



## **MULTIPLE MYOMECTOMY DURING PREGNANCY AND LIVE BIRTH AT TERM IN A DEPARTMENTAL HOSPITAL IN TOGO (WEST AFRICA): A CASE REPORT**

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### **ABSTRACT**

The occurrence of uterine myomata (or uterine fibroid) in pregnancy can sometimes cause complications that require surgical treatment. The surgical management of uterine myomata during pregnancy is generally avoided because of maternal and fetal risks. The surgical management of a pregnant woman with signs of acute abdomen and respiratory distress resulting from compression and bleeding of huge fibroids is reported. Myomectomy of subserous and intramural myoma became inevitable around 14 week's gestation because of severe symptoms. The pregnancy progressed favorably up to 38 weeks at which cesarean section was performed successfully.

**Key words:** uterine myoma, myomectomy, pregnancy, , gravid uterus, torsion, surgery, acute abdomen, fetus

### **INTRODUCTION**

The prevalence of uterine fibroids is estimated at 20 – 50 % in women of reproductive age (Chauveaud-Lambling and Fernandez, 2004). The occurrence of fibroids in pregnancy is increasing (Lopes, Thibaud, Simonnet and Boudineau, 1999; Ouyang, Economy and Norwitz, 2006). This is likely due to the high prevalence of leiomyomata in black population and the advancing age at first pregnancy which is often being delayed past age 30 (Huyck, Panhuysen, Cuenco, Zhang and Goldhammer, 2008).

The effect of fibroids on pregnancy has been noted in several studies (Lopes, Thibaud, Simonnet and Boudineau, 1999; Celik, Acar, Cicek, Gezginc and Akyurek, 2002; Bukulmez and Doody, 2006). This effect is responsible for complications in 10 to 30 % of cases and includes spontaneous abortion, premature rupture of fetal membranes, antepartum and postpartum hemorrhage, malpresentations, preterm delivery, placenta previa, placental abruption and labor dystocia (Bukulmez and Doody, 2006). These complications are often seen by obstetricians and cause management dilemma. Although most authors recommend medical management, some complications will require surgery (Ouyang, Economy and Norwitz, 2006; Bhatla, Dash, Kriplani and Agarwal, 2009). Several authors have described myomectomy during pregnancy, but circumstances of discovery, management and outcomes vary (Bhatla, Dash, Kriplani and Agarwal, 2009; Lolis, Kalantaridou, Makrydimas, Sotiriadis, Navrozoglou, Zikopoulos and Paraskevaidis, 2003; Lozza, Pieralli, Corioni, Longinotti and Penna, 2011; Ompalingoli, Eouani, Kombo, Nzengomona, Mambou, Sibi and Kie, 2011). In this report, we present a case that had successful surgical management of multiple uterine myomata at 14 weeks gestation with continuation of the pregnancy and delivery at term without complications.

## CASE REPORT

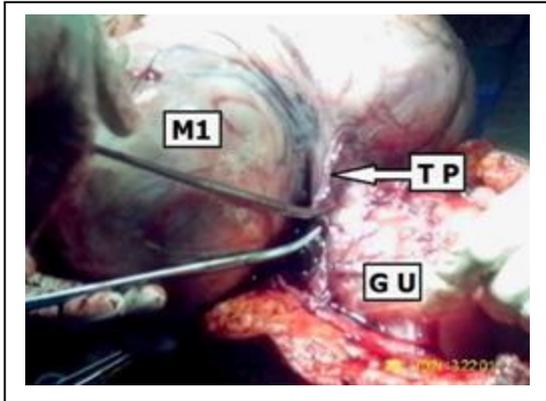
A 32 years old, primigravida was admitted to the Maternity Center of Departmental Hospital of Aného (Togo, West Africa) on February 12, 2011. She presented with respiratory distress, acute abdominal and pelvic pain at 13 weeks and 6 days gestation (based on the date of last menstruation period).

Clinical examination revealed severe abdominal and pelvic tenderness, and confirmed signs of respiratory distress (respiratory rate was 40 breaths per minute). Abdomen was grossly distended and was tense due to her large, irregular, tender uterus. There were signs of peritoneal irritation. The symphysio-fundal height was 48 centimeters. Lungs and heart auscultations were normal. Hemoglobin concentration was 9.3 milligrams /deciliter. Abdomino-pelvic ultrasound revealed a very large uterus with multiple myomas, a moderate peritoneal effusion and an intra-uterine viable singleton fetus of 14 weeks gestation. Ultrasound-guided intra peritoneal tap yielded a large amount of non-clotting blood. The possibility of a heterotopic pregnancy or spontaneous rupture of a peritoneal vessel was considered. Because of the severity of abdominal and pelvic pain as well as her respiratory compromise secondary to the lungs being compressed by the large gravid uterus, surgery was proposed and discussed with the patient and her family.

Laparotomy was performed under general anesthesia with endotracheal intubation. A midline incision was made from the upper border of the pubis extending nearly to the xiphoid process. Exploration of the peritoneal cavity confirmed hemoperitoneum of approximately 400 ml. The uterus was distorted by a large subserous fundal myoma which had undergone torsion (Myoma N°1). A second anterior subserous myoma had also undergone torsion (Myoma N°2). The blood vessel to this second subserous myoma had ruptured and was the source of the hemoperitoneum. Other intramural and subserous myomata were also found. The intra peritoneal organs (liver, spleen, ovaries and fallopian tubes) were examined and were normal. After evacuation of the hemoperitoneum, three subserous myomata were enucleated: Myoma N°1, the largest measured was 37 centimeters in its longest diameter, and weighed 7030 grams; Myoma N°2 measured 14 centimeters, weighed 435 grams; Myoma N°3 measured 13 centimeters, weighed 310 grams. Two intramural myomas which were distorting the anterior surface of the uterus were also removed: Myoma N°4 measured 15 centimeters, weighed 620 grams and Myoma N°5 measured 13 centimeters, weighed 305 grams. Five myomas were removed. The uterus was closed in one or two layers with polyglycolic acid sutures of strength N°2.

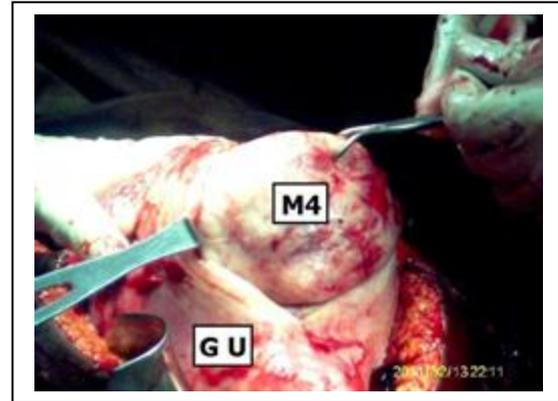
Surgical removal of the largest myoma (Myoma N°1) and of the first intramural one (Myoma N°4) is shown in Figures 1 and 2 respectively.

Excessive manipulation of the uterus was avoided during the procedure. The remaining fibroids (five intramural myomata between 5 and 8 centimeters in diameter) were not enucleated in order to prevent weakening of the pregnant uterus. At the end of surgical procedure, the uterine size was compatible to a gravid uterus of 24 weeks gestation. The abdominal wall was closed in the standard fashion.



**Figure 1: Removal of the larger subserous myoma, Myoma N°1 (M1).**

It was 37 centimeters wide and weighed 7030 grams. Its twisted pedicle (TP) showed being divided from its connection with the gravid uterus (GU).



**Figure 2: Removal of the first intramural myoma, Myoma N°4 (M4)**

This myoma was 15 centimeters wide and weighed 620 grams. It was markedly distorting at the anterior wall of the gravid uterus (GU).

The duration of the surgery was 53 minutes and estimated blood loss was 600 ml. No complication occurred during surgery. Blood transfusion of 500 ml was done prophylactically during the surgery because of the pre-operative anaemia and another 500 ml was administrated after myomectomy. Surgical specimens were sent to the Pathological Anatomy Laboratory for histological examination. Postoperatively, the patient received antispasmodic (Phloroglucinol) in a continuous intravenous infusion for two days and then orally for four weeks; intra muscular injection of 17 $\alpha$ -Hydroxyprogesteron Caproate (500 milligrams) daily for three days then weekly for four weeks. Sodic Enoxaparin (4000 units) was given sub-cutaneously for six days and Clavulanic acid-Amoxicillin tablets for seven days.

Obstetrical ultrasound done five days after the procedure showed a single live fetus of 14 weeks plus six days' gestational age; with two anterior intramural calcified myomata measuring 7 and 8 centimeters as well as three posterior intramural myomata of 5, 6 and 7 centimeters. The patient was discharged from the hospital seven days after surgery on ferrous sulfate and folic acid. Histological examination of the surgical specimens noted "leiomyomata with fibrous remodeling without histological signs of malignancy". She underwent seven antenatal visits at which no complications were reported. Delivery by low transverse cesarean section was performed at 38 weeks of gestational age. The newborn, female, weighed 2950 grams and had Apgar scores of 10 and 10 at first and fifth minutes. Exploration of the uterus during cesarean section revealed a regular cavity with one remaining intramural myoma. The postoperative course was uneventful. She and the newborn were discharged from the hospital on the 8<sup>th</sup> post-operative day.

## DISCUSSION

The incidence of complications of leiomyomata in pregnancy has been estimated to be 10 – 40%, including threatened abortion, premature labor or aseptic necrosis (Chauveaud-Lambling and Fernandez, 2004; Lopes, Thibaud, Simonnet and Boudineau, 1999). Most authors recommend medical treatment because of the high risk of spontaneous abortion or bleeding complications with surgical management (Bhatla, Dash, Kriplani and Agarwal, 2009). However in some cases, myomectomy in pregnancy may become an unavoidable necessity (Bonito, Gumeli, Basili and Roselli, 2007; Tae-Hee and Hae-Hyeog, 2011). What leads to performing myomectomy in pregnancy varies. Mrs. E.D. at 14 weeks gestation presented with an acute abdomen associated with

hemoperitoneum that suggested heterotrophic pregnancy. Her uterine size at 14 weeks gestation was comparable to that of a full term gestation, causing respiratory compromise. For several authors as Celik (Celik, Acar, Cicek, Gezginc and Akyurek, 2002), Kaddioui (Kaddioui, Khachani, Idrissi, Alami, Chraibi, Bezaad and Alaoui, 2009), Tae-Hee (Tae-Hee and Hae-Hyeog, 2011), acute abdomen due to necrosis of myomata or to the torsion of a pedunculated myoma were often the reasons for surgical intervention. The decision for surgical management of myomata during pregnancy must sometimes be considered in such situations (Ouyang, Economy and Norwitz, 2006;; Tae-Hee and Hae-Hyeog, 2011).

The measures taken to ensure successful myomectomy during pregnancy vary. While myomectomy on a non-gravid uterus could involve the use of oxytocin or ligation of uterine artery to minimize blood loss during surgery (Lansac, Body and Magnin, 2011), none of these measures can be used because of the ongoing pregnancy. Many authors have reported successful of myomectomy during pregnancy when the fibroids are subserosal and when the pregnancy is in the first trimester (Ouyang, Economy and Norwitz, 2006; Kaddioui, Khachani, Idrissi, Alami, Chraibi, Bezaad and Alaoui, 2009; Ompalingoli, Eouani, Kombo, Nzenzomona, Mambou, Sibi and Kie, 2011). Therefore, in this case the largest subserous myoma (Myoma N°1) was removed first. Due to their location, two intramural myomas (N°4 and N°5), were also removed, but this is not recommended by several authors (Chauveaud-Lambling and Fernandez, 2004; Lopes, Thibaud, Simonnet and Boudineau, 1999). The early gestation at this surgery probably increased the chance of successful removal of these intramural myomata. Fortunately, at this time of pregnancy, the gestational sac is relatively small and the uterus was thick enough to permit the myomectomy (Bhatla, Dash, Kriplani and Agarwal, 2009; Tae-Hee and Hae-Hyeog, 2011).

In contrast, authors as Bonito and Celik (Bonito, Gumeli, Basili and Roselli, 2007; Celik, Acar, Cicek, Gezginc and Akyurek, 2002) have successfully performed myomectomies respectively in the second and third trimesters of pregnancy. In their reported cases, the myomata were subserous.

The success with our case was also probably enhanced by measures taken to prevent induced abortion post operatively by the use of uterine relaxants (Ompalingoli, Eouani, Kombo, Nzenzomona, Mambou, Sibi and Kie, 2011). Also, excess manipulation of the uterus intra operatively was avoided and both Phloroglucinol and Progesterone injections were used post operatively.

Caesarean section was performed at 38 weeks gestational age in this case, but it could have been done between 34 to 36 weeks gestation if necessary. The route of delivery, according to most authors must be caesarean section, which can be done through the uterine lower segment if it is accessible (Lolis, Kalantaridou, Makrydimas, Sotiriadis, Navrozoglou, Zikopoulos and Paraskevaidis, 2003; Okonkwo and Udigwe 2007; Aziken, Osemwenkha, Orhue, Afinotan, Osughe and Irihogbe, 2008). Vaginal delivery may be contraindicated because of the high risk of uterine rupture in labor (Bhatla, Dash, Kriplani and Agarwal, 2009). The five cases of myomectomy in pregnancy reported by Celik (Celik, Acar, Cicek, Gezginc and Akyurek, 2002) which were performed during the third trimester of pregnancy, were all delivered by cesarean section. By contrast, in Bonito's series of five patients with myomectomies done during first and second trimester of pregnancy, three of them (60 %) delivered vaginally while the other two (40 %) underwent cesarean section (Bonito, Gumeli, Basili and Roselli, 2007) . Mollica reported 93.7 % cesarean section rate in his series of 18 patients who underwent myomectomy during pregnancy. He concluded that myomectomy during pregnancy and its outcome is best when performed early on selected patients. In our case, the choice of cesarean section as delivery route was determined by the depth and the number of myomata removed (Mollica, Pittini, Minganti, Perri and Pansini, 1996). Vaginal birth may only be considered when myomata were subserosal and the myomectomy was performed in the first or early second trimester of pregnancy.

## CONCLUSION

Myomectomy during pregnancy may become an unavoidable option in rare occasions. It should be performed only in selected cases where the patient's condition requires immediate intervention. Chances of success are improved if the myomectomy is performed during the first trimester of pregnancy and if it involved subserosal myomata. Cesarean section is the preferred delivery route after myomectomy in pregnancy.

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