

Improving laparoscopic myomectomy outcomes

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ABSTRACT

In the field of benign gynecology, laparoscopic myomectomy has clear advantages, although learning curve is longer. Our study aims to review the factors that improve the technique of laparoscopic myomectomies. For women with symptomatic fibroids who wish to maintain their fertility minimally invasive myomectomy is in most cases the best option. Therefore, laparoscopic approach is associated with shorter hospital stay, faster recovery, less postoperative pain, and reduced adhesion formation. Standardization of laparoscopic techniques could help to reduce the learning curve. The costs are higher compared with open myomectomy, but when we take into account the numerous advantages that laparoscopy has, including shorter operative time, less blood loss, shorter hospital stay and a more rapid recovery time, laparoscopy is more cost-efficient.

Keywords: myomectomy, laparoscopy, myoma

INTRODUCTION

Uterine fibroids are the most typical benign tumour of the female genital tract. They affect an important part of reproductive-aged women; although certain cases are asymptomatic, most patients diagnosed with uterine fibroids complain of heavy menstrual bleeding, pelvic pressure, and infertility. Meanwhile, it should not be omitted the fact that in most cases presenting this diagnostic the family plan is not completed, therefore the idea of hysterectomy is not acceptable. In this respect, myomectomy represents the most suitable surgical option in order to control or alleviate the symptoms and to offer fertility preservation. Traditionally, the method of choice was represented by open myomectomy; however, in the last decades the concept of

minimally invasive surgery has gained significant popularity and acceptance in gynecology and therefore, it was successfully implemented in such cases.

THE ROLE OF LAPAROSCOPY IN TREATING UTERINE FIBROIDS

About one-third of women with uterine fibroids present severe symptoms and therefore will necessitate at a certain moment a surgical procedure in order to alleviate and control the symptoms [1,2].

Initially, laparoscopic myomectomy has been considered to be technically challenging, and occasionally the procedure needed to be completed by laparotomy [1]. One of the most important conditions for performing a successful laparoscopic my-

omyectomy is represented by an adequate case selection, the most appropriate cases for such an approach being represented by those with sub-serous lesions. Meanwhile, improving laparoscopic skills of dissection and suturing and introduction of new haemostatic devices led to the successful implementation of the method in cases diagnosed with intramural myomas. The major contraindications are the surgeon's lack of expertise, severe necrobiosis, suspected leiomyosarcoma, and disproportionate size.

PRO AND CONS FACTORS FOR LAPAROSCOPIC MYOMECTOMY

In the current paper we also looked for factors that could improve the laparoscopic approach of fibroids and aimed to analyse the possible barriers for minimally invasive surgery.

Fava et al. presented a systematic approach of laparoscopic myomectomy which were split into 10 steps beginning with surgery preparation, patient's selection, proper cartography of the myoma, ergonomics and material, preventive haemostasis, triple occlusion, hysterotomy, enucleation by fast dissection and traction, bipolar haemostasis, looking for missing myomas, suture, extraction/morcellation and adhesions prevention [3].

A significant problem which should be taken into account when talking about laparoscopic myomectomy is represented by the intraoperative bleeding, the wide use of vasopressin proving to be an effective method in reducing blood loss [4]. Another method which has been proposed in order to diminish intraoperative blood loss is represented by placing stitches, barbed wire being preferred by most surgeons as it less time consuming, easy to use.

Once the myomas are retrieved, an important issue is represented by complete removal of all excised lesions. Creating lace of myomas by passing a thread through each myoma, prevents losing them in the abdominal cavity and making a garland of myomas by tying two free ends of the lace helps in easier bagging.

When it comes to myoma retrieval, larger lesions necessitate performing a small abdominal incision in order to excise them in a single piece or they necessitate morcellation. However, the latter method should not be performed directly in the abdominal cavity, morcellation bags being proposed; therefore, these devices prevent myoma dissemination and further reimplantation at the level of the peritoneal surface as well as visceral injury of the surrounding organs. These steps help in performing multiple laparoscopic myomectomy safely [4,5].

However, it should not be omitted the fact that laparoscopic myomectomy can be technically chal-

lenging, and in certain cases laparotomy might be needed in order to complete the surgical procedure. Each physician should select his or her criteria for laparoscopic myomectomy based on his knowledge, skills and expertise [6]. Posterior intramural position, soft consistency which is related to gonadotropin releasing hormone agonist (GnRHa), dominant myoma's size and its weight are factors influencing the outcome. Introduction of robot-assisted surgery may overcome the difficulties encountered in enucleation, extraction or suturing during conventional laparoscopic myomectomy [7]. Robotic surgery has the advantages of excellent image through a 3-dimensional view, a wrist-like movement of the robotic arms and better ergonomics [7-9].

According to Sleiman et al., that looked at numerous factors such as day of menstrual cycle, age and anthropometric features, it seems that body mass index significantly affects blood loss during laparoscopic myomectomy [9]. Meanwhile, other patient and surgeon related factors such as size, number of myomas and surgeon's skills are linked to blood loss and operating time [6,8].

Removal of fibroids requires power and hand morcellation, but morcellation is still debatable due to the risk of spreading especially if features of leiomyosarcoma are present. Another consequence of morcellation is the development of parasitic leiomyoma. The Food and Drug Administration have greatly affected benign gynecology practice and survey data reflect a change in providers' opinions of these trends. The authors of a study in the USA in 2018 [8] recommend urge great caution before recommending morcellation procedures for post-menopausal women and recommend endometrial biopsy in any woman over 35 years with irregular bleeding and presumed leiomyomas. The importance of considering leiomyosarcoma in imaging findings reporting a large vascular mass and/or necrosis is discussed. Closer a woman is toward her menopause, the doctor should advice for hysterectomy instead of myomectomy [7-12].

Although as fertility is the main purpose a myomectomy, a caveat has to made, regarding the risk of uterine rupture. Post myomectomy the risk is extremely low but appears to be higher after laparoscopy when compared to open approach [10].

LITIGATION IN GYNECOLOGY

Across the world, obstetrics and gynecology has a reputation of litigious specialization. Insurance company have different prices for obstetrics and gynecology doctors for their defence cover due to the high litigations costs [13]. In minimally invasive surgery these happens when an internal injury or a delay in recognizing a complication happen. Mean-

while, in laparoscopy, patient improvement should be by hours and not by days. A clean and detailed record in patient notes is most helpful [14,15].

CONCLUSIONS

Uterine leiomyoma can significantly influence the wellbeing as well as the reproductive capacity of women. Although medical treatment do exist (GnRh analogue) the best option in most cases is surgery, through a minimally invasive way.

As myomectomy can be unpredictable is clear that each minimally invasive surgery unit needs a standard protocol. This review makes it easier for doctors to learn and adopt in a rational way the pro-

cedure making it safer for both surgeons and patients. Is recommended urge great caution before recommending morcellation procedures for post-menopausal women and recommend endometrial biopsy in any woman over 35 years with irregular bleeding and presumed leiomyomas.

Economically the overall expense is higher for laparoscopic myomectomy than for open myomectomy; however, the laparoscopic approach has numerous advantages for patients, including shorter operative time, less blood loss, and a more rapid recovery time. All these criteria should be considered in choosing the best minimally invasive approach for myomectomy.

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