-old resident of Abuja, Nigeria presented in a private clinic with severe painful abdominal mass and a history of a slow growing uterine fibroid diagnosed on ultrasound scan about 4 years prior to presentation. She had associated nausea, vomiting, poor appetite and weight loss. There was also history of irregular menses with excessive menstrual flow especially in the past 5 months.

She was not married. She had noticed the mass about 4 years ago and it had gradually been increasing in size. She had been offered myomectomy by several health facilities but had refused due to financial constraints and personal reasons (which included fear of complications from the procedure). She was currently not sexually active and was not on any form of contraception. Her previous medical, surgical and family histories were unremarkable.

On physical examination, she was severely anaemic and breathless. The chest was however

clinically clear. The abdomen was distended with a visible tender mass that was irregular and mobile arising from the pelvis and corresponding in size to a pregnant uterus of 38 weeks gestation. Her breathlessness was attributed to the severe anaemia and the elevated diaphragm due to the mass. Pelvic examination showed a centrally placed cervix with no lesion or inflammation.

Laboratory analysis showed a blood haemoglobin concentration of 8.6 g/dL. The remainder of her laboratory results were within normal limits, and pregnancy was excluded. Transabdominal ultrasonography revealed a large hypoechoic mass originating from the uterus. The ovaries and adnexa were not visualized because they were obscured by the enlarged, bulky uterus/mass. There was no ascites or hydronephrosis. The patient was counselled about the diagnosis of uterine fibroid and underwent exploratory laparotomy after signing a written informed consent.

Intraoperatively, the mass was found to be huge, weighed 11.6kg, was continuous with the uterus and tightly occupied the abdominal cavity with restricted mobility (Fig. 1). There was cystic degeneration at the fundal aspect of the mass (Fig. 2). There were other fibroid seedlings located on the anterior and posterior parts of the uterus. The attachment of the mass to the uterus was sessile and the mass had to be removed first to access the uterus. Haemostasis was ensured at every step. The broad ligament was perforated and a size 16 FR Foley urethra catheter was used at the level of the internal os to occlude the uterine arteries before the other smaller fibroids were removed. The incision sites were closed with vicryl sutures. Both ovaries and fallopian tubes were normal. As the tumour was seen with degenerative changes, bleeding was not as heavy as expected. One pint of blood was given intra-operatively and another after the operation.

Histopathological assessment showed leiomyoma. Cut section of the gross specimen revealed whitish nodules with a whorled appearance and fibroelastic consistency suggestive of benign leiomyoma. Microscopy shows elongated smooth muscle cells with eosinophilic cytoplasm with distinct cell membranes.

The patient's postoperative course was uneventful, and she was discharged on

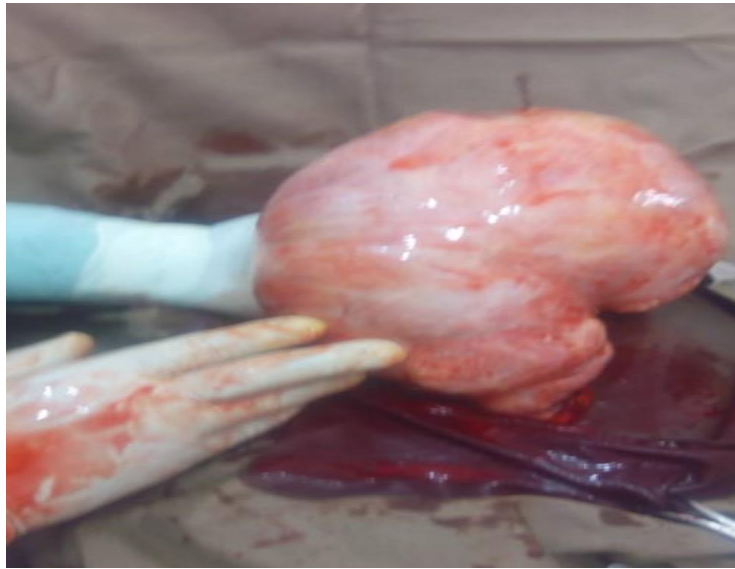


Fig. 1. Showing the giant uterine fibroid before removal from the uterus

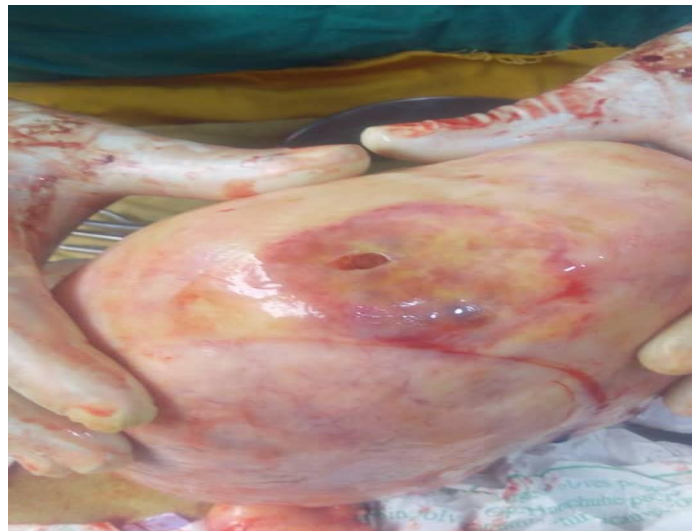


Fig. 2. Showing the giant fibroid and the site of degeneration (the possible source of pain)

postoperative day six. She was given a six-month follow-up appointment with a repeat trans abdominal ultrasonography. Counselling regarding the recurrence rate and future fertility was offered before discharge. She was offered family planning counselling and advised not to conceive for at least one year to allow wound healing and full recovery.

3. DISCUSSION

Uterine fibroids are 3–9 times more common among black women of African descent than in

Caucasians which indicates a strong association between race and ethnicity [3,8,9]. They are very common among the nulliparous or those having one-child or infertility and are associated with increased incidence of pregnancy loss [3,10]. Our patient was a black woman and nulliparous which fit into the above clinical scenario. The clinical presentation of fibroids is variable and this depends on the size and number of fibroids and the location of the fibroids within the uterus. However, majority are incidental findings during a clinical or ultrasound examination and hence asymptomatic [3]. Most symptomatic patients

present with abdominal swelling, abdominal discomfort, abnormal uterine bleeding, infertility, and pressure symptoms. Uterine fibroids may grow to very large sizes in Negroid women compared to their Caucasian counterparts [3,10]. It has also been noted that they tend to occur at a younger age in the former [11]. There is evidence that the expression of abnormal genes accounts for increased severity of symptoms related to uterine leiomyomas among Black women when compared to white women [12].

Despite the high incidence, it is uncommon to encounter a large fibroid as in this case, probably due to the availability of a wide variety of treatment options and early resort to treatment [13]. Surgical treatment had been offered to our patient much earlier when ultrasound diagnosis was made but she had turned it down due to concerns of finance and possible complications. This had led to a continuous growth of the fibroid to become so large. In fact, the tumour had grown to such an extent as to create pressure on the diaphragm leading to difficulty in breathing. We also noticed a degenerative area at the fundal aspect of the tumour (Figs. 1,2), which must have led to severe pain, and this, with the associated breathlessness must have forced her to seek intervention.

In reproductive years, fibroids are slow growing at an average growth rate of 9% over 6 months. Estrogen and progesterone are recognized as promoters of tumor growth, but the potential role of environmental estrogens has been poorly explored. The growth factors with mitogenic activity, such as transforming growth factor- β 3, fibroblast growth factor, epidermal growth factor, and insulin-like growth factor-I are elevated in fibroids and may have a role as effectors of the tumor promotion [14]. Due to the compliance of the abdominal wall, these abdominopelvic tumours may grow to a large size before causing significant pressure effect on surrounding structures, warranting surgical excision [7].

The current, established management of uterine fibroids may involve one of the following approaches or a combination thereof: expectant management, surgical management, medical management or uterine artery embolization. The chosen approach should be individualized for each client depending on various factors, including age, type and severity of symptoms, suspicion of malignancy, desire for future fertility and proximity to menopause [15].

Expectant management is usually offered in patients who have no symptoms and whose diagnosis may be an incidental finding during clinical assessment for some other condition, or those patients approaching menopause. Our patient was not a candidate for expectant management because she was a young woman with symptoms of menorrhagia and lower abdominal pain.

Medical treatments and minimally invasive procedures can be performed in some cases to allow a more rapid recovery [11]. This was not applicable to our patient because of the large tumour and associated symptoms. Where applicable Gonadotropin-releasing hormone (GnRH) agonists, GnRH antagonist, selective oestrogen receptor modulators (SERMs), antiprogestins (RU486), and aromatase inhibitors have all been utilized. These are however only used for short-term therapy because of the significant risks associated with long-term use [11,16,17].

Uterine artery embolization (UAE) is another option. In this procedure, the ascending branches of the uterine artery supplying the leiomyomas are accessed and embolized to achieve complete loss of fibroid perfusion. This causes necrosis and shrinkage of the tumour [11,18]. However, the potential complications associated with UAE such as ovarian and fallopian tube damage resulting from impaired blood flow, may limit its applicability in young women who desire to retain fertility [11,19]. Also, the large size of the tumour in our patient made the use of this method inappropriate.

The indications for surgical management of uterine fibroids includes abnormal bleeding which is not responding to conservative treatments, iron deficiency anaemia secondary to chronic bleeding, pain or pressure symptoms that interfere with quality of life, high suspicion of malignancy, subfertility when there is distortion of the endometrial cavity or tubal occlusion and recurrent pregnancy loss due to distortion of the endometrial cavity [20]. For our client, myomectomy was chosen because she was nulliparous and had fertility concerns. She had severe symptoms of menorrhagia, severe anaemia, pressure symptoms of breathlessness and also abdominal pains with enlarged abdomen which created aesthetic problems for her. Hysterectomy was not considered due to her youth, fertility concerns and her being remote from menopause. She was however counselled

on the possibility of a hysterectomy should a major surgical challenge be encountered during the myomectomy.

Giant leiomyomata are rare, and not frequently reported in the literature. They are of special interest when presenting with a fast growth rate, which suggests malignancy, as uterine cancers usually present with signs and symptoms similar to benign tumors of the uterus and there are no specific criteria for the suspicion of leiomyosarcoma [21].

A literature review by Oelsner et al. [22] shows that 57 cases were reported up to 2003. After this a review of literature by Brito et al [21] reported a further 14 cases of giant fibroids including the one described in their article early this year 2021, making a total of 71 cases. Our own case would therefore be the 72nd case so far reported in literature. All these cases had xypho-pubic incisions to remove the masses because of their large sizes. Only one of those 71 cases had a myomectomy [23], and like our patient, she too was nulliparous. It should be noted however that those who have myomectomy have an increased risk of recurrence and an increased incidence of abdominal deliveries in future pregnancies after extensive myomectomies in such giant fibroids.

Large fibroid tumours as diagnosed in this apatient, carry a high surgical risk. In non pregnant client with fibroid tumours, the combined preoperative and postoperative mortality rates were observed to be 14-16% [24]. The risk of massive blood loss specifically due to increased vascularity of the tumours is the major technical hazard of surgical removal of large uterine fibroids. In our client however we did not encounter massive blood loss and its associated consequences. This was because she had adequate preoperative preparation, good intraoperative haemostasis and adequate blood transfusion. There might be other technical difficulties which also carry increased risk of injury to the ureter [24]. To circumvent this, intravenous urography was done to help outline the ureters and this assisted us during the surgery.

4. CONCLUSION

Uterine leiomyomas should be considered in young nulliparous women presenting with a large pelvic mass and abdominal pain. Treatment should be individualized, taking into consideration important issues like the client's

wishes to retain fertility. Surgical excision of large fibroids is technically challenging and carries a high risk of morbidity and mortality, given the risks of massive haemorrhage and postoperative complications. Good preoperative assessment, optimal intraoperative management and careful postoperative care will however lead to a good outcome as seen in our patient.

CONSENT AND ETHICAL APPROVAL

As per international standard or university standard guideline participant consent and ethical approval has been collected and preserved by the authors.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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