

# Pregnancies complicated by uterine fibroids: A case series on myomectomy in early pregnancy

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## ABSTRACT

**Background:** Myomectomy during pregnancy is rare, however, for patients with failed response to conservative management (and are ardent at preservation of pregnancy) the need for surgery becomes imperative. This scenario may be common in a dedicated fertility treatment centre; hence the need for proficiency in gravid myomectomy.

**Objective:** To document our experience with myomectomy during pregnancy.

**Methods:** Report of three cases of gravid myomectomy is presented. The format of the case series included clinical presentation and surgical management.

**Conclusion:** Our experience shows that scrupulous adherence to basic surgical principles of good exposure, minimal tissue handling, speed but careful closure/hemostasis in addition to judicious post operative care can guarantee a successful pregnancy sparing myomectomy.

**Key words:** Early pregnancy; infertility; myomectomy; pregnancy loss; uterine fibroids.

## Introduction

Myomectomy is a form of surgical management for uterine fibroids when preservation of reproductive function is desired and is usually used when symptoms exist. When this symptom occurs in a pregnant uterus, a new level challenge to care arises. Conservative medical treatment is usually the first line of care, albeit some rare situations of intractable symptomatology may necessitate performing myomectomy during pregnancy. Pregnancy-preserving myomectomy is potentially dangerous due to the risk of pregnancy loss or injury, hemorrhage, and hysterectomy.<sup>[1,2]</sup> Patients with intractable symptomatic myomas have been offered induced termination of pregnancy with myomectomy only viewed as a last resort.<sup>[1,2]</sup> Literature documenting surgical management of fibroids during pregnancy is limited, and especially so in sub-Saharan Africa where ironically the


incidence of uterine fibroid is commonest.<sup>[2-6]</sup> Although we have previously reported a case of successful myomectomy in early pregnancy;<sup>[7]</sup> we have since then experienced increased encounter of cases of myomas with intractable symptomatology in pregnancy, especially among patients with passionate desire to maintain safety of pregnancy owing to their socio-clinical background. Hence, we decided to document our experience amidst a setting of limited resources, with a view to sharing selection protocol, safety gaps instituted, and also to encourage improved counselling options by caregivers.

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## Materials and Methods

We present our experience on three pregnant women (inclusive of a previous report<sup>[7]</sup>) with symptomatic fibroid masses diagnosed and operated during pregnancy. The setting included two hospitals in Benin-City, Nigeria viz., University of Benin Teaching Hospital (UBTH) and Graceland Medical Centre (GMC), both with dedicated infertility treatment unit and assisted reproduction services. Informed consent for surgery, accompanying images and subsequent documentation, was obtained from patients and anonymity assured. Approval for the study was obtained from the Review Board of the institution.

## Case Summary

### Case 1

She was a 37-year-old G2P0+1, her last menstrual period (LMP) was 24 February, 2007 and estimated delivery date (EDD) being 3 December, 2007. She was first seen on 25 April, 2007 at the clinic at 8 weeks gestation with a 6-year history of abdominal swelling and epigastric pain of 1 month duration. There was associated urinary frequency, but no other urinary or bowel symptoms. There was neither menorrhagia nor dysmenorrhea. The pregnancy was confirmed by ultrasound at 6 weeks. With the onset of pregnancy, she had developed progressively increasing epigastric and back pain, worse on lying down, and the pain led to difficulty with sleeping.

She presented at the clinic because of worsening symptoms. At presentation, she was not pale and her cardiovascular and respiratory systems were essentially normal. She had a firm abdomino-pelvic mass of about 36 weeks' gestational size. An ultrasound showed a bulky uterus with an intrauterine gestational sac containing a viable fetal node at 7 weeks gestation with a coexisting huge uterine fibroid mass with multiple areas of cystic and calcific degeneration. An impression of viable intrauterine gestation with coexisting huge uterine fibroid was made.

She was admitted and managed conservatively with analgesic, but after 1 week there was no remission of symptoms. She was then counseled for myomectomy due to the distressing abdominal and back pain associated with the huge uterine fibroids. The risk of possible spontaneous abortion following the procedure was explained to her; she consented and was worked up for surgery. Preoperative packed cell volume was 31%. Electrolyte and urea was normal and two units of blood was group and cross-matched for her.

She had myomectomy on 2 May, 2007 under general anesthesia. The findings at surgery were: a huge intramural

and subserous fundal fibroid weighing 3.4 kg and a smaller one 2 cm × 4 cm in the anterior uterine wall. The ovaries were normal, with an intact corpus luteum on the left. Through a single longitudinal fundal incision, the fibroids were enucleated just short of the gestational sac/endometrium. The resulting myometrial cavity was closed carefully over the wall of the gestational sac using vicryl sutures. The uterine serosa was repaired by imbrications with vicryl sutures. Blood loss was 500 ml [Figure 1a and b].

Salbutamol infusion (500 ug in 500 ml N/S @20 dpm) was commenced intraoperatively and continued postoperatively for 48 h. Thereafter she had oral salbutamol. Other postoperative medications included antibiotics (IV co-amoxiclav 1.2 g, 8 hourly for 24 h, then tablets for 5 days), analgesia (pentazocine), luteal support with IM hydroxyprogesterone caproate (Primolut Depot) 500 mg *statim* and 250 mg twice weekly for 4 weeks. She remained in satisfactory state postoperatively and was discharged on the 14<sup>th</sup> day postsurgery and referred for antenatal booking. She subsequently had an uneventful antenatal period, and obstetric scan at 20 and 36 weeks were normal.

She was planned for an elective cesarean section at term, which she successfully underwent at 38 weeks with delivery of a live male 3.4 kg neonate with good APGAR scores. Mother and baby were discharged on 5<sup>th</sup> day postdelivery.

### Case 2

A 35-year-old P0+0 sales girl, whose LMP was 4 May, 2014 (EDD – 11 February, 2015) was first seen at Graceland Medical Centre (GMC) at gestational age 15 weeks, with complaints of severe right-sided abdominal pain with nausea. She was not aware of abdominal swelling. There were no urinary symptom, no fever, and no change in bowel motions. An ultrasound (21 August, 2014) showed a viable fetus at 15 weeks with a complex right ovarian

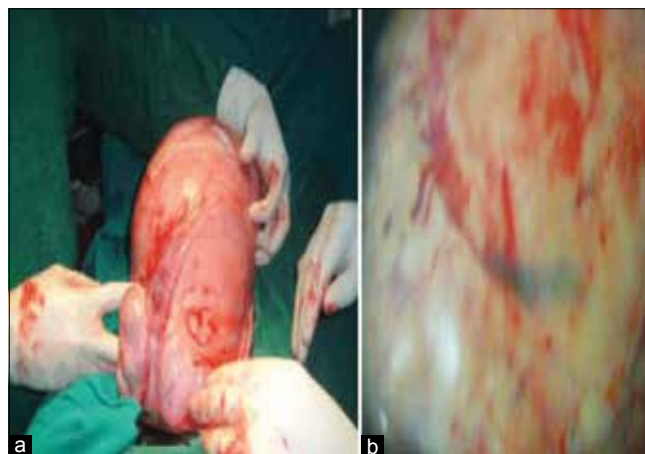


Figure 1: (a and b) Myoma before and after enucleation

cyst – Tuboovarian abscess. She was yet to book pregnancy at any health facility. On examination at presentation, she was in painful distress, afebrile, and not pale. Cardiovascular and respiratory system were normal. There was right-sided lumbo-periumbilical tenderness, with the uterus 28 weeks size and an accompanying firm mass that was deviated to the right.

An impression of accidented ovarian mass to keep in view degenerating fibroid was made. She had intramuscular pentazocine 30 mg *statim* for immediate analgesia but pain increased despite this. Following persistence and increasing severity of abdominal pains, an exploratory laparotomy was advised to which she consented. On 22 August, 2014, she had laparotomy with findings of a bulky uterus with multiple uterine fibroid; largest was a subserous fibroid (10 cm × 12 cm and 8 cm × 10 cm, weighing 1 kg) which was torsioned. Both tubes were normal, with intact corpus luteum on the left ovary; blood loss was 400 ml. There was minimal handling of the uterus; an incidental appendectomy was also done [Figure 2a and b]. Postoperatively, she had salbutamol 500 ug in 500 ml of crystalloid fluid intraoperatively, which was continued postoperatively @20 dpm, antibiotics (cefuroxime) and analgesics (pentazocine and diclofenac suppository). In addition, she had cyclogest pessary for 8 weeks and oral nifedipine (as tocolytic).

Postop recovery was complicated with partial intestinal obstruction (paralytic ileus), which was conservatively managed. She was discharged home after 21 days on admission. Antenatal period was uneventful; thereafter, she was counseled for elective lower segment cesarean section (ELCS) at term. She subsequently had ELCS and delivered a live male 3 kg neonate with good APGAR score. She was discharged home after 5 days.

### Case 3

A 36-year-old P0+0 presented at 6 weeks gestation with complaints of lower abdominal pains of a month duration. Her LMP was 3/4/15. She had a history of abdominal swelling prior to pregnancy with associated menorrhagia, but never sought

any medical advice/treatment. Clinical examination revealed a 36-week-sized uterus with mild suprapubic tenderness. An ultrasound revealed suspected molar gestation with coexisting huge multiple uterine fibroid. Diagnosis of early pregnancy with huge uterine fibroid was made. She was reassured and given mild analgesics (paracetamol). Over two subsequent clinic visits, the pain persisted. A repeat ultrasound confirmed a viable single intrauterine pregnancy with coexisting multiple fibroids and some with degenerative changes. She was counseled on the possibility of an emergency myomectomy if it becomes necessary.

At 13 weeks gestation she represented on emergency with complaints of worsening abdominal pain with associated difficulty in breathing and sleep disturbance. Ultrasound showed a viable fetus at 12 weeks. She consented to myomectomy after counseling and information of the possibility of fetal loss. At surgery there was a bulky uterus with multiple uterine fibroids in the fundus and body of the uterus. Three large fibroids (anterior and postero-fundal) were enucleated; together they weighed 3.5 kg [Figure 3a and b]. The ovaries and tubes were grossly normal. Blood loss was 300 ml. Following surgery, she had tocolysis salbutamol infusion for 24 h, and continued with nifedipine tablets. Also she had antibiotics, analgesics, and progesterone (cyclogest) pessary. She remained stable postoperatively and was discharged on the 7<sup>th</sup> postoperative day. Her antenatal period remained uneventful, and at term she was counseled for an ELCS. She had ELCS at 37 weeks and 3 days and delivered a live male 2.7 kg neonate with good APGAR score. She was discharged home after 5 days.

### Discussion

We can infer from this series that although largely avoided, myomectomy in pregnancy can become necessary and inevitable. Reports in the literature have shown that owing to the associated potential risk, myomectomy during pregnancy is traditionally reserved only for cases with unremitting symptoms that failed to respond to conservative medical

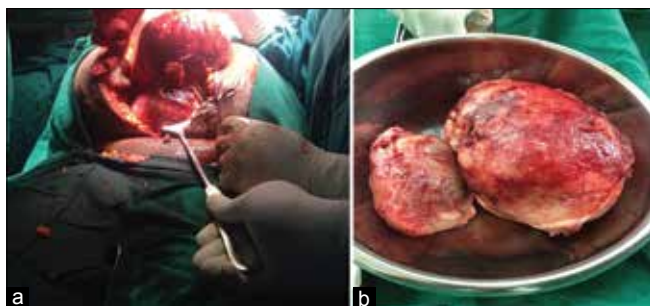


Figure 2: (a and b) Myoma before and after enucleation

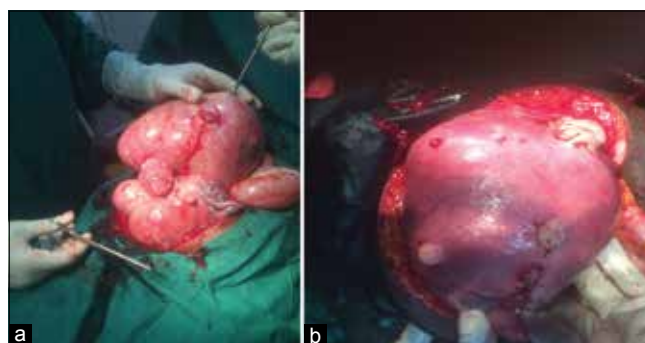


Figure 3: (a) Prior to fibroid enucleation. (b) After enucleation of huge fibroid

management and/or patient unwilling to undergo termination of pregnancy.<sup>[1,3,8,9]</sup> The social and clinical profile of the patients in this series being essentially elderly primigravida with huge symptomatic uterine fibroid complicating early pregnancy typifies the patient profile in our setting, which may make the need for gravid myomectomy frequent and inevitable. Nigeria, like most black African nations, has a superior tendency to developing uterine fibroids; indeed, several mechanisms have been proposed for greater incidence and size of uterine fibroids in black women than whites.<sup>[6,10]</sup> However, owing to socio-cultural and economic tendencies, poor health-seeking behavior as well as fear of surgery, our women present late for treatment.<sup>[11,12]</sup> The challenge of late presentation as well as a high premium on childbearing in our setting is the need to develop proficiency in management of obstetric scenarios demanding surgical intervention geared toward improving pregnancy outcome.

As corroborated by our findings, pain is the most common symptomatology in pregnancy. Other symptoms such as bleeding and pressure symptom have been reported.<sup>[2,9,13]</sup> As part of our protocol women with pain from fibroid in pregnancy, all had initial trial of conservative medical management with myomectomy planned when symptoms persist. Some presentation of pain may be due to torsion of pedunculated subserous fibroid, which will require immediate laparotomy. This was observed in the second case where a differential of an accidented ovarian mass was entertained, while previous reports observed that fibroid red degeneration could be mistaken for ovarian mass.<sup>[14]</sup>

For all patients managed in this series, myomectomy was undertaken as an inevitable option done electively with the aim of preserving pregnancy. Researchers have suggested delaying of surgery till the second trimester in order to reduce the risk of fetal loss.<sup>[8,9]</sup> On the contrary, delay in intervention may result in pregnancy complications as spontaneous miscarriage, abdominal pains, preterm labor, premature rupture of membranes, antepartum bleeding, placental abruption, intrauterine growth restriction, fetal postural deformities, hydronephrosis, pressure effect on adjacent organs, red degeneration of myomas, ruptured degenerated myomas, and torsioned pedunculated myomas.<sup>[2,3,6,13]</sup> We undertook these procedures in early pregnancy irrespective of gestational age based on patients symptomatology, but ensured an ultrasound confirmation of viable pregnancy.

At surgery, adherence to principles of careful and minimal uterine handling, enucleating and removing intramural and subserous myomas clearly within reach through minimal incision on uterus as much as possible were ensured. Also

care to avoid the submucous/uterine cavity is exercised; some authors have advocated imaging studies for mapping of uterine fibroids before surgery.<sup>[3,9]</sup>

Speed is required in closure of the cavity. This is because owing to pregnancy, a clamp or rubber tourniquet was not used. Some authors have used intraoperative vasopressin but the drawback may be its oxytocic-like effect. Immediate postop use of tocolytics, antibiotics, analgesics, and progesterone is our protocol. Use of progesterone aside from luteal support has been shown to prevent preterm contractions and cervical effacement.<sup>[15]</sup> In line with global best practice, our patient underwent routine antenatal care with successful elective cesarean section at term.

Uterine fibroids can potentially affect overall female reproductive health in terms of fertility concerns, infertility treatment, and pregnancy outcome. Symptomatic fibroids are thus better managed before pregnancy with a view to improving fertility potential and pregnancy outcome. Albeit some patients, especially in our setting, present late and in pregnancy with a strong desire to preserve pregnancy. We can posit that gravid myomectomy could be safe and beneficial in selected patients. In settings like ours with high prevalence of uterine fibroids, late presentation and high fertility desire the need for obstetricians to develop proficiency in pregnancy-preserving myomectomy that becomes imperative. We have been able to show that scrupulous adherence to surgical principles of good exposure, minimal handling and incision, speed but careful closure/hemostasis in addition to astute postoperative care can be effective in sustaining pregnancy.

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Nil.

#### Conflicts of interest

There are no conflicts of interest.

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