COMPARATIVE ANALYSIS OF EFFICIENCY DIFFERENT CONSERVATIVE TREATMENT METHODS OF WOMEN WITH UTERINE FIBROID

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Actuality: The prevalence of uterine fibroids is 5-65% of women between 30 and 40 years old and 63% of these women undergo surgery. In Russia, up to 70% of women with uterine fibroids remove the organ, which leads to irreversible infertility, severe hormonal disorders. The identification of new links in the pathogenesis of uterine fibroids, a comprehensive assessment of risk factors for the development of the symptomatic course of the tumor process to make a prognosis of the disease, including the rapid growth of myoma nodes, will improve the methods of pathogenetic therapy, reduce the frequency of clinically active forms of fibroids and, thus, further reduce the operative the activity of treatment of this group of patients.

Keywords: menometrorrhagia, myomectomy, myometrium, progestin, uterine fibroids

Purpose of the study
- to study the effectiveness of therapy of the tumor process in the myometrium in women of different age groups.
- to evaluate the effectiveness of conservative therapy in the treatment of uterine fibroids
- to determine the optimal volumes of surgical interventions in patients with uterine myoma after conservative therapy

Object of study. Women of different age groups from 30 to 50 years old. The scope of the study.The main group of women is 80 people. Control group of 15 people. Retrospective material of 100 case histories, outpatient cards.

Research methods:- General clinical research- collection of anamnesis, complaints, general examination from the medical history, outpatient cards, instrumental research, laboratory research

Estimated results: risk factors for the development of clinically active forms of uterine fibroids in women of different age groups will be determined. Indications for staged conservative therapy in women with uterine fibroids of different age groups will be determined.Criteria for the optimal volume of surgical interventions after conservative therapy will be determined

Definition: A uterine fibroid is a benign, well-circumscribed encapsulated tumor originating from smooth muscle cells of the cervix or uterine body [1]. A tumor grows as a genetically abnormal clone of cells, originating from one primary cell, which, as a result of a mutation in it, acquired the ability of unregulated growth. The factors that trigger this mechanism have not been precisely established. It is believed that the initially transformed mutant cell transmits its properties only to its offspring; therefore, multiple fibroids in one uterus are not clonally connected, which also determines a different growth rate of myoma nodes [13].

Epidemiology: Myoma of the uterus, which is diagnosed in 35–70% (in every 4–5th) women of reproductive age (over 35 years old), essentially remains a surgical pathology and is recognized as the main cause of hysterectomy [1]. For uterine fibroids, up to 50-70% of surgical interventions are performed in gynecological hospitals, of which 60.9-95% are radical operations - amputation and extirpation of the uterus, leading to the loss of the woman's reproductive and menstrual function, pronounced disorders in the hypothalamic-pituitary ovarian system and significant vegetative-vascular and psychoemotional shifts [3]. Recent large-scale pathological and anatomical studies indicate that its prevalence can reach 85% (Tikhomirov A.L., 2010). In Russia, the frequency of hysterectomy among abdominal gynecological operations ranges from 32.5 to 38.2%, in Sweden - 38%, in the USA - 36%, in the UK - 25% (Adamyan L.V., Kulakov V.I., 1999). According to Tikhomirov A.L. (2010) the average age of patients undergoing hysterectomy is 40 ± 3.4 years [4]. The frequency of recurrence of fibroids or continued growth of small nodes is quite common and ranges from 9 to 55%. At the same time, many women, even those of the premenopausal period, not wanting to part with the uterus, categorically refuse radical surgery [6].

Pathogenesis: The causes of uterine fibroids are still a matter of debate. The controversial issues of the pathogenesis of uterine fibroids make the existence of different approaches to the choice of the method of therapeutic action equal. Therefore, the main methods of treatment were based on the blockade of ovarian function, this direction has become widespread with the introduction of gonadotropin-releasing hormone (GnRH) agonists into practice. However, to date, convincing data have been accumulated on the role of progesterone in the development of uterine fibroids. It was found that at the cellular level, progesterone causes the growth of fibroid cells, as evidenced by an increase in the expression of proliferation markers in the fibroid during the luteal phase of the menstrual cycle. Progesterone has both a direct effect on myometrial cells, binding to its specific receptors, and mediated through the expression of various growth factors. Based on this, progesterone receptor blockers are able to suppress the growth of uterine fibroids, as well as lead to its regression. Progesterone receptor ligands include progesterone or its analogs (gestagens), which make up the group of pure agonists, as well as pure antagonists.
There are different classifications depending on the direction of growth, morphological type of cells, size, number of nodes. In the direction of growth, interstitial myoma is distinguished, a subperitoneal node on a pedicle, on a broad base, an interstitial node growing into the uterine cavity, a submucosal node, a myoma emanating from the cervix (usually located retroperitoneally, the uterus is palpable at the upper pole of the tumor), multiple myoma uterus with a different number of nodes of unequal size and shape.

The most common topographic classification of submucous nodes:
• type 0 - completely in the uterine cavity (pedicle fibroids);
• type 1 - the largest diameter of the node is located in the uterine cavity;
• type 2 - the largest diameter of the node is located in the myometrium.
Topographic classification of subperitoneal nodes:
• type 0 - myomatous node on the pedicle, located completely in the abdominal cavity;
• type I - less than 50% of the volume of the myomatous node is located intermuscularly, most of it is located in the abdominal cavity;

Clinical classification: clinically insignificant fibroids or small fibroids; small multiple uterine fibroids; medium-sized uterine fibroids; multiple myoma of the uterus with an average size of the dominant node; large uterine fibroids; submucous uterine myoma; pedunculated uterine fibroids; complex uterine myoma. These forms of tumors differ not only in clinical manifestations, but also in

morphological and histochemical characteristics. In the submucosal nodes, the activity of metabolic processes is higher, which ensures their faster growth.

Histological classification of fibroids: simple; cellular; mitotically active; bizarre; with the presence of cellular atypism; lipoleiomyoma; epithelioid; hemorrhagic; vascular; myxoid; myoma with hematopoietic elements; fibroids with dystrophic changes; fibroids with proliferation of cellular elements. There have been many studies of risk factors predisposing to the appearance of uterine fibroids, which include age over 40 years, belonging to the Negroid race, heredity (the presence of uterine fibroids in first- and second-line relatives), and a history of no pregnancy. Factors that reduce the risk of uterine fibroids include more than 5 pregnancies, postmenopause, long-term use of oral contraceptives, medroxyprogesterone (Depo-Provera), smoking. Uterine fibroids have been confirmed by numerous cytogenetic and epidemiological data. In approximately 40% of women with uterine fibroids, abnormal karyotypes have been identified, and the involvement of two genes 12q15 and 6p21, which are expressed predominantly during embryonic development, has been identified and shown. The participation of these genes in cell differentiation, proliferation processes and neoplastic transformation of uterine myomas is possible. A study of 97 families (215 sick women and their first-degree relatives) showed that uterine fibroids are twice as common in women, whose family history has 2 or more recurrent cases of this disease among relatives. According to a number of studies, fibroids occur with a significantly higher frequency in African American women than in white American women, and this difference cannot be fully explained by differences in body size, socioeconomic status, and accessibility of medical care. After studying a large number of families with Reed's syndrome (a hereditary disease characterized by the appearance in women of multiple cutaneous leiomyomas with lesions of m. Arrector pili or uterine myomas, and often a combination of both types of tumors), the possible types of inheritance of predisposition to leiomyoma were discussed: autosomal dominant, autosomal -recessive or X-linked dominant. However, reliable evidence of any of these types of inheritance is still lacking [13].

Two types of cells are described - the putative precursors of fibroids: undifferentiated mesenchymal cells and smooth muscle cells of the myometrium. Undifferentiated mesenchymal cells, which proliferate in the uterus and differentiate into smooth muscle cells, undergo a long differentiation period from 12 to 31 weeks of antenatal life. In contrast to mesenchymal, the period of differentiation of cells of endodermal origin (bladder, digestive tract) is completed by the 14th week of pregnancy. Thus, the gradual and slow differentiation of fetal smooth muscle cells makes these cells more vulnerable to the effects of sex steroids, growth factors, cytokines and other factors from the mother. It is in these cells that neoplastic transformation can occur. These transformed cells, which are precursors of uterine fibroids, are constantly exposed to ovarian hormones after menarche. Traditionally, the main role in the pathogenesis of uterine fibroids is assigned to sex hormones, since the tumor arises and progresses in women of reproductive age, when the hormonal activity of the ovaries is high, and often regresses after menopause, when the level of sex hormones decreases sharply. It should be noted that literature data on the role of sex hormones in the emergence and development of uterine fibroids are very contradictory. However, numerous clinical and laboratory studies indicate that they are the main stimulant of the growth of leiomyoma.

Recently, many supporters of the progesterone theory have appeared, according to which progesterone plays a key role in initiating a cascade of molecular genetic disorders that arise during the development of a tumor, and together with estradiol is a "physiological" regulator of this process. Progesterone has a double effect on the growth of fibroids: it blocks the effect of estrogens by inhibiting the expression of their receptors and acts directly through the progesterone receptors. Biochemical and molecular studies have shown that myoma nodes contain 2 times more estrogen receptors, and 3 times more progesterone receptors in comparison with the surrounding

myometrium. Consequently, both groups of female sex hormones can play a significant role in the growth of formed fibroid nodes. Thus, due to the peculiarities of hormonal reception in the nodes of the uterine fibroids, it can arise and grow at a normal level of sex hormones in the blood. Myoma of the uterus can be considered as a kind of focus in the myometrium, which becomes hormone-dependent due to a change in its reception to sex hormones. It is believed that the main role in the emergence and development of fibroids belongs to the synergistic effect on the myometrium of estrogens, growth factors, cytokines, and immunoreactive insulin. It has now been established that the role of growth factors and cytokines in the pathogenesis of uterine fibroids is extremely important. These are biologically active compounds that, due to the autocrine-paracrine effect, change the proliferative activity of smooth muscle cells. Cell growth modulators that have a pronounced mitogenic effect on the myometrium and tissue of myomatous nodes are the following growth factors: insulin-like, epidermal family, vascular-endothelial, transforming. Their effects are varied and are determined by the duration of exposure, concentration, features of the expression of specific receptors in target cells, the presence of inhibitors and competing substances. Growth factors (EGF - epidural growth factor, 3-PDGFs - soluble 3-platelet growth factor, IGF - insulin-like growth factor, FGF - fibroblast growth factor) have a short-range, local effect and provide intercellular interaction. The extracellular matrix is a supramolecular complex that forms an extracellular environment that affects differentiation, proliferation, organization and attachment of cells.

organization and attachment of cells. Fibroids 1-2 mm in diameter can be nourished by diffusion from the surrounding myometrium, but larger fibroids need their own vessels. Neoangiogenesis is an important point in the pathogenesis of fibroids. The tumor is capable of producing factors that stimulate neoangiogenesis, which cause vascular ingrowth into the tumor focus by migration of endothelial cells from the tissue into it and their multiplication. Angiogenesis goes through the following stages: increase in endothelial permeability and destruction of the basement membrane; migration of endothelial cells; proliferation of endothelial cells; "maturation" of endothelial cells and vascular remodeling. The most studied activators of angiogenesis in the organs of the female reproductive system are selective estrogen receptor modulators, vascular endothelial growth factor (VEGF), FGF, angiogenin, EGF, PDGF, transforming growth factors α (TGF-α) and β (TGF-β), IGF -1, NO, interleukin-8, and nonspecific factors such as matrix metalloproteinases (MMPs). Inhibitors of neoangiogenesis are endostatin, soluble VEGF receptors (sVEGFR), thrombospondin, angiostatin (plasminogen fragment), vasostatin, restin, MMP inhibitors (TIMP-1, TIMP-2), adrenomedullin. All these factors have a mitogenic effect on endothelial cells and smooth muscle cells, promoting tumor growth in two ways: increasing their proliferative capacity and stimulating angiogenesis. VEGF expression is regulated directly by estrogens and progesterone. It stimulates the proliferation of vascular endothelial cells, increases capillary permeability for growth factors, proteins and other plasma nutrients. Expression of adrenomedullin, a peptide involved in angiogenesis, regulation of cell growth, differentiation and vasodilation of smooth muscle cells, correlates with vascular density and the index of endothelial cell proliferation in myoma, which indicates a high vascularization of myoma nodes.

In addition, changes in the body's immunological reactivity play a certain role in the pathogenesis of uterine fibroids, especially in the presence of chronic foci of infection. The point of application of the damaging factor is the vascular wall. The triggering mechanism for this reaction is nonspecific. The immune system is a system that controls the processes of regeneration, cell differentiation, tissue growth (in particular, myometrium), and most importantly, the immune system exercises strict control over the two main processes of cell life in the body: proliferation and apoptosis. As a result of imbalance in the processes of proliferation and apoptosis in the myometrium, focal (local) hyperplasia of the myometrium occurs. This is confirmed by the increased expression of the protooncogene bcl-2 (apoptosis inhibition factor) and Ki-67 (a marker of cell proliferation) in the leiomyoma. The

stimulating effect of progesterone and the inhibitory effect of estradiol on the expression of bcl-2 in myomatous nodes were established. Thus, the significant expression of bcl-2 in myoma cells compared to normal myometrium may be one of the molecular mechanisms contributing to enhanced tumor growth due to inhibition of apoptosis. According to one hypothesis, the occurrence of uterine fibroids resembles the reaction of cells to an adverse effect. It is assumed that this is the result of the process of pathological regeneration of the damaged, in particular inflammatory infiltrates (intrauterine interventions, genital infections), myometrium, and the risk of adverse effects is higher in women of childbearing age. During the luteal phase of the menstrual cycle, a maximum of mitosis is noted in smooth muscle cells, which contributes to an increase in proliferative activity for the onset of a possible pregnancy. During menstruation and in the follicular phase, the proliferative activity of smooth muscle cells sharply decreases. It is believed that the contraction of the myometrium, which ensures the cessation of menstrual bleeding, may contribute to ischemia and hypoxia of smooth muscle cells. It is in these cells that somatic mutations can occur during repetitive menstrual cycles in the absence or rare pregnancies. Smooth muscle cells respond to ischemia by increasing cell proliferation and production of extracellular matrix, in which growth factors and cytokines play an important role. Thus, fibroids can develop from a single cell of the smooth muscle elements of the myometrium through mutations and interactions of sex steroids, growth factors and cytokines during repetitive menstrual cycles. So, the main factors that presumably play a role in the appearance and growth of uterine fibroids are the interaction of estrogens and progesterones, the receptor apparatus of the fibroid node itself, growth factors, cytokines, the immune system, and features of the genome. The clinical manifestations of uterine fibroids are fairly well studied and typical.

A third of all fibroids are completely asymptomatic and are detected by chance during other examinations. Women complain of heavy menstruation, leading to anemization, deterioration of the general condition, intermenstrual bleeding, infertility or habitual loss of pregnancy, dysfunction of the pelvic organs. Menstrual bleeding increases due to a decrease in the contractility of the myometrium, due to the difference in the contractility of normal myocytes and fibroid cells; an increase in the surface of the endometrium due to submucous nodes; an increase in the total mass and thickness of the myometrium above the surface of intramural nodes; good vascularization of both the nodes themselves and the adjacent myometrium. Intermenstrual bleeding is characteristic of the submucous location of the nodes. In some cases (about 10% according to Yalegroup), uterine fibroids are the cause of infertility. A multicenter study was conducted involving 347 women with uterine fibroids. It was found that uterine fibroids with submucous growth of type 0-2 nodes lead to impaired implantation and habitual loss of pregnancy, while after removal of fibroid nodes, fertility is restored. Until the end, the mechanism and causes of infertility have not been established, although there is an opinion that this is due not only to deformation of the uterine cavity, but also to immunological reasons - growth factors HOXA-10,11 and inflammatory mediators TGF-β. Dysfunctions of the pelvic organs include urological manifestations, compression of the bladder, pain syndrome, which should not be confused with pain in other diseases of the pelvic organs (inflammation, endometriosis, cysts, bowel disease) and abdominal cavity. Patients also often report sexual dysfunctions (dyspareunia, decreased libido).

Clinic: Features of the clinical course of uterine fibroids and the prognosis of the disease are determined, first of all, by the variant of its development, the localization of the myomatous nodes and the patient's age. In most patients, this disease is accompanied by various symptoms, such as: menometrorrhagia, pain syndrome, dysfunction of neighboring organs, infertility and miscarriage. Only a third of women have uterine fibroids asymptomatic. The presence of uterine fibroids at reproductive age can also complicate the course of the onset of pregnancy. This is due to the fact that the peculiarities of the course of pregnancy when it is combined with uterine fibroids include: the

threat of termination at different periods of gestation, fetoplacental insufficiency and fetal growth retardation syndrome, rapid tumor growth, malnutrition and necrosis of the myoma node, placental abruption, especially in those cases when it is partially located in the area of the myomatous node, incorrect position and presentation of the fetus. Childbirth in pregnant women with uterine fibroids also proceeds with complications (untimely outpouring of water, abnormalities of uterine contractile activity, fetal distress, dense attachment of the placenta, hypotonic bleeding, subinvolution of the uterus in the postpartum period, etc.) [6]. In women of late reproductive age, uterine fibroids, on the one hand, can cause infertility and miscarriage, and on the other, cause postpartum hemorrhage, requiring surgical methods of hemostasis, up to extirpation of the uterus [7].

Diagnostics: The diagnosis of uterine fibroids is currently not difficult. Typical complaints of heavy, prolonged menstruation with a deterioration in the general condition, constant or periodic pain in the lower abdomen of a pulling character, discomfort during sexual intercourse, frequent urination suggest a preliminary diagnosis of uterine fibroids. Often, uterine fibroids are asymptomatic. A bimanual vaginal examination during a routine examination by a gynecologist makes it possible to suspect the presence of myomatous nodes. At the same time, palpation of the uterus is increased in size, its surface is deformed, tuberous, large myomatous nodes are clearly palpable. A recognized and affordable method for diagnosing uterine fibroids is an ultrasound scan of the pelvic organs. For more accurate visualization of nodes, it is necessary to use two sensors: transabdominal and transvaginal. Echography and Doppler ultrasonography of the uterine vessels, in addition to ultrasound examination, make it possible to assess the state of the myometrium, vascularization of myomatous nodes, and the dynamics of their growth. The sensitivity of transvaginal ultrasound in the diagnosis of uterine fibroids is 96.1%, and the specificity is 83.3%. Some changes in the node, such as necrosis and degeneration with the formation of cysts, are visualized as hypoechoic or anechoic areas in the area of the node with distal enhancement. The area of hyalinosis in the myoma node is defined as a hypoechoic inclusion without the effect of bright hyperechoic inclusions forming a shadow. In the postoperative period, ultrasound allows you to observe a decrease in the volume of the uterus in dynamics.

Treatment: The choice of a method for treating uterine fibroids is also determined by many factors - the patient's age, the absence or presence of children, the shape and rate of tumor growth.
Therapeutic measures can be conditionally subdivided into conservative (drug) therapy and surgical treatment. Drug therapy involves the use of the following funds.

1. Agonists of gonadotropin-releasing hormone (GnRH-a). They are prescribed as a means of preoperative preparation for large fibroids for 3-4 months to reduce the size of both fibroids and uterine nodes, as well as to normalize hemoglobin levels in women with chronic post-hemorrhagic anemia (against the background of heavy menstrual bleeding). The use of this group of drugs can make it possible to perform myomectomy in patients with large fibroids wishing to preserve and realize generative function in the future.
2. Progestins (levonorgestrel-intrauterine systems). This group of drugs is very limited in use, does not radically change the course of the disease, has contraindications for use (deformation of the uterine cavity). The use of progestins for the treatment of uterine fibroids remains controversial.
3. Antiprogestins. Selective progesterone receptor modulator - mifepristone 5 mg per day. In clinical trials, the use of this group has not yielded highly significant results. Only 50% of myomas decreased in size at a dosage of 5 mg, and an increase in the dose caused the development of endometrial hyperplasia. The use of antiprogestins in the treatment of uterine fibroids remains under study and debate.

4. Aromatase inhibitors. They inhibit the physiological conversion of androgens to estrogens in the ovaries, as well as extragonadal estrogen synthesis. The effect of the use in clinical trials has surpassed that of the use of GnRH-a.
5. Selective synthetic modulator of progesterone receptors of ulipristal acetate, characterized by tissue-specific partial antiprogesterone effect. Ulipristal acetate has a direct effect on the endometrium. If the daily intake of the drug begins with a dose of 5 mg, during the menstrual cycle in most women (including patients with fibroids) the next menstruation ends, and the next does not occur until treatment is stopped. When the drug is stopped, the menstrual cycle usually resumes within 4 weeks. The direct effect on the endometrium leads to specific for this class of drugs changes in the endometrium associated with a modulator of progesterone receptors (Progesterone Receptor Modulator Associated Endometrial Changes (PAEC)). As a rule, histological changes are represented by inactive and weakly proliferating epithelium, which is accompanied by asymmetry in the growth of the stroma and epithelium, pronounced cystic enlargement of the glands with mixed estrogenic (mitotic) and progestogenic (secretory) effects on the epithelium. All these changes are reversible and disappear after stopping treatment, they should not be mistaken for endometrial hyperplasia. It should be borne in mind that there are a number of contraindications to the use of hormonal drugs: individual intolerance, allergic reactions, thromboembolism, history of thrombophlebitis, varicose veins, hypertension, surgery for malignant tumors of any localization in history. A method that can be regarded as intermediate between conservative and operative is uterine artery embolization (UAE). When uterine vessels are embolized, the blood supply to the myomatous node is interrupted, which leads to a decrease in the size of myoma and clinical manifestations. However, it should be noted that this method of treatment is not suitable for all patients and has contraindications. This operation is performed in a specially equipped X-ray operating room equipped with an angiographic apparatus. A puncture of the right common femoral artery is performed, a minor skin puncture with a diameter of 1.5 mm is made, thanks to which a thin catheter (1.2 mm) can be inserted into the uterine artery under the control of X-ray television. The next stage is the introduction of microscopic particles of the embolization drug through the catheter, which block the vessels feeding the myoma. Particles subjected to embolization, according to the technique, are injected first into the right and then into the left uterine artery. The effectiveness of UAE can be judged by the process of symptom normalization. It should be noted that this type of treatment is indicated for women who are not going to realize the reproductive function. Indications for surgical treatment are uterine size> 12 weeks of gestation, submucous node location, centripetal fibroid growth, combination of uterine fibroids with ovarian tumors, fibroid growth, circulatory disturbance in the node, suspected sarcomatosis, menorrhagia, menometrorrhagia causing anemia, desire to restore reproductive function ... When choosing a method of treatment, individual characteristics, clinical manifestations of the disease and the interests of each patient are taken into account. Uterine fibroids under the influence of hormonal drugs can only decrease in size, clinical manifestations decrease, but the tumor itself will not completely disappear. In some cases, conservative therapy is advisable as a preparation for surgical treatment. Reducing the size of the node allows you to perform the operation by laparoscopic access with the least trauma and preservation of reproductive function. Drug therapy can also be indicated for patients with severe chronic anemia to relieve the main clinical manifestations - menorrhagia, menometrorrhagia. It will be possible to correct blood hemoglobin and perform planned surgical treatment with a decrease in all kinds of risks, complications, and preservation of reproductive function. Still, the main method of treatment of uterine fibroids until now is

surgical. Factors influencing the decision on surgical treatment of patients with uterine myoma.

Bleeding. The most common complaint of patients is hyperpolymenorrhea. Without menstrual irregularities, anemia can be caused by the deposition of blood in the uterus enlarged by myomatous nodes. When deciding whether an operation is necessary, one should take into account not just the fact of anemia, but the degree of its severity (II or III degree of anemia, not amenable to drug correction).

Compression of adjacent organs. Often the indications for surgery are symptoms of compression of adjacent organs (bladder, rectum), which is more often observed with large tumors. Symptoms of pressure on the bladder can lead to stress urinary incontinence and may lead to unnecessary stress relief surgery.

Pain. Less often, patients with uterine fibroids complain of chronic pelvic pain, which is the result of malnutrition in the node, or compression of adjacent organs. This is clearly recorded with ultrasound and Doppler scanning.
The growth of myomatous nodes. The rapid growth of myomatous nodes (the growth rate in six months corresponds to an increase in the uterus up to 2-4 weeks of pregnancy) may be the only and alarming symptom. Only 0.5-1% of myomatous nodes have malignant cells. A malignant tumor is difficult to diagnose at the preoperative stage, only the rapid growth of such a node can cause the doctor to be on the alert. Localization of myomatous nodes. There are several classifications of the location of myoma nodes. In Russia, a classification is adopted in relation to the location of fibroid nodes in the layers of the uterine wall (submucous, interstitial and subserous), in relation to their location in the uterus - typical and atypical (cervical, isthmus, intraligamentary). Surgical treatment of submucous uterine fibroids and uterine fibroids located atypically is recommended in 100% of cases. Submucous uterine fibroids can rarely be asymptomatic. However, in patients with such a localization of the node, the presence of reproductive plans and the absence of symptoms, surgical treatment is mandatory. An exception may be patients with severe extragenital pathology, in which the risk of anesthetic complications exceeds that associated with the presence of submucosal fibroids. Also, expectant tactics for asymptomatic uterine myoma is possible in women of late reproductive age and in perimenopause. Uterine fibroids and infertility. In recent decades, due to delayed childbirth in developed countries, uterine fibroids have been diagnosed in patients with incomplete fertility. This dictates new approaches to the treatment of patients with uterine fibroids, because it is necessary not only to preserve the uterus as an important organ of the pelvic architectonics, but also to cause a minimum of damage to its functions, planning that increased requirements will be imposed on them. In the case of planning pregnancy in the presence of an interstitial and subserous-interstitial node more than 40 mm in diameter, myomectomy is indicated. A myomatous node more than 40 mm in diameter leads to a pronounced violation of the anatomy of the tubo-ovarian complex, a change in the shape of the uterine cavity and its contractile activity. In the presence of borderline sizes of myomatous nodes (less than 40 mm), asymptomatic course of the disease, surgical treatment can be offered only in the absence of other factors of infertility. In such cases, the indications for myomectomy should be strictly individual. Depending on the localization, myomatous nodes can be removed by surgical hysteroscopy, laparoscopy or laparotomy. At the same time, the uterus and the patient's ability to bear children are preserved. It should be noted that laparoscopic surgery has a lower risk of adhesion formation than open laparotomy. Even after a successful operation, the patient must be informed about the possible recurrence of the disease. Such relapses after myomectomy were observed in about 25% of patients. Young women who have not realized the generative function, who

suffer from infertility or miscarriage, and who want to preserve the uterus for the purpose of having children in the future, require surgical treatment. It allows you to completely remove pathological foci, as well as preserve or restore the generative function. The operation that solves these problems is myomectomy. Types of myomectomy include abdominal (laparotomy), laparoscopic, hysteroscopic (hysteroresectoscopy) myomectomy, combination of hysteroresectoscopy and laparoscopy, mini-laparotomy (with or without laparoscopic assistance), vaginal myomerectomy, with caes. The type of myomectomy depends on the location of the node, the size, direction of growth and the number of nodes in the uterine fibroids. It is necessary to highlight the submucous growth of uterine fibroids and the operation - hysteroresectoscopy, hysteroscopic myomectomy. In the presence of nodes in the uterine cavity, symptoms are pronounced - menometrorrhagia, algodismenorrhea. Even with a small size of the submucous node, the absence of pregnancy is possible. Hysteroresectoscopy allows to solve the problem of uterine fibroids with the least effect on the woman's body - to remove the cause of clinical manifestations and a possible cause of infertility. A complex instrumental system with a diameter of 7-9 mm, consisting of optics, a resectoscope and an electrode, is introduced into the uterine cavity. An illuminator and a video camera are connected to the optical tube, all manipulations are displayed on the video monitor screen. A high-frequency, high-power alternating current is applied to a metal loop, which is used to cut layer by layer of uterine fibroid tissue. Currently, various types of surgical energies are also used for the surgical treatment of uterine fibroids: myolysis or cryomyolysis, hyperthermic ablation of leiomyoma with a laser or radio wave energy, hyperthermic ablation of fibroids with focused ultrasonic energy. Remote ablation of myomatous nodes is practiced under the control of magnetic resonance imaging (MRI). The procedure consists in coagulation, or ablation, of fibroid cells inside the node with pulses of focused ultrasound (FUS) under the guidance of MRI. However, the choice of the method is determined by the peculiarities of myoma nodes, which are determined by the results of a comprehensive examination, including ultrasound screening, aspiration biopsy of the endometrium, and, according to indications, hysteroscopy and diagnostic curettage of the uterine cavity. When choosing a method for treating uterine fibroids, it is necessary to take into account the woman's desire to realize reproductive function. If a woman is interested in fertility, treatment should be directed towards preserving fertility. The operation must be organ-preserving. Otherwise, all measures should be aimed at eliminating complaints and clinical symptoms. It is possible to use hormonal drugs, carry out radical operations. A correctly chosen program of preoperative treatment, the method of surgery, the level of skill of the surgeon, prevention and minimization of complications will allow a woman to get rid of the disease and give birth to a child [13].

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