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Surgical treatment: Myomectomy and hysterectomy; Endoscopy: A major advancement

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Uterine fibroids affect 25% of women worldwide. Symptomatic women can be treated by either medical or surgical treatment. Development of endoscopic surgery has widely changed the management of myoma. Currently, although laparoscopic or laparoscopic robot-assisted myomectomies or hysterectomies are common, there has been no consensual guideline concerning the surgical techniques, operative route, and usefulness of preoperative treatment. Hysteroscopy management is a major advancement avoiding invasive surgery. This study deals with a literature review concerning surgical management of fibroids.

Introduction

Uterine fibroids affect 25% of women worldwide. Fibroids are the most common benign uterine tumors in women of reproductive age [1]. Surgical or medical treatment can be proposed for

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symptomatic (constipation, pollakiuria, pelvic discomfort or pressure, metrorrhagia) and/or infertile women. Depending on the patient and fibroid characteristics, after medical treatment failure, surgical treatment such as myomectomy and hysterectomy can be proposed. Surgical treatment for fibroids involved hysterectomy for women who have completed childbearing and myomectomy for those who want to preserve their uterus or desire future pregnancy. Apparition of laparoscopic and hysteroscopic surgery allowed development of gynecologic surgery. The first complete laparoscopic hysterectomy for fibroids treatment was performed by the American gynecologist Harry Reich, removing the uterus through a colpotomy and closing laparoscopically [2]. The first laparoscopic myomectomy was reported by Semm in 1979 [3]. Neuwirth et al. described the first submucus fibroids hysteroscopic excision [3]. Currently, minimally invasive techniques have become common for most surgical gynecologic treatments. The aim of this study was to describe each endoscopic technique.

Laparoscopic myomectomy

Indication

Surgical treatment can be proposed for symptomatic (constipation, pollakiuria, pelvic discomfort or pressure, metrorrhagia) and/or infertile women. Laparoscopic myomectomy is useful for interstitial and subserosal fibroma. On the basis of the country guidelines, indications of laparoscopic myomectomy depend on fibroid characteristics (number, size, etc.) and the surgeon's experience. As an example, French College of Obstetrics and Gynaecology concluded that myomectomy was feasible and reproducible by laparoscopy when the number of fibroids was low (<3) and their diameter was <8 cm [4]. In case of surgery for symptoms, age of the patient has also to be taken into account because of the risk of recurrence. Few studies focused on the risk of recurrence after myomectomy [5]. In a retrospective study of 224 patients with a mean follow-up of 108 months, Radosa et al. [5] observed 75 (33.4%) recurrences. They founded that, women aged 30–40 years, with more than one fibroid at the time of the surgery, have high symptomatic recurrence (31.25% and 38.71%, respectively; both $p < 0.01$) [5]. Three studies analyzed the rationale of performing myomectomy in symptomatic women >40 and 45 years of age [6–8]. Kim et al. [6], including 92 patients >45 years of age, with a mean follow-up of 30.5 months, found a 17.1% cumulative recurrence rate using transvaginal ultrasonography. Among them, only one patient (1.1%) underwent hysterectomy because of symptomatic recurrence. Authors concluded that myomectomy would be an option for women of age >45 with a low rate of surgical reintervention [6]. Patients have to be informed about the risk of recurrence, irrespective of their age. Doridot et al. [9] found that the cumulative risk of fibroid recurrence after laparoscopic myomectomy was 12.7% at 2 years and 16.7% at 5 years. However the reoperative rate was 4% [9].

Preoperative treatment

Intervention to reduce fibroid size and increase preoperative hemoglobin

Different preoperative treatments existed. Until ulipristal acetate (UPA) apparition, the most common preoperative treatment was gonadotropin-releasing hormone (GnRH) analog therapy. In a Cochrane meta-analysis, Lethaby et al. [10] observed that administration of GnRH analog therapy before surgery significantly improved pre- and postoperative hemoglobin and reduced fibroid volume. However, adverse events such as menopausal symptoms were more likely during GnRH analog therapy. According to meta-analysis results, authors recommended the use of GnRH analogs for 3–4 months before fibroid surgery. Donnez et al. [11] in a comparative randomized control trial (RCT) evaluated the effect of UPA on fibroids [11]. They showed that an intake of 5 or 10 mg of UPA for 13 weeks was more efficient than placebo in terms of reducing bleeding symptoms and fibroid size. However, they did not show if this therapy changed the initially predicted operative route. Further studies showed that long-term intermittent UPA therapy (18 months meaning four courses of 3 months) could be prescribed to maximize the effect of UPA on fibroid size. The effect of UPA on surgical data had not been yet evaluated.

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