Morbid Obesity and Laparotomy Myomectomy—A Case Report

Cipta Pramana¹, Belinda Sentosa², Geofanny Febrine Chandra³, Zamila Khairatunnisa⁴

¹,²,³,⁴Medicine Faculty of Tarumanagara University Jakarta, Indonesia

*Corresponding author: pramanacipta@yahoo.com (Pramana)

ABSTRACT

Myoma uteri have a fairly high incidence in Indonesia and obesity is one of the risk factors. We report 43-year-old woman with complaints of severe abdominal pain during ovulation and menstruation and enlarged lump in the lower abdomen. This case was interesting because the patient is morbidly obese with a BMI (Body Mass Index) of 43 kg/m². On Vaginal examination, uterine size was found as big as softball and on pelvic ultrasound an uterine mass with a size of 12 x8 cm was found. The patient then underwent a myomectomy laparotomy operation. The operation outcome was good with no perioperative complications and operating results. Fourteen days after the surgery, wound dehiscence and infection of the post-operative wound appeared. It can be concluded that myomectomy laparotomy surgery in morbidly obese patients is no different from patients with normal BMI in terms of peri-operative complications and operating results, but affects the duration of surgery and wound healing complications.

Keywords: Obesity, Laparotomy, Uterine Myomectomy


INTRODUCTION

Myoma uteri are a gynecological tumor that often affects women of reproductive age. Obese patients are defined as patients with BMI more than 25. Obese patients have a higher risk of occurrence and greater diameter of the uterine myoma. This is due to excess body fat changing steroid hormone metabolism, insulin resistance and reducing sex hormone binding globulin in premenopausal women. Obesity increases anesthetic complications, the amount of blood loss, length of operation time, length of stay, and perioperative complications. Abdominal surgery in obese patients is quite challenging because the amount of subcutaneous tissue increased, the retraction and visual field of surgery are difficult. Laparotomy is often used in the treatment of gynecological tumors such as myomas, adnexal masses and tubo-ovarian abscesses. Although new techniques developed for myomectomy are used widely, most myomectomies are still done via laparotomy because it is the least expensive approach when compared to laparoscopy.

Literature Review

Research conducted by TjeertesEK. et al., showed that obesity resulted in longer operating time, more intraoperative blood loss and higher postoperative infection rates. With multivariate regression analysis, showing that obesity is associated with a higher risk of postoperative complications. Research conducted by Kadia BM. et al reports that obese patients have a higher risk of surgical complications than those with normal weight or overweight.

Case report

A P2A1 female patient aged 43 years came to the obstetric and gynecology clinic complaining of severe abdominal pain during menstruation and ovulation. She also complained of an enlarged lump in the lower abdomen. She started menstruating at the age of 12 years and her periods had been regular every 29 days for 3-4
days with the amount of ± 60 cc. She did not complain of vaginal discharge, itching, dizziness, blurred vision, weight loss, fatigue, and night sweat. She had two cesarean section in 2000 and 2008, and a curettage in 2018. Currently the patient is sexually active and never used birth control. She has a history of high blood pressure which is controlled with Candesartan 16 mg every night. She did not know the history of myoma uteri in the family and she has antalgin and methampirone allergies. When the patient came to the RSUD K.R.M.T. Wongsonegoro General Hospital Semarang gynecology clinic, the patient general condition is good with GCS 15 with an increase in blood pressure 187/93 mmHg with pulse 89 times per minute, breathing 20 times per minute, and temperature 36.4°C. The nutritional status of the patient was grade 2 obese with weight 115 kg, height 163 cm and BMI 43 kg/m². Uterus palpated softball sized on vaginal examination and on the ultrasound examination showed an impression of myoma uteri with a size of 12 × 7 cm. Complete blood tests on July 30, 2019 were within normal limits and plain chest radiographs were within normal limits. This case is interesting because of the large size of the myoma and the selection of surgical methods in patients with morbid obesity. After discussing it with the patient and the anesthesiologist myomectomy laparotomy surgery planned on August 9, 2019, with spinal anesthesia. On August 9, 2019, patient was taken to the OR according to plan. The general condition of the patient was well with Blood Pressure 130/90 mmHg. The patient then placed in supination and an abdominal wall incision is made in the surgical wound until the peritoneal cavity is open. On exploration the uterus is as large as an adult's fist. An adhesion to the right wall of the uterus with abdominal wall is difficult to remove, and the uterus with omentum is released sharply. After the uterus has been opened with cautery and an intramural uterine myoma is obtained, a myomectomy is performed and a myoma size of 12 × 8 cm is obtained. After that the uterus and abdominal wall are closed again layer by layer. The estimated total bleeding is 50 cc and the patient is given 1 PRC. The patient was then taken to HCU for 1 day. The uterine mass, then taken in pathology anatomy examination. Pathology examination showed bundles of smooth muscle cells mimicking the appearance of normal myometrium. Examination 7 days after surgery showed good wound healing. On further examination fourteen days after the surgery, wound dehiscence and infection of the post-operative wound appeared.

DISCUSSION

Previous studies have shown obesity increase the risk during anesthesia, bleeding during surgery, increase the length of stay, and post-operative complications such as infections related to surgery. Other studies have shown obesity is associated with an increased risk of complications during surgery, including increased bleeding and the need for more blood transfusions. Although new
techniques developed for myomectomy are used widely, most myomectomies are still done via laparotomy because it is the least expensive approach when compared to laparoscopy and morbidly obese patients are less likely to undergo minimally invasive surgery.\textsuperscript{5,7,8} Obesity is a relative contraindication to general anesthesia because the longer an obese patient is under the influence of anesthetic agents or lying down, the higher the risk of cardiopulmonary complications and deep venous thrombosis. These complications are life-threatening and have an effect on mortality.\textsuperscript{9} Weight loss 5-10\% of total body weight can reduce the risk of complications due to anesthesia. Spinal anesthesia is used in this operation because it allows minimal airway manipulation; avoidance of anesthetic drugs that cause cardiopulmonary depression, and reduce postoperative nausea and vomiting.\textsuperscript{9} However, the use of spinal anesthesia in obese patients also requires special expertise because it relies on identifying anatomical structures termed “landmarks”. These can be completely obscured in obese patient.\textsuperscript{10} Obesity has a significant effect on the length of time of surgery, but does not affect complications and operating results. This relationship is due to the greater size of the incision, the deeper adipose subcutaneous tissue, and the greater diameter of the fibroid which causes more time needed to reach the abdominal cavity and increased bleeding.\textsuperscript{10} In this operation the operating time increased because the patient is obese and there was large adhesiveness to the surrounding tissue. There are studies that show the relationship between obesity and wound healing complications.\textsuperscript{3,5,11,12} The mechanism by which obesity increases wound complications is not yet fully understood, but poor adipose tissue vascularization and relative vascular insufficiency cause oxygen pressure to decrease so that collagen synthesis and tissue capacity to fight infection are reduced.\textsuperscript{12} Greater incisions in obese patients and also disruption of wound healing cause longer periods wounds exposed to infectious agents thereby increasing the risk of infected wounds. In this case there was a wound dehiscence on the 14th postoperative day, which showed a possible relationship between obesity and wound healing complications.

CONCLUSION

Gynecological surgery in the obese patient provides a challenge during the patient’s pre-operative, intraoperative and postoperative management because of the increased risk of complications. Although minimally invasive surgery developed for myomectomy is used widely, laparotomy is the least expensive approach when compared to laparoscopy and morbidly obese patients are less likely to undergo minimally invasive surgery.

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Author Disclosure Statement

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