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Case Report

Laparoscopic myomectomy in a female patient with voluminous uterine fibroid and metrorrhagia after preoperative treatment with gonadotropin-releasing hormone agonist

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Abstract. Uterine fibroids are the most frequent benign smooth muscle tumors of the uterus. Women with symptomatic fibroids who want to preserve their reproductive function can be treated by hysteroscopic resection or myomectomy depending on size and type of fibroids according to the FIGO classification. Treatment with gonadotropin releasing hormone analogues for preoperative preparation is an effective method with minor side effects. The aim of this article is to present the therapeutic strategy in a female patient with voluminous fibroid who developed metrorrhagia after preoperative preparation with gonadotropin releasing hormone agonist.

Key Words: fibroma, laparoscopic myomectomy, GnRH agonist, metrorrhagia.

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Introduction

Uterine fibroids, also known as uterine leiomyomas, are the most frequent benign smooth muscle tumors of the uterus. Depending on current literature data, the incidence of these tumors varies to up to 70-80% of women of reproductive age (Marshall LM et al 1997). Approximately a third of them will become symptomatic in their evolution (Monleón J et al 2018).

The main symptoms of uterine fibroids are uterine bleeding, pelvic pain, sterility and miscarriage (Sohn et al 2018). The symptomatology of these tumor lesions is influenced by the size and the location where they develop in relation to the anatomical structure of the uterus (Lewis et al 2018). The FIGO classification for uterine fibroids, which is currently used, depends on the location of fibroids in the uterus (Munro et al 2010).

The presence of uterine fibroids is the most common pathology that requires hysterectomy (Martinez et al 2018). In addition to hysterectomy, women who want to preserve their reproductive function undergo hysteroscopic resection or laparoscopic or open myomectomy. The choice of one of these surgical techniques is made depending on size and type of fibroids according to the FIGO classification (Saccardi et al 2014).

At present, there are several types of preoperative treatments for uterine fibroid surgery, treatments that aim at reducing the size of leiomyomas, reducing intraoperative blood loss and the difficulty of surgery (Lewis et al 2018). The use of gonadotropin releasing hormone (GnRH) analogues is an effective method for the treatment of uterine fibroids with minor side effects for preoperative preparation. In rare cases, beyond all known side effects, abnormal uterine bleeding may occur after preoperative preparation using GnRH agonists.

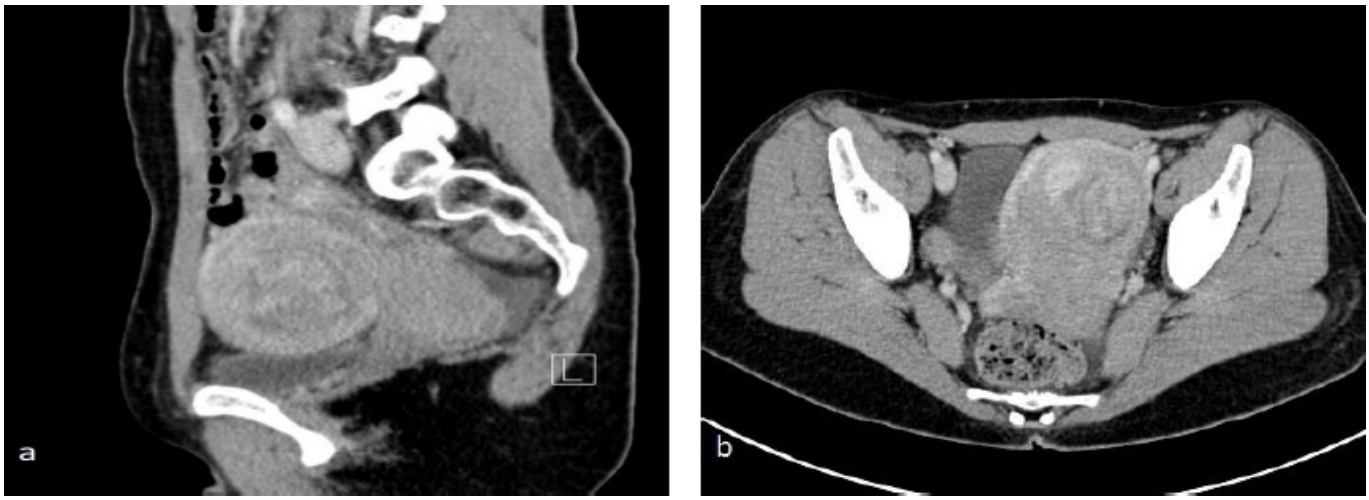
Case report

We present the case of a 35-year-old nulliparous female patient with 6-year documented sterility. The patient has a 2-years history of paroxysmal supraventricular tachycardia, superficial venous insufficiency of lower extremities (CEAP stage 3) and a history of superficial thrombophlebitis. The patient is treated with oral calcium channel blockers and is periodically evaluated by the cardiologist.

The patient has been under gynecological observation for 6 years, diagnosed with sterility, the only cause being a 5/4/4 cm uterine fibroid (FIGO type 4), at the anterior corporeal level, slightly eccentric towards the left broad ligament. The patient refuses to undergo surgical treatment or to receive blood transfusion. Periodic imaging tests show that the lesion slowly grows in size to 7/5/5 cm and presses on the bladder.

Minimally invasive conventional surgical treatment - laparoscopic myomectomy - is again indicated. The patient accepts and starts preoperative treatment with GnRH agonists - triptorelin acetate.

Fig. 1 Computed tomography scan: a. sagittal view; b. axial view



Evolution is favorable, the patient being asymptomatic and scheduled for surgery (Fig. 1).

Seven days after starting treatment, the patient shows uterine bleeding with clots and a moderate amount of fresh blood.

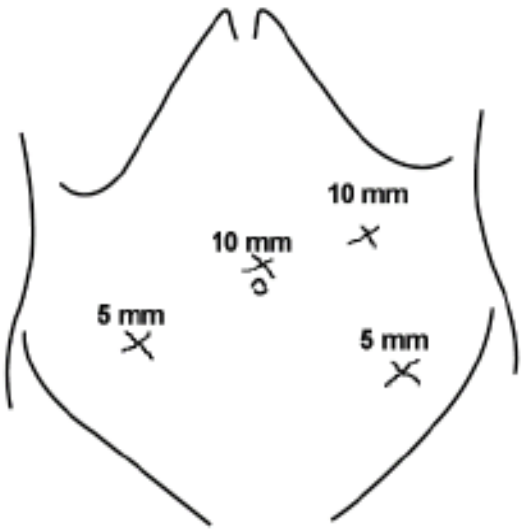
The intervention is delayed and the daily evolution of metrorrhagia is observed. Three days after onset, the bleeding persists, with the same appearance and volume. There are no repercussions on the patient's volemic balance, and hemoglobin levels is 7.5 g/dl.

Considering the present situation we decided to perform surgical treatment - laparoscopic myomectomy. The patient was subjected to preoperative cardiac evaluation, with measures taken to prevent thromboembolic disease, and a urethral probe was mounted. The surgical intervention was performed under general anesthesia with orotracheal intubation.

The patient was placed in the dorsal decubitus position, in the Trendelenburg position, with the upper limbs near the body, surgeon one on the right side of the patient, surgeon two on the left side.

Instruments used: 5 mm atraumatic forceps, 10 mm laparoscopic claw grasper, 5 mm bipolar Maryland forceps, 5 mm laparoscopic harmonic shears, 10 mm 30° telescope, power morcellator, 5 mm laparoscopic suction irrigation cannula .

Fig. 2 Size and position of trocar placement



Surgical technique

The trocars were positioned as in figure 2.

During exploration, following the cranial mobilization from the pelvis of the epiploon, small bowel and partially of the sigma, the uterus was observed, enlarged, slightly asymmetrical and with an anterior wall that compresses the bladder. In the pelvis, there was a hematic fluid, most probably drained by the fallopian tubes from the uterine cavity (Fig. 3). The rest of the pelvic organs show normal relationships.

We performed a longitudinal incision, median on the anterior side of the uterus, cutting the myometrium with the harmonic shears up to the cleavage plane between the fibroma and the myometrium. We gradually dissected the leiomyoma in the cleavage plane, sealing and cutting the vascular pedicles. Applying progressive traction on the tumor using prehension with the 10 mm laparoscopic claw grasper, we gradually enucleated the fibroma without damaging the endometrium. Haemostasis at the level of the myometrium in the remaining cavity was completed with a bipolar forceps (Fig. 3).

The integrity of the uterus was restored with a two-layer suture, with separate 2/0 vicryl threads. Due to the tension in the suture of the myometrium we avoided the loosening of the thread by prehension and blocking of the first knot (Fig. 4b). Control of hemostasis. We extracted the fibroma through the 10 mm trocar using a power morcellator. External drainage of the pouch of Douglas was done using a perforated tube.

The amount of intraoperative blood loss was 20 ml. The postoperative evolution was favorable, with the resumption of transit 12 hours after surgery, the suppression of the drainage 24 hours after surgery and discharge on day 2 after surgery. Intermenstrual bleeding recurred on post-operative day 2.

Discussion

Surgical treatment of symptomatic uterine leiomyomas in patients who want to maintain the reproductive function or refuse hysterectomy involves either open or laparoscopic abdominal myomectomy or the hysteroscopic approach. At present, there are no standardized criteria for choosing one of these methods. Lesion approach is based on a number of characteristics: number, size and location of leiomyomas, age and desire to have

Fig. 3 Intraoperative details: a. A Uterus, B Intraperitoneal blood collection; b. Myometrial incision c. Dissection in the cleavage plane; c. Sealing and sectioning the vascular pedicles

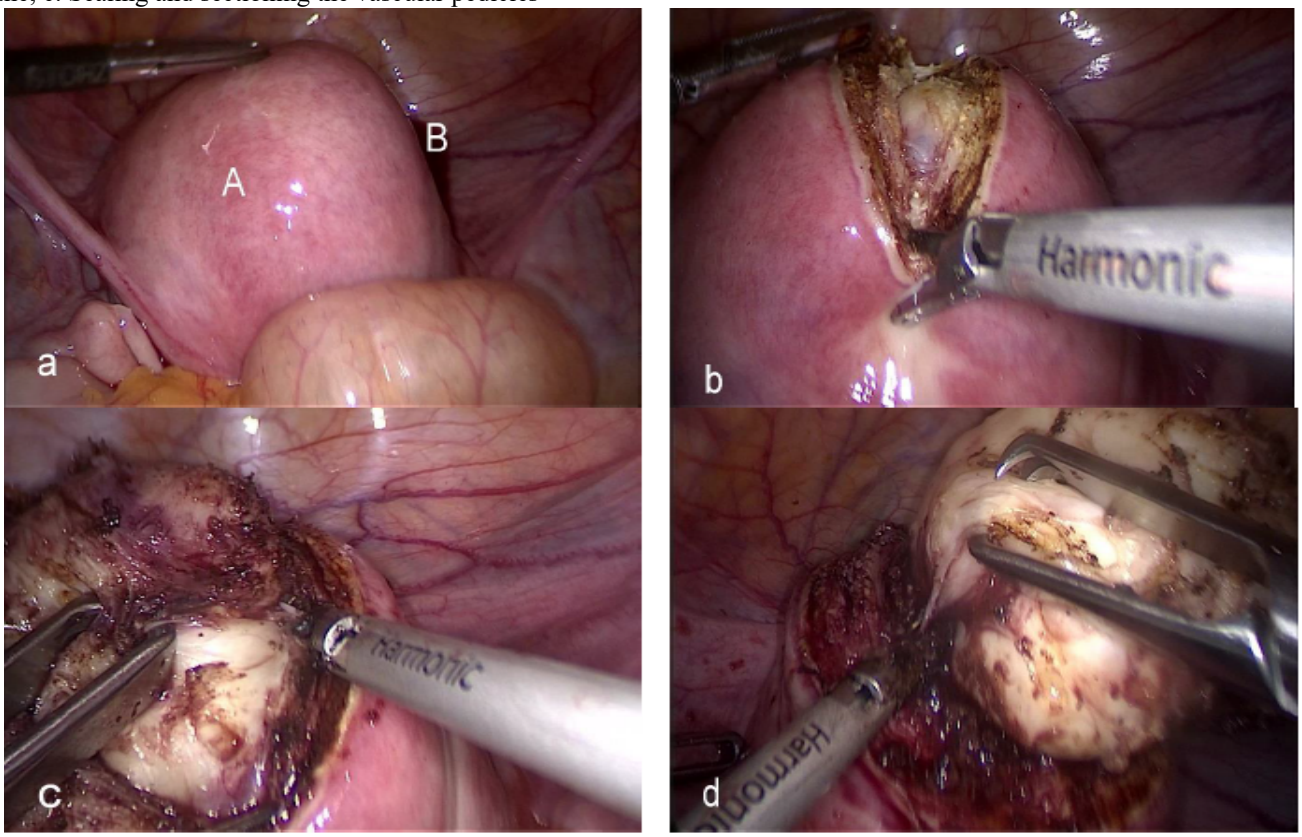
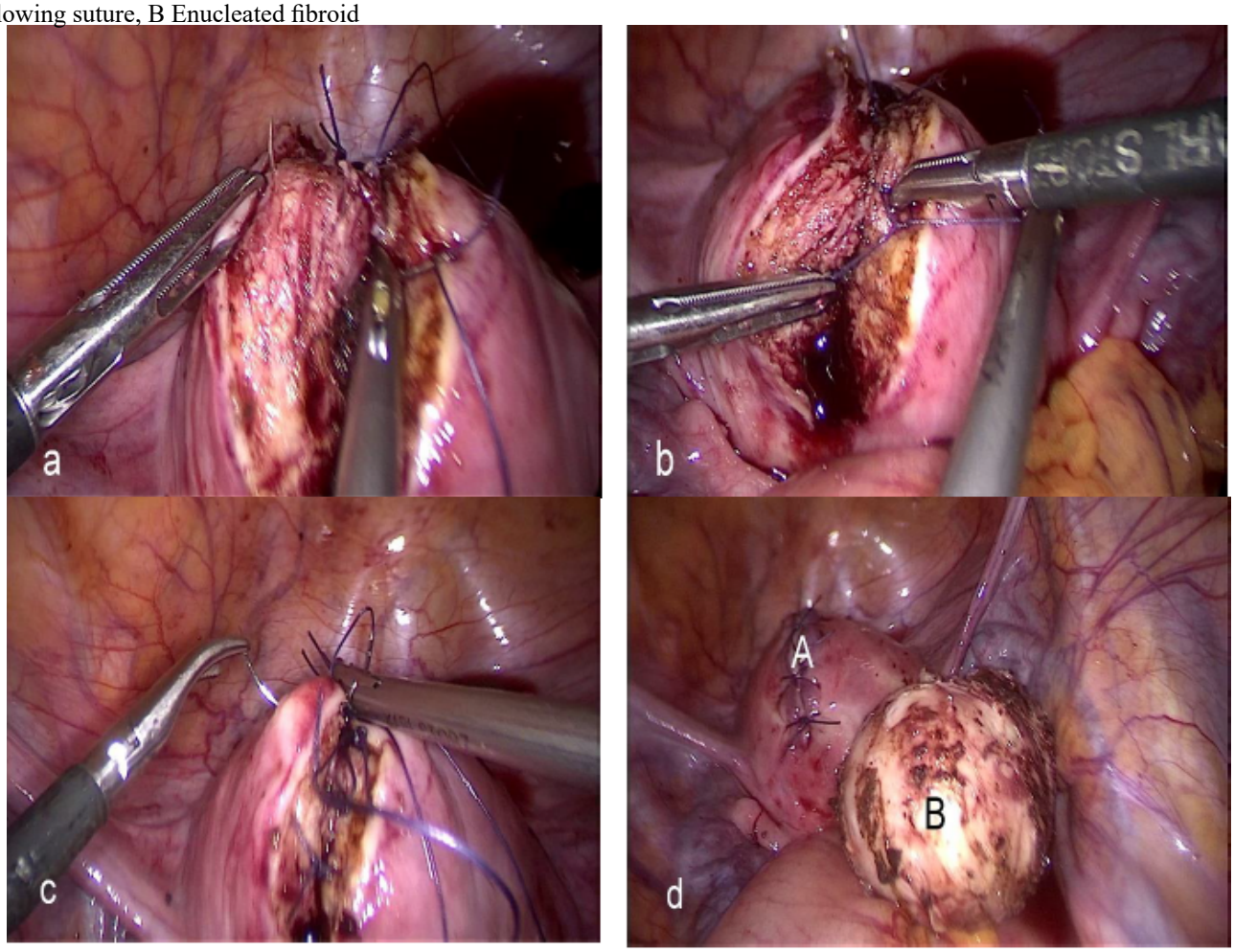


Fig. 4 Integrity of the uterus restored with a two-layer suture: a, b: First layer; c. Second layer; d. A Final appearance of the uterus following suture, B Enucleated fibroid



children, history of pelvic surgery or surgery in the lower abdomen and, last but not least, the experience of the surgical team (Martinez et al 2018).

Laproscopic myomectomy for selected cases brings about all the advantages of a minimally invasive intervention: reduced surgical trauma, rapid resumption of intestinal transit, rapid mobilization and social reintegration, reduced postoperative adherence syndrome (Saccardi et al 2014). The risk of conversion to laparotomy, the risk of perioperative bleeding, the longer operating time especially for FIGO 4 - 6 fibroids and the learning curve of the surgical team represent the limitations of the method (Saccardi et al 2014; Leung et al 2018).

Treatment with GnRH agonists for preoperative preparation is effective in most cases. The occurrence of post-therapeutic metrorrhagia in the present patient was a particular situation: treatment with high dose estrogen for haemostatic purposes may be prompted by the risk of thromboembolic disease in a patient with a pathological history as mentioned above. The further delay of surgical treatment to achieve a spontaneous hemostasis would have involved additional risks associated with aggravation of anemic syndrome in the context of the patient's refusal to accept transfusion in any situation.

Conclusion

The laparoscopic approach of uterine fibroids is the preferred intervention for leiomyomas, which according to their size and position may require transabdominal myomectomy. Although laparoscopic criteria for this pathology are not standardized, laparoscopic treatment for acute complications such as metrorrhagia induced by preoperative treatment is a safe solution with excellent results in an experienced surgery center.

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