

The Update on the Role of Cesarean Myomectomy in an Old Primigravida with Huge and Painful Myoma: a Challenging Case for Fertility-Preserving Surgery

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Abstract: There is no established protocol for reducing maternal and perinatal morbidities in myoma during pregnancy. The opinions regarding performing myomectomy during cesarean section have been inconsistent and hot topic of discussion. The recent trends regarding the pro and cons outcomes are caused by potential risk of massive hemorrhage, repeat operation and anesthesia, less time away from work, prolong duration of operation and hospital stay, need of transfusion, increased overall cost, and morbidity. We presented a case of 42-year-old primigravida at 37-38 weeks of singleton live pregnancy with intramural myoma, and then performed successfully cesarean section and myomectomy without complication. The results of the operation showed a safe outcome when performed by an experienced obstetrician and selective case, and helped maintain fertility sparing in the future.

Keywords: *Uterine myoma, Cesarean myomectomy, Old primigravida*

Citation

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Introduction

The benign smooth muscle cell tumors of the uterus and female pelvis are called leiomyomata, or fibroids (Baird et al., 2003). Although myomas typically cause no symptoms, occasionally people may exhibit infertility, dysmenorrhea, menorrhagia, and bladder and bowel pressure complaints. Surgery is the only effective treatment for symptomatic fibroids.

Uterine myomas are often co-discovered during an ultrasonography (USG) examination in early pregnancy. During pregnancy, the prevalence of uterine myomas is estimated to be around 2.7-10.7%, with most women experiencing no symptoms and no complications in pregnancy (Chill et al., 2021). However, myomas in pregnancy can also cause symptoms of pain and discomfort due to reversal or degeneration. Depending on the location of the myoma in the uterus,

uterine myomas have been associated with recurrent miscarriage and infertility. Intramural myomas also reduce fertility, but recommendations regarding current available therapies are unclear (Freytag et al., 2021). This article will discuss a case of cesarean myomectomy in the first pregnancy of an elderly woman with intramural uterine leiomyoma.

Traditionally, myomectomy has been discouraged with cesarean delivery. Much of the literature advises against cesarean myomectomy, with the possible danger of major bleeding and increased postoperative morbidity save in the case of tiny, pedunculated fibroids (Kumar et al., 2014). It is a common misconception that myomectomy after cesarean birth increases the risk of intrapartum or short-term postpartum morbidity. However, new findings suggest that myomectomy is a safe and effective surgery

for a limited number of patients. Here, we present a case of G1P0A0 37-38 weeks Singleton/Live, uterine myoma, and old primigravida who underwent a cesarean myomectomy.

Case and Operation Technique

A 42-year-old woman with a first pregnancy at 37-38 weeks, singleton/live + uterine myoma, presented to Nusa Tenggara Barat Provincial Academic General Hospital (NTB Hospital) for schedule emergency cesarean section. The patient was known to have uterine myoma at 14 weeks of pregnancy during the first ultrasound examination at the obstetrics gynecology specialist. At that time, the patient complained of severe abdominal pain for several days and felt like her abdomen was uncomfortable. At the initial check, the patient said the myoma was 9 cm in diameter and the fetus was 14 weeks old.

Upon arrival, the patient had no complaints of abdominal pain or vaginal discharge. The patient could still feel the movement of the fetus. Vital signs and general examination were within the normal range. An obstetric examination found that the height of the uterine fundus was 38 cm with a fetal heart rate of 148 x/min. Uterine contractions were absent. Leopold examination found a palpable soft round part at the uterine fundus with the impression of the buttocks, a palpable hard part extending on the right side with the impression of the right back, a palpable hard round part with the impression of the head at the bottom, and a convergent There was no discharge of fluid or blood from the vagina. Transabdominal Ultrasonography (TAS) results (Figure 1) obtained a hyper-hypoechoic mass measuring 15,0x11.24x10.71 cm with a whorl-like appearance (+) and the impression of a uterine myoma in the fundus uteri (FIGO type 4). The cardiotocography examination (Figure 2) showed a Category II (Non-Reactive) cardiotocography (CTG) impression. Complete blood work showed a baseline hemoglobin of 10.6 mg/dL, suggesting mild anemia. The triple elimination result was negative.



Figure 1. Results USG-TAS: myoma intramural



Figure 2. Category II (Non-Reactive Non-Stress Test) CTG impression

The patient was then diagnosed with G1P0A0, 37-38 weeks, singleton/live, uterine myoma, and old primigravida. The patient was planned for a cesarean section and myomectomy. Packed red cell blood products were prepared, and written informed consent was obtained from the patient and relatives after explaining to them about the risk of excessive bleeding, the need for blood transfusion, and peripartum hysterectomy.

A cesarean section was performed first. A Pfannenstiel incision was performed. A 3600-gram female baby was born with a complete placenta delivery. Exploration was done, and intramural myoma (Figure 3) was found at the fundus. After performing low transverse caesarean section and lower uterine segment sutured, we performed bilateral internal iliac artery ligation. Uterine blood perfusion from bilateral ovarian artery on infundibulo-pelvicum ligament, samsonian artery on round ligament, and Ascending uterine artery were temporary ligated by applying tourniquet with foley catheter on circumference of lower uterine segment and then followed by myomectomy.

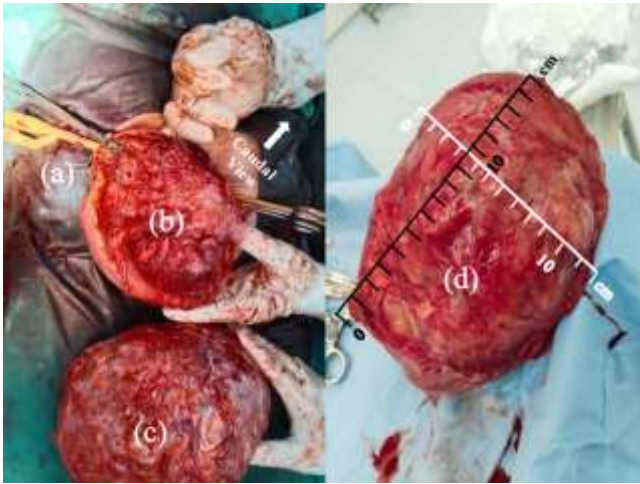


Figure 3. Appearances of the uterine myoma that was successfully removed during operation: (a) Applying tourniquet with foley catheter on circumference of lower uterine segment, (b) Suturing uterus after myomectomy, (c) Resected myoma mass, (d) Measuring myoma mass

Myoma was found with a size of 19x16x4.5 cm with a weight of 1647.5 grams. The results of the anatomical pathology examination showed a picture of myometrial tissue with tumor growth arranged in long intersecting fascicles. Tumor cells with spindle-cigar shaped nucleus morphology, smooth chromatin, and no malignancy. These results suggest uterine leiomyoma.

In postoperative care, the patient was given RL infusion with oxytocin 20 IU, ketoprofen suppositories every 6 hours, domperidone every 8 hours, mefenamic acid 3x500 mg and ferrous sulfate 3x1. Hemoglobin Post op 9.8 mg/dl. After 48 hours post operative, the patient was discharged without any blood transfusion. Mother and baby leave hospital in good condition.

Discussion

Myomectomy during a cesarean section is a controversial topic. Historically, myomectomy has been discouraged with cesarean delivery. During a cesarean section, several writers have recommended routinely removing all uterine fibroids from the front wall (Kumar et al., 2014). The benefits of a cesarean myomectomy include avoiding the need for interval myomectomy, reducing fibroid-related problems in subsequent pregnancies, and providing patients with a sense of relief. When taken out of the lower uterine region, it also raises the likelihood that a following pregnancy will be delivered vaginally. A major consideration is the potential risk of heavy bleeding and increased morbidity when myomectomy is performed during a Cesarean section (Garg and Bansal, 2021). In addition, there are other complications such as adhesion formation, Asherman syndrome, abnormal placental insertion,

prolonged length of hospitalization, and uterine rupture (Tokgöz et al, 2018).

However, the number of studies supporting cesarean myomectomy in recent years has been increasing. The study by Sparic et al., which analyzed 350 articles on cesarean myomectomy, found that the main risk was intraoperative bleeding, which ranged from 0 to 35.3%. Another potential complication that may occur later in life is scar quality after surgery. This may increase the risk of uterine rupture during subsequent pregnancies, but the literature lacks studies related to scar quality. On the other hand, Sparić et al. noted the advantages of cesarean myomectomy, such as a smaller incision on the serous surface, ease of performance during the cesarean section, easy suturing position, and two operations in one procedure. Another important advantage of cesarean myomectomy is improved quality of life in patients. However, they concluded that the risk benefit of cesarean myomectomy needs to be re-evaluated and further research is needed (Sparić et al., 2017). The study by Mangala et al. compared the volume of blood loss in the cases of single myomectomy and Cesarean myomectomy, and it was concluded that there was no significant difference between the groups and it was safe to remove single leiomyoma during Cesarean section (Khanti et al., 2016). A study by Adesiyun et al. on fertility and cesarean myomectomy found no association between cesarean myomectomy and future fertility and pregnancy outcomes. Although there have been many publications on the safety of cesarean myomectomy, severe bleeding and possible cesarean hysterectomy still remain controversial issues, although both complications are not common (Adesiyun et al., 2008). The study by Senturk et al. also supports this, where hemoglobin levels, average complications, and number of transfusions among patients who underwent cesarean section with or without myomectomy are almost similar in both cases (> 0.05) (Senturk et al., 2017).

Another study revealed similar results, with no discernible variations in hemoglobin levels, blood transfusion frequency, or postoperative pyrexia. Nevertheless, only myomas that are obstructing fetal delivery, wound closure, or sub-serosal fibroids should be removed. Since the myoma was near the incision line and would not heal, a myomectomy was required in our instance. Reducing the blood loss should be the goal of all efforts. Right after the fetus is delivered, bilateral closure of the uterine arteries greatly lowers the chance of peripartum hysterectomy as well as intraoperative and postoperative blood loss (Garg and Bansal, 2021). It also minimizes the need for additional surgery and lowers the recurrence of myomas, with no discernible impact on fertility.

The literature explains that the indications for performing myomectomy during cesarean section are symptomatic myoma, size > 5 cm, single, anterior, pedunculated myoma, avoiding further surgery, degenerative myoma, and the wishes of the patient (Tokgöz et al, 2018). In this case, the patient fulfilled the indication because the myoma presented symptoms of severe abdominal pain, was 19 cm in size, and was located anterior to the uterine fundus. In addition, submucous and intramural myomas can interfere with the endometrial cavity, reducing the rate of pregnancy, implantation, and childbirth. The patient is currently in her first pregnancy and plans to have more children in the future. Although the patient is 40 years old or older, this also needs to be considered by healthcare providers because social and cultural aspects also influence decision-making.

A study by Conforti et al. describes several techniques to reduce blood loss due to bleeding. Some of the things that can be done include the use of tourniquets, uterine artery ligation, uterine artery embolization, vasopressin, tranexamic acid, and uterotonic agents such as oxytocin, misoprostol, and dinoprostone, preoperative GnRH analogs, restoration of blood lost during surgery, and gelatin matrix (Conforti et al., 2015). The study by Desai et al. also describes a new technique to reduce blood loss during myomectomy which uses selective uterine devascularization. Ovarian blood vessels are ligated on both sides and branches of uterine arteries are ligated bilaterally after removal of the baby and placenta (Desai et al., 2010). This was also done in this case where the patient had bilateral internal iliac artery ligation prior to myoma removal in order to reduce bleeding. In addition, oxytocin was also given to the patient to help improve muscle tone of the uterus.

Conclusion

We presented a case of cesarean myomectomy in a 42-year-old patient with a first pregnancy at 37-38 weeks singleton/live with intramural uterine myoma is safe to perform and helps maintain maternal fertility in the future.

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Contributions of Authors

Ahmad Fadhli Bustomi contributed to the co-ordination and design of the manuscript project and overall strategy.

Muhammad Freddy Candra Sitepu contributed to the design and writing of the manuscript.

Maskasoni contributed as operator on the surgery.

I Komang Yogi Arta Suarlin contributed to data collection from medical record.

Gusti Anom Christyandi Ramarantika contributed to grammarly adjustment.

Abiyyu Didar Haq contributed to help in writing the manuscript.

The authors declare that there are no conflicts of interest.

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