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Uerine myomata: Organ-preserving surgery☆

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Most women with uterine myoma are asymptomatic and do not require any treatment. However, myoma can also lead to menorrhagia, pressure symptoms, abdominal pain, and infertility. Management of symptomatic women with myoma depends on several factors, including age, desire for fertility, and myoma characteristics. Uterine myoma that distorts the uterine cavity, either submucous myoma or intramural myoma, with a submucous component reduces fertility, and is associated with increased uterine bleeding. The treatment of choice is hysteroscopic myomectomy or abdominal myomectomy, preferably by laparoscopy. Robotic assistance in laparoscopic myomectomy leads to outcomes similar to conventional laparoscopic myomectomy. However, it is expensive. Newer techniques include either laparoscopic or transcervical radiofrequency thermal ablation.

Introduction

About 25% of women above 35 years of age have uterine myoma and most of them are asymptomatic. Symptoms are experienced by only a quarter of women with myoma. The main symptoms are menorrhagia, pressure symptoms, and abdominal pain. Infertility or repeated pregnancy loss could be experienced by women with submucous myoma or intramural myoma that distorts the uterine cavity.

☆ Theme of the journal: Avoiding Complications in Gynaecological minimal access surgery.

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The relationship between myoma and the endometrium is the key point in the management of symptomatic women with myoma [1]. For example, myomectomy for submucous myoma or laparoscopic myomectomy for intramural myoma with submucous component will increase the subsequent live birth rate [2]. The recent classification of the Federation International of Gynecology and Obstetrics clearly identified the type of fibroids as they are defined in terms of their relationship with the endometrium and the uterine serosa [3].

Management of women with uterine myoma depends on several factors, including age, desire for fertility, symptoms, and size and location of the myoma. Several treatment methods are available for uterine myoma such as expectant management, medical treatment, uterine artery embolization, excision or ablation of the myoma, and hysterectomy. Nonsurgical treatment of uterine myoma and hysterectomy are beyond the scope of this study.

Preoperative

Careful history taking, physical examination, and pelvic imaging are important. In most cases, a thorough transvaginal ultrasound with or without abdominal scan is usually sufficient. In general, symptoms caused by fibroids are subjective. It is noteworthy that other conditions such as endometriosis or adenomyosis could coexist with myoma [4,5].

Management of the myoma without considering such coexistence might lead to treatment failure. Before the commencement of surgical approach, management of other alternative uterine myoma, including the risks and implications of each treatment, should be discussed.

Prior to hysteroscopic myomectomy, long-acting gonadotropin-releasing hormone agonist (GnRHa) was regularly administered 4 weeks before the start of the procedure. It reduces the thickness of the endometrium, making it visible. It is also associated with decreased fluid absorption [6]. GnRHa was used thrice monthly for 4 months before surgery for submucous myoma of $\geq$3 cm, which completely removes myoma in a single setting. In order to allow laparoscopic approach, the same regime is used for a larger uterus of >18 gestational weeks. Thrice-monthly administration of one dose of GnRHa results in a 30% shrinkage of the myoma volume [7].

Ulipristal acetate, a selective progesterone receptor modulator, can also be used. New studies to determine whether administration of ulipristal acetate for 3 months consistently reduces the size of the myoma are still needed. The use of GnRHa or ulipristal acetate can result in myoma degeneration, which makes the myoma soft. Manipulation and enucleation are more difficult for soft myoma than solid myoma.

Submucous myoma

Type 0, 1, and 2 myomas (submucous myoma) are associated with infertility, miscarriages, and menorrhagia. Hysteroscopic myomectomy is the best surgical treatment for type 0 and 1 myomas. Although in most cases, type 2 myoma can be removed by hysteroscopy, large type 2 myoma of >3 cm that occupies the entire myometrium is better removed by laparoscopy, thereby completely removing the myoma. In women with repeated pregnancy loss, myomectomy decreases the miscarriage rate and increases the live birth rate from 23% to 52% [8].

Hysteroscopic resection of type 2 myoma could be challenging and associated with a longer operating time. The type of myoma and the duration of surgery seem to be the most important factors influencing fluid deficit [9]. In order to improve resection of myoma, a hysteroscopic morcellator has been developed, which automatically and rapidly removes tissue fragments during the resection and improves visualization during the entire the procedure [10].

Intramural myoma

The need and results of myomectomy in infertile women with intramural myoma and no distortion of the uterine cavity remain controversial. In general, removal of this type of myoma does not improve the outcome of pregnancy [2].

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