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CASE REPORT

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Multiple Myomectomy in Pregnancy and at Caesarean Section: a case report of a patient managed at the Hospital des Oliviers in Lubumbashi. Democratic Republic of Congo

Kapya mukeya Gabriel [1] | Chola Mwansa Joseph [2*] | Ilunga Louis [3] | Kalenga Muenze Kayamba Prosper [4] | Kakoma Sakatolo Zambeze Jean-Baptiste [5]

[1]Department of Gynecology and Obstetrics, Faculty of Medicine, University of Lubumbashi, Democratic Republic of Congo

[2]Department of Gynecology and Obstetrics, Faculty of Medicine, University of Lubumbashi, Democratic Republic of Congo

[3]Hospital des Oliviers, Lubumbashi, Democratic Republic of Congo

[4]Department of Gynecology and Obstetrics, Faculty of Medicine, University of Lubumbashi, Democratic Republic of Congo

[5]Department of Gynecology and Obstetrics, Faculty of Medicine, University of Lubumbashi, Democratic Republic of Congo

Abstract

Myomectomy during pregnancy is rarely performed because of the risks of premature interruption of the pregnancy, infection and uncontrollable uterine haemorrhage. We report here a case of myomectomy performed at 19 weeks of gestation in a 27-year old primigravida. Surgical intervention was necessary due to intense and refractory abdominal pain as a result of a rapid increase in size of a subserosal myoma. Under adequate analgesia and tocolytic therapy, the operation resulted in the ablation of three subserosal myomas. A sessile subserosal myoma was left untouched. Post-operative recovery was uneventful and the pregnancy progressed without any complications. At 38 weeks, the patient delivered a male baby weighing 3050 grams via elective caesarean section due to breech presentation. APGAR score was 9 and 10 at 1 and 5 minutes respectively. At caesarean section, we also proceeded without any trouble, to the resection not only of the intramural and subserosal myoma previously left untouched but also of nine other subserosal myomas discovered intra-operatively. When performed under certain circumstances, myomectomy during pregnancy may lead to a favourable obstetric outcome, especially by controlling pain and the prevention of complications of the myomas on the pregnancy and vice-versa. On the other hand, myomectomy during caesarean section can be performed without complications especially in the presence of subserosal myomas of less than 5 cm in diameter.

Keywords: myoma, myomectomy, pregnancy, caesarean section.

1 | INTRODUCTION

The incidence of uterine myomas during pregnancy is estimated to be between 0.1 and 3.9%, and increases with advanced age at first pregnancy, obesity and black race (1) . Most pregnant women with myomas during pregnancy are asymptomatic and observation of the patient is all that is necessary (2) . Complications occur in 10 to 30% of pregnancies and are determined by the number, size and location of the myomas as well as their relationship to the placenta (2) , (3) . Complications essentially include premature interruption of the pregnancy, premature rupture of membranes, premature detachment of a normally sited placenta, placenta praevia, myoma praevia, intrauterine death, abnormal foetal presentation, intrauterine growth retardation, dystocic labour, postpartum haemorrhage and endometritis (4) . Some complications may be an indication for myomectomy during pregnancy. Myomectomy is considered an unfavourable option because of the risk of premature interruption of the pregnancy, infection and uncontrollable haemorrhage which may lead to a hysterectomy in order to save the mother's life (5) . Myomectomy at caesarean section remains controversial. Traditionally, this has not been recommended due to the risk of profuse haemorrhage and high post-operative morbidity. However, there is growing evidence that this operation is feasible without a significant rise in the incidence of haemorrhage or maternal morbidity (6) . We report a case of multiple myomectomy performed successfully on a 27-year old primigravida at 19 weeks gestation. Additionally, she underwent an elective caesarean section and multiple myomectomy without complications.

2 | CLINICAL OBSERVATION

N.N., a 27-year old primigravida was seen on 8^{th} January 2020 for lower abdominal pain and a 10-week background of amenorrhoea (LMP was 20 October 2019). Our patient was in a 3-month old marriage and had no significant past medical history. General physical examination was normal with an arterial blood pressure of 110/80 mm Hg, **a** heart rate **of** 84 beats/minute, **a** respiratory rate **of** 26 breaths/minute, **a** temperature **of** 36^0C, **a** weight **of** 60 kg and **a** height of 1.56 meters (BMI 19.2).

On obstetric examination, we noted a fundal height of 20 cm (large for gestational age), a right lateral mass measuring ±5 cm in diameter and **a** long cervix**,** which was soft and closed. A diagnosis of early pregnancy in the background of a myomatous uterus was clinically made and confirmed on ultrasound scan. The patient was prescribed bed rest and progesterone as well as phloroglucinol.

On 13 March 2020 (eight weeks after initial visit), the patient came back complaining of severe pain localised to the right lateral abdomen, right hypochondrium and epigastrium . Clinically, she was noted to be in severe pain. There was a tender, firm mass, measuring ± 15 cm in diameter overlying the right anterolateral part of the uterine fundus extending to the umbilicus. Necrosis or torsion of the myoma was suspected. Ultrasound showed a live foetus and two subserosal myomas, one on the right anterior side of the fundus measuring 14 cm in diameter and the other one on the left antero-lateral side measuring 10 cm in diameter (Figure 1). The patient was treated with tramadol, paracetamol, progesterone and phloroglucinol for 72 hours without much improvement.

In view of the persistent pain and an impending risk of hepatic compression, myomectomy was suggested to the young couple taking into consideration the risks associated with this surgical procedure during pregnancy. Under the cover of papaverine and progesterone pre-, intra- and post-operatively, the operation was performed under general anaesthesia on 18 March 2020.

Through a median and supra-umbilical incision, access to the peritoneal cavity allowed us to identify 4 myomatous foci: A large, pedunculated subserosal

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Corresponding Author: *Chola Mwansa Joseph*
Department of Gynecology and Obstetrics, Faculty of Medicine, University of Lubumbashi, Democratic Republic of Congo

myoma measuring 20 x15 cm, inserted at the right postero-lateral fundus (figure 1a), an intramural and subserosal myoma measuring 5 x 4 cm on the right Fallopian tube (figure 1b), and two left lateral, subserosal, pedunculated myomas, the first measuring about 10 x 4 cm (figure c) and the second measuring about 4 x 2 cm (figure 1d).

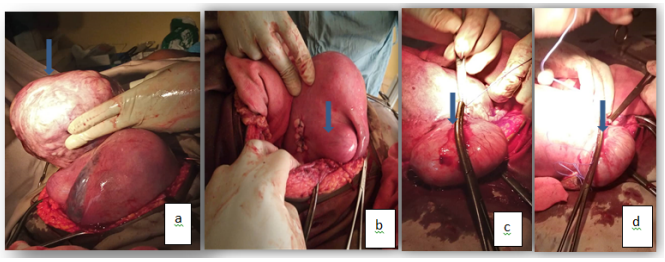

FIGURE 1: Myomas observed after 19 weeks of amenorrhoea. a:Large, pedunculated, subserosal myoma on the uterine fundus; b: Sessile subserous myoma under the right fallopian tube; c: first left lateral subserosal pedunculated myoma d: Second left lateral subserosal pedunculatedmyoma.

The subserosal location and the fact that myomas 1, 3 and 4 were pedunculated allowed us to easily resect them, after clamping at the base, with minimal haemorrhage. The sessile subserous myoma 1.b was left in place. Suturing of the uterus was performed in one plane with vicryl No 1and the abdominal wall was closed layer by layer. The weights of the myomas were 900g, 100g and 40g for myomas 1, 3 and 4 respectively. The post-operative period was uneventful and the patient was discharged on day 7 post surgery.

Monthly clinical and sonographic follow up confirmed good progress of the pregnancy. At 38 weeks gestation, an elective caesarean section was performed for breech presentation in a primigravida with a myomatous uterus.

Through a median, sub-umbilical incision, we proceeded to deliver a live, male infant weighing 3050 grams with an APGAR score of 9 and 10 at 1 minute and 5 minutes respectively (figure 2.a).

As an unexpected finding intra-operatively, besides the sessile subserorous myoma previously left in situ, there were 9 other myomas (8 subserosal myomas altogether weighing 400 grams and a large, subserosal, intra-mural fundal myoma weighing 600 grams (figure 2.b).

The site of previous resection of the myomas was recognisable (figure 2.c).

After the caesarean section, we proceeded to the resection of all myomas one after the other, followed by uterine suturing in one or two layers with vicryl No1 (figures 2.d).

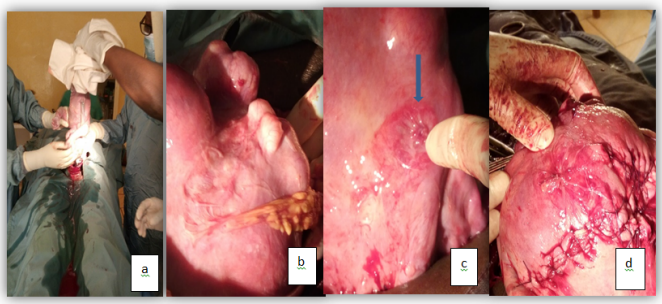

FIGURE 2: Figure 2: Myomas during cesarean section.a: Extraction by podalic version of the newborn; b: Polymyomatous uterus after childbirth; c: Anterior enucleation site of a myoma; d: Uterus after repair.

Intra-operatively, the patient received 1 litre of blood, 40 IU oxytocin infusion, and intravenous as well as intramuscular ergometrine and intravenous tranexamic acid. The surgery lasted 120 minutes. The post-operative period was uneventful. Mother and newborn baby were well on discharge from the hospital on day 5 post-surgery.

3 | DISCUSSION

The outcome of uterine myomas during pregnancy is unpredictable and depends on the health of the individual, the number, the size and the location of these tumours as well as their proximity to the placenta. In view of the many serious complications resulting from this pathology, myomectomy during pregnancy is rarely performed and remains controversial. It can be done under the following circumstances: a) Acute abdominal pain refractory to medical treatment, pain due to torsion or impaction, necrosis or partial obstruction of the vessels feeding the myoma; b) A rapid increase in the size of the myoma which may

compress neighbouring organs or suggest malignant transformation; c) Rupture of uterine myoma: intramyomal haemorrhage or haemoperitoneum due to rupture of superficial veins on a large subserosal myoma; d) Uterine incarceration; e) A pyomyoma in the case of a secondary infection in a necrotic myoma f) An axial torsion of the uterus (7) .

Performed under such difficult conditions, myomectomy may predispose the patient to premature interruption of the pregnancy, premature rupture of membranes, chorioamnionitis, uncontrollable perioperative haemorrhage**,** which may require a hysterectomy and to the risk of uterine rupture in the event of a future pregnancy (8) . Myomectomy can be performed during any trimester of the pregnancy by laparotomy or laparoscopy. Ultrasonography is recommended in the immediate post-operative period, then every 4 weeks until delivery.

In our case, myomectomy was indicated by the sudden considerable increase in size of myoma 1**,** which was responsible for the refractory abdominal pain and risk to the outcome of the pregnancy due to compression of the liver. The pregnancy progressed without complications until term. An elective caesarean section was indicated at 38 weeks for breech presentation in a primigravida with a myomatous uterus.

Incidentally, besides the intra-mural and subserosal myoma left in situ at the first procedure, 9 other myomas were discovered, one of them being a large subserosal, intramural, fundal myoma weighing 600g. This finding supports the hypothesis that pregnancy stimulates the growth of myomas through hormonal inhibition and an increase in blood flow (9) . The subserosal location of almost all the myomas in this patient allowed of easy resection and minimal haemorrhage.

After a myomectomy during pregnancy, a caesarean section is preferred when more than half of the myometrium is involved in the myomectomy, in the case of multiple myomectomy and in case of a large defect in the corpus of the uterus. Other associated factors should equally be taken into consideration, such as advanced maternal age, obesity, a scarred uterus and medically induced pregnancy.

Recently, there are reports of myomectomy performed during pregnancy without significant haemorrhage or morbidity. Moreover, it has the advantage of avoiding myomectomy after the delivery (with the risk of surgery under anaesthesia and adhesions), of providing symptomatic relief, of avoiding complications during future pregnancies, of increasing the chances of vaginal delivery (in case of resection of a myoma praevia, better contractility) and of reducing the financial costs (10) , (11) .

Disparaged in the past, myomectomy during pregnancy is gaining popularity, which may be attributed to the availability of haemostatic measures such as the tourniquet with a Foley's catheter or a Penrose drain, devascularisation of the uterine artery, uterine balloon tamponade, uterine compression sutures (B-Lynch stitch), intravenous as well as intramyometral infusion of oxytocin, intravenous tranexamic acid and bilateral ligature of the uterine artery (12) , (13) .

4 | CONCLUSIONS

The management of complications associated with myomas in pregnancy may pose a dilemma for the obstetrician. Myomectomy during pregnancy, although rare and considered unfavourable, is feasible and may lead to a favourable obstetric outcome. Pain control and prevention of complications arising from myomas serve as indications for the procedure in pregnancy. Currently, myomectomy during caesarean section is more frequently performed without a significant increase in the incidence of haemorrhage and maternal morbidity.

AUTHORS

All authors contributed to this paper, either in the diagnosis and follow up of the patient, or through their suggestions and corrections. All the authors have read and approved the final manuscript.

CONFLICT OF INTEREST

Authors have not declared any conflict of interest.

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PATIENT'S CONSENT

The patient gave her consent to have her personal details revealed in this publication.

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