

MODERN APPROACHES TO THE TREATMENT OF UTERINE FIBROIDS: CONSERVATIVE THERAPY AND MINIMALLY INVASIVE SURGERY

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Abstract: Uterine fibroids are one of the most common benign tumor conditions in women of reproductive age. Modern treatment trends focus on a personalized approach, taking into account age, reproductive plans, and symptom severity. This article reviews current conservative and surgical treatment methods for uterine fibroids, including pharmacological therapy, uterine artery embolization, and laparoscopic interventions.

Keywords: uterine fibroids, conservative therapy, minimally invasive surgery, embolization, laparoscopy

Uterine fibroids (leiomyomas) are hormone-dependent benign tumors arising from the smooth muscle cells of the myometrium. According to the World Health Organization, fibroids occur in 20–40% of women of reproductive age, with this figure reaching 60% after the age of 35.

Clinical manifestations range from asymptomatic cases to heavy menstrual bleeding, lower abdominal pain, infertility, and urinary disturbances. Modern treatment approaches require balancing preservation of fertility with therapeutic effectiveness.

Uterine fibroids are among the leading causes of gynecological hospitalizations and surgical interventions worldwide. Despite their benign nature, fibroid nodules can significantly reduce a woman's quality of life, causing anemia, chronic pelvic pain, and affecting reproductive function. Historically, hysterectomy — radical removal of the uterus — was the main treatment method, especially in women over 40. However, with advances in medical technology and reproductive medicine, organ and fertility preservation, particularly in younger women, has become a priority.

Current therapeutic strategies aim for minimal invasiveness, short rehabilitation periods, and individualized care. Conservative treatment methods, including hormonal medications, as well as minimally invasive surgical techniques such as laparoscopy, hysteroscopy, and uterine artery embolization, are increasingly used in clinical practice.

The relevance of this topic lies in the need to select an effective and gentle treatment method considering the patient's age, symptom severity, fibroid size and location, and the woman's desire to preserve fertility. Therefore, systematizing and analyzing modern approaches to uterine fibroid treatment holds high practical significance.

The aim of this article is to analyze current methods for treating uterine fibroids with an emphasis on conservative therapy and minimally invasive surgical interventions.

A review of domestic and international scientific literature (PubMed, Cochrane Library, UpToDate) from 2015 to 2024 was conducted, including 42 publications, clinical guidelines from

FIGO, ACOG, and the Russian Society of Obstetricians and Gynecologists. Data from 30 clinical cases of patients with uterine fibroids observed at City Clinical Hospital No. 1 and the Republican Center for Obstetrics and Gynecology (2021–2023) were also summarized.

The following parameters were evaluated:

- Size and location of fibroid nodules (according to FIGO classification);
- Patient's reproductive plans;
- Effectiveness of pharmacological treatments (including GnRH agonists and ulipristal acetate);
- Outcomes of laparoscopic and hysteroscopic interventions;
- Incidence of postoperative complications.

Based on the analysis of clinical data and publications, the following treatment approaches have been identified:

1. Conservative Therapy:

Method	Advantages	Disadvantages
GnRH Agonists	Rapid reduction of fibroid size	Side effects (menopause-like symptoms), reversible effect
Ulipristal Acetate (UPA)	Reduces symptoms and fibroid size	Limited use due to hepatotoxicity
Hormonal (LNG) IUDs	Decreases menstrual bleeding	Limited effect on fibroid size

2. Minimally Invasive Surgery:

- **Uterine Artery Embolization (UAE):**
 - Used in patients with symptomatic fibroids who do not plan pregnancy.
 - Symptoms improve in 85% of cases.
 - Possible short-term pain and risk of recurrence.
- **Laparoscopic Myomectomy:**
 - Optimal for women planning pregnancy.
 - Reduced trauma and short recovery period.
 - Requires high surgical skill.
- **Hysteroscopic Myomectomy:**
 - Used for submucosal fibroids (FIGO types 0–2).
 - Avoids open surgery.

Treatment choice depends on clinical presentation, age, fertility status, and patient preferences. Expectant management may be appropriate for asymptomatic cases. Hormonal therapy is effective for moderate symptoms, especially in perimenopausal women.

GnRH agonists are useful short-term as preoperative preparation but are limited for long-term use due to side effects. Ulipristal acetate was widely used previously, but its use is currently limited by EMA recommendations due to hepatotoxicity concerns.

Minimally invasive methods, especially UAE and laparoscopy, are effective alternatives to open surgery, preserving the uterus and minimizing recovery time. However, in cases of multiple fibroids or suspicion of sarcoma, laparotomy is preferred.

Modern treatment methods allow for individualized therapeutic approaches based on clinical conditions. Conservative therapy is effective for small fibroids with moderate symptoms. Minimally invasive surgery such as UAE and laparoscopic myomectomy demonstrates high efficacy and safety with proper patient selection.

Recommendations:

- Consider reproductive plans when selecting treatment method.
- Use GnRH analogs as preoperative preparation.
- Prefer hysteroscopy for submucosal fibroids.
- Use UAE in women without reproductive plans.
- Promote multidisciplinary approach in patient management.

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