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Features of Somatic Anamnesis and Reproductive Function in Women with Uterine Myoma and / or Adenomiosis and Methods of their Correction

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Abstract

Among the structural abnormalities in gynecology, uterine fibroids and adenomyosis are two different, although often coexisting pathologies with a noticeable prevalence in women of reproductive age. So far, various mechanisms have been proposed to explain the effect of each of these diseases on a woman's reproductive function. Modern data indicate that the presence of submucosal and intramural nodes of fibroids in the uterus has an adverse effect on conception and early pregnancy. In addition, the presence of fibroids is associated with adverse pregnancy outcomes. As for adenomyosis, apart from the supposed coexistence of adenomyosis and infertility, until now the causal relationship between these conditions has not been fully confirmed. However, preterm labor and premature rupture of membranes, rupture of the uterus, postpartum hemorrhage due to uterine atony and ectopic pregnancy have all been associated with adenomyosis [21].

Index terms— uterine fibroids, adenomyosis, somatic morbidity, reproductive losses, childbirth, ultrasound and Doppler blood flow of myoma.

1 Introduction

mong the structural abnormalities in gynecology, uterine fibroids and adenomyosis are two different, although often coexisting pathologies with a noticeable prevalence in women of reproductive age. So far, various mechanisms have been proposed to explain the effect of each of these diseases on a woman's reproductive function. Modern data indicate that the presence of submucosal and intramural nodes of fibroids in the uterus has an adverse effect on conception and early pregnancy. In addition, the presence of fibroids is associated with adverse pregnancy outcomes. As for adenomyosis, apart from the supposed coexistence of adenomyosis and infertility, until now the causal relationship between these conditions has not been fully confirmed. However, preterm labor and premature rupture of membranes, rupture of the uterus, postpartum hemorrhage due to uterine atony and ectopic pregnancy have all been associated with adenomyosis [21].

In recent years, many scientific studies have been devoted to adenomyosis and uterine myoma, but the etiology and pathogenesis of these diseases have not yet been fully understood. Also, a combination of these two diseases has been increasingly diagnosed recently [19].

Today, adenomyosis is considered to be an estrogen-dependent disease characterized by invasion of the glandular and stromal components of the basal layer of the endometrium into the myometrium. Studies have shown that with adenomyosis, the endometrium is characterized by a reduced sensitivity to progesterone and this contributes to the spread and survival of endometrioid heterotopias. The study of the pathogenesis of adenomyosis showed that endometrial cells can penetrate and multiply in the myometrium, and inflammatory mediators are involved in the development of intense pain syndrome [8].

It should also be noted that adenomyosis is characterized by an increase in neoangiogenesis and is important for the process of implantation of the glandular tissue of the endometrium in the pathogenesis of the development of adenomyosis [14]. Heavy menstrual bleeding and dysmenorrhea are the main complaints in women with

symptomatic adenomyosis, but their etiology is not well understood. Some studies have shown that tissue factor (TF) is activated in endometriosis and menstrual bleeding in women is associated with long-term progestin-only contraception [15]. The authors believe that TF is involved in the development of adenomyosis associated with heavy menstrual bleeding and dysmenorrhea and, therefore, may be a potential therapeutic target in the treatment of symptomatic adenomyosis and possibly chronic pelvic pain in women with adenomyosis.

At the beginning of the century, researchers discovered some pathogenetic features of endometriosis / adenomyosis, in particular, the formation of anti-endometrioid antibodies (AEAB) in the blood of patients with endometriosis was described. A correlation was found between circulating AEAB and surgically confirmed endometriosis. The authors suggest that AEAB interact with some antigens that are associated with infertility, implantation disorders, and early miscarriages **??**2].

In turn, the pathogenesis of uterine fibroids is based on impaired progesterone synthesis, an increase in progesterone receptors in the myomatous nodes **??**4,9]. The disease is characterized by various symptoms such as dysmenorrhea, pelvic pain, dyspareunia, abnormal uterine bleeding and infertility. Uterine fibroids or uterine leiomyoma is the most common benign tumor of the uterus in women of fertile age, although the etiological factors have not been fully identified. The onset and development of fibromatosis may be associated with certain risk factors and gene mechanisms, although the exact causes are not yet fully known. The development of uterine fibroids correlates not only with metabolism and with the level of female sex hormones, estrogen and progesterone, but also with the amount of these hormone receptors expressed on the myometrium surface. The proliferative effects of estrogen and progesterone can be mediated by proinflammatory factors (TNF-alpha), growth factors (IGF1, IGF2, TGFbeta3, and beta FGF), or apoptosis inhibitors (p53 suppression). In about 40% of cases, uterine fibroids are caused by the same cytogenetic changes that have been found in other types of tumors such as kidney, lung, or leiomyosarcoma. As part of systemic dysfunction, uterine fibromatosis has been associated with other disorders such as AHT (arterial hypertension), endometrial adenocarcinoma, adenomyosis, endometriosis, diabetes mellitus, breast tumors, and common causation [16]. An important role in the development of these diseases is played by a somatic anamnesis, diseases suffered during the life, especially of an infectious and inflammatory nature, disorders of the nervous system, and others **??**12]. Some studies are devoted to the influence of impaired reproductive function of women on the development of fibroids or adenomyosis [21].

The action and influence of some types of hormonal imbalance in certain organs depends on the histological and local features of the expression of various receptors, which are the cause of many disorders, including uterine fibromatosis, which coexists or accompanies these disorders later [16]. Consequently, sex steroids are involved in the regulation of the growth of uterine fibroids, and in adenomyosisthe invasion of the endometrium into the myometrium, by acting on steroid receptors and the inclusion of cytokines and growth factors, determining the intensity of cell proliferation, apoptosis and angiogenesis **??**4].

To date, the improvement of non-invasive methods of ultrasound diagnostics with color Doppler hysterosonography and magnetic resonance imaging (MRI) can improve the accuracy of diagnosing the combined pathology of uterine fibroids and adenomyosis. The effectiveness of treatment of patients with a combined form of uterine fibroids and adenomyosis depends on the determination of the severity of a particular disease [1,11,13].

Today, one of the key treatment standards is considered to be a drug containing dienogest, which is a fourth-generation progestogen with selective activity of 19-nortestosterone and progesterone. Dienogest differs from other drugs in its powerful progestogenic activity, as well as in its pronounced antiestrogenic effect at the local level. Also, the drug has antiestrogenic, antiproliferative, anti-inflammatory, antiangiogenic effects and normalizes local immune disorders. The antiproliferative effect of dienogest (DNG) is closely related to its anti-inflammatory effect. DNG has no ethynyl radical and is metabolically neutral, which is extremely important for long-term therapy. A reliable antiovulatory effect due to apoptosis of granulosa cells of the dominant follicle is combined with a weak central effect (inhibition of FSH and LH levels) and a moderate decrease in the level of systemic estradiol, which is one of the special advantages of this drug. This drug, like other hormonal drugs, has no side effects such as estrogen deficiency, i.e. does not cause hot flashes, bone loss, does not increase the risk of cardiovascular disease. DNG reduces the level of ovarian production of estradiol only within the therapeutic window, which does not lead to an increase in endometrial proliferation, but avoids the development of symptoms of estrogen deficiency (hot flashes, bone loss and an increased risk of cardiovascular disease). Numerous clinical studies have shown that DNG at a dose of 2 mg / day successfully relieves pain caused by endometriosis (adenomyosis): dysmenorrhea, dyspareunia, premenstrual pain and pelvic pain. [3].

Previously existing contraindications such as the size of the uterus more than 12 weeks of pregnancy, submucous location of the node and its centripetal growth, the combination of uterine fibroids with ovarian tumors, in the case of rapid growth, suspicion of sarcomatous degeneration or malnutrition of the node, menometrorrhagia, causing severe anemia, however, today with the advent of the drug ulipristal acetate for the conservative treatment of uterine fibroids, the list of these contraindications has decreased.

Ulipristal-acetate is a selective progesterone receptor modulator (SPRM), its use allows us to offer various schemes of conservative drug therapy. Initially, the drug was proposed as a medication for the preoperative preparation of patients with uterine myoma [7,18]. In international studies, it has been proven that ulipristal acetate modulates the number of progesterone receptors, thereby contributing to a decrease in proliferative processes in the myometrium and an increase in apoptosis [20]. By such actions, the drug leads to amenorrhea in patients with menometrorrhagia and increases hemoglobin, reduces the size of large nodes. The results of using

the drug at 5 or 10 mg daily for 3 months showed that after taking the drug, the size of the nodes decreased significantly, and blood loss during the operation decreased due to the facilitated enucleation of the nodes. Drug efficacy studies have been compared with GnRH agonists and placebo [9]. Scientists noted that treatment with ulipristal acetate compared with a-GnRH has a more favorable course, because it does not cause signs of hypoestrogenemia in patients, while the level of estrogen remains at the level of the middle folliculin phase.

Subsequent studies have proven its effectiveness not only for preoperative preparation, but also for conservative therapy without any surgical intervention, regardless of the location, number and size of nodes [5, **??**0]. On the effectiveness of the drug ulipristal acetate in the treatment of fibroids, 38 academic studies were carried out in scientific centers in Europe, and since February 2012, the drug (esmia) has been approved in the European Union for use in the treatment of uterine fibroids [6,17]. And since 2014, ulipristal acetate has been approved for use in the treatment of uterine fibroids in Uzbekistan.

Analysis of modern literature has shown that in recent years, progress has been achieved in the treatment and diagnosis of uterine fibroids and adenomyosis in an isolated form. However, there are not so many studies on the combination of these two pathologies in the scientific literature, especially concerning research on diagnosis and treatment. So, if at the end of the last century the most effective method of treating these diseases was a radical operation and the issue of etiology, pathogenesis was considered already resolved, now it is shown the need to continue research by using new methods of diagnosis and treatment, because organ-preserving tactics are preferred.

Thus, a fairly large number of methods for invasive and non-invasive radical and non-radical surgical treatment of uterine fibroids and adenomyosis, both in isolated form and in combination, have been proposed. However, to date, there is no clear picture of the selection criteria and the optimal use of one or another method of treating combined pathology. A more differentiated approach to the choice of treatment tactics for each specific patient, taking into account her age, clinical picture of the disease, depending on the woman's reproductive function, is needed. This will reduce the frequency of radical surgical interventions, especially in women of reproductive age.

A new direction in the conservative treatment of uterine fibroids is the use of ulipristal acetate, which is a selective modulator of progesterone receptors, in adenomyosis, the fourth generation dienogest drug with selective activity of 19-nortestosterone and progesterone. Research conducted across Europe on the use of these two drugs for the treatment of fibroids and adenomyosis confirms its effectiveness. However, combined pathology requires further study of the issues of etiology and pathogenesis in the light of new scientific research. For combined pathology, standards for the treatment of women have not been developed, depending on age, combination characteristics, severity of clinical manifestations, growth and proliferative activity of myomatous nodes, the nature of adenomyosis and reproductive function.

The aim of the study was to study reproductive disorders and pregnancy outcomes in women with combined pathology of uterine fibroids and adenomyosis and to determine the effectiveness of methods of their drug correction.

2 II. Material and Research Methods

There were examined 75 women with a combined form of uterine fibroids and adenomyosis (group 1), 47 women with adenomyosis (group 2) and 43 women with uterine fibroids (group 3), the control group consisted of 21 healthy women. The studies were carried out on the basis of the Department of Obstetrics and Gynecology of the Tashkent Medical Academy in the gynecological department of the city maternity complex No. 9 in the period March 2018 -December 2019.

All patients had a thoroughly collected reproductive history (the number and outcomes of pregnancies: childbirth, artificial abortions, spontaneous miscarriages, non-developing pregnancy, infertility and its duration). All patients underwent ultrasound examinations.

In addition to reproductive disorders, we also studied the anamnesis of previous diseases (childhood infectious diseases, inflammatory diseases of the upper respiratory tract, ARVI, influenza) and currently existing chronic somatic diseases.

The examination of patients included a routine general examination, gynecological examination, ultrasound examination with the determination of the location and size of the nodes, determination of the presence and degree of adenomyosis. At the same time, a Doppler study of blood flow in the uterine arteries and vessels around and inside the myomatous node was performed with the determination of the resistance index (RI). This made it possible to determine the simple or proliferating type of myoma node.

3 III.

4 Research Results and their Discussion

An analysis of previous diseases and currently existing somatic diseases showed that most of the patients had two or more diseases in the anamnesis. So, for example, 68% of patients in group 1 (with a combination of uterine fibroids and adenomyosis), 57.5% of patients in group 2 (with adenomyosis) and 61.7% of patients in group 3 (with uterine myoma) suffered two or more different somatic or infectious diseases.

Of the previously transferred diseases, attention is drawn to the high frequency of childhood infectious diseases (measles, rubella, chicken pox, mumps), 62.7% of patients in group 1 and 61.7% of patients in group 2 in childhood

suffered various infectious diseases ($p < 0.05$). In group 3 patients, childhood infectious diseases were 1.7 times less common than in the first and second groups -37.2% ($p < 0.001$). Infectious hepatitis, on the contrary, was most revealed in group 1 with uterine myoma -39.5% ($p < 0.001$), and in patients with adenomyosis, infectious hepatitis was detected 2 times less often -17.02% ($p < 0.01$).

Diseases of the upper and lower respiratory tract (tonsillitis, tonsillitis, bronchitis, ARI, etc.) suffered from 90.7% to 95.7% of patients in all groups. Patients of the control group suffered from these diseases somewhat less frequently. Children's infectious diseases, such as chickenpox, measles, mumps, rubella, more often occurred in the anamnesis in women of groups 1 and 2 (62.7 ± 5.6 and $61.7 \pm 7.1\%$, respectively), which is significantly more frequent than in the control group ($19.1 \pm 8.6\%$, $p < 0.01$) and in women of group 3 with uterine myoma ± 5.3, $p < 0.01$).

Of interest is the frequency of previous hepatitis of various forms (A, B or C) in patients. Hepatitis was more often observed in patients of all three groups 6, 3.5 and 8 times more often ($p < 0.001$) compared with the control group (4.8%). However, the highest incidence of hepatitis was observed in patients of group 3 with myoma ($39.9 \pm 7.5\%$), which is 2.3 times more often than in patients of group 2 with adenomyosis ($17.0 \pm 5.5\%$, $p < 0.05$). This is confirmed by the literature data on the relationship between the development of fibroids and liver pathology.

Some patients underwent appendectomy in childhood and adolescence. The frequency of this surgical intervention in the group with the combined form and in the groups with isolated pathologies was almost the same. Thus, patients of group 2 with adenomyosis underwent appendectomy more often $-19.1 \pm 5.7\%$ compared with group 3 of patients with myoma ($16.3 \pm 5.6\%$ of cases). In patients with a combined form of fibroids and adenomyosis, surgery was performed in $18.7 \pm 4.5\%$ of cases.

Of somatic diseases, functional disorders of the nervous system, such as neuroses, depressive conditions, asthenoneurotic reactions, deserve great attention. So, every second patient with a combination of uterine fibroids and adenomyosis suffered from one or another pathology of the nervous system. Every third patient in groups 2 ($36.2 \pm 7.0\%$) and 3 groups ($44.2 \pm 7.6\%$) had functional disorders of the nervous system.

The second place is occupied by endocrine disorders (diffuse goiter, diabetes mellitus), of which the main part is occupied by diffuse goiter of varying degrees, which can be justified by the endemic iodine deficiency zone of the country. Most of all, endocrine disorders were detected in group 1 $-46.7 \pm 5.8\%$, the frequency was almost 3.3 times higher than the data in the control group ($14.3 \pm 7.6\%$). In groups with isolated forms, the frequency of endocrine disorders was also significantly high (in group 2, $31.9 \pm 6.9\%$, in group 3, $41.9 \pm 7.5\%$, $p < 0.01$).

Chronic anemia of moderate degree, which is more often a complication of the underlying pathology, is much more often ($p < 0.001$) detected in patients of the main groups -in every third patient in groups 1 and 3 and in every 4 patient in group 2. In women in the control group, this pathology has not been identified.

In fourth place among somatic diseases is the pathology of the cardiovascular system (ischemic heart disease, angina pectoris, hypertension, hypotension, varicose veins of the lower extremities). In patients with a combined form of uterine fibroids and adenomyosis, cardiovascular diseases were detected 1.8 times more often than in patients with adenomyosis and 1.4 times more often than in patients with uterine fibroids. So, in group 1 in $34.7 \pm 5.5\%$ ($p < 0.001$), in group 2 in $19.1 \pm 5.7\%$ ($p < 0.01$) and in group 3 in $25.6 \pm 6.7\%$ ($p < 0.01$) of the patients were diagnosed with similar diseases.

Diseases of the gastrointestinal tract (chronic gastritis, gastric ulcer and duodenal ulcer, chronic enterocolitis) were also detected in some patients of all main groups. Thus, $30.7 \pm 5.3\%$ of patients in group 1 ($p < 0.001$), $21.3 \pm 5.9\%$ in group 2 ($p < 0.01$) and $11.6 \pm 4.9\%$ in group 3 ($p < 0, 05$) suffered from certain gastrointestinal diseases, i.e. these diseases were observed more often in patients with a combined form of fibroids and adenomyosis and only adenomyosis, compared with patients with fibroids.

Consequently, all patients of the examined groups had somatic health disorders, diseases of an infectious and inflammatory nature, endocrinopathy, anemia. However, the incidence of these diseases was higher in group 1 in patients with the combined form of myoma and adenomyosis.

Analysis of the reproductive history of the examined patients showed that in all three main groups the total number of pregnancies was high. The number of pregnancies among fertile women in one patient ranged from 1 to 14, on average there are 3.1 pregnancies per patient in the control group, and 1.5 -1.7 times more in groups 1, 2 and 3 (Table 1).

However, more pregnancies ended in childbirth in the control group, which is 1.7 times more often compared with groups 1.2 ($p < 0.001$, respectively) and 1.3 times more often than in group 3 of patients with uterine myoma. In these groups, the frequency of all types of reproductive losses (49.5 -43.7 -32%, respectively, $p < 0.001$; $p < 0.01$) was significantly higher than in the control group 12.7%. Induced abortions, spontaneous miscarriages, or termination of pregnancy due to a missed pregnancy often ended in curettage of the uterine cavity, which probably contributed to the development of adenomyosis (group 2) or a combined form of fibroids and adenomyosis (group 1). Note: * -differences are significant in comparison with the control group.

There was no difference between the groups in the frequency of ectopic pregnancy. One of the main complaints in patients of reproductive age with uterine myoma and adenomyosis is infertility. The duration of infertility in the surveyed women ranged from 2 years to 17 years.

In the main groups, some women had infertility, which was also a complication of adenomyosis and a combination of adenomyosis and fibroids. In the group with the combined form of uterine fibroids and

adenomyosis, infertility was revealed in 15 patients. Compared to the second group, in the first group, primary infertility was revealed more -in 11 patients (73.3%), secondary infertility in 6 (40%) patients. Among them, 2 patients had both primary and secondary infertility. In group 2, out of 11 infertile patients, one third had primary infertility, 63.6% had secondary infertility. Among them, one patient had a history of both primary and secondary infertility. Somewhat less frequently (1.4-1.5 times) infertility was detected in group 3 of patients with myoma. As in group 2 with adenomyosis, in women with uterine myoma, secondary infertility (66.7%) prevailed over primary (33.3 %%). In the control group, this pathology was not revealed.

Clinical manifestations of the disease, in addition to infertility, in the examined patients were: in group 1 menstrual irregularities -in 52 -69.3%, algomenorrhea -in 49 -65.3%, dyspaniuria -in 33 -44.0%; in group 2 - algomenorrhea -in 31 -65.9%, menstrual irregularities -in 20 -42.6%, dyspaniuria -in 14 -29.8%. In group 3, 7 (16.3%) patients had myoma asymptomatic and was detected accidentally by ultrasound, and 36 (83.7%) patients had complaints of hypermenorrhea -in 23 -63.9%, algomenorrhea -in 7 -19.4%, dysfunction of neighboring organs -in 2 -5.6% of women.

To establish the diagnosis, all patients underwent a sonographic study of the small pelvis, and in 1/3 of the patients, doppler studies of the blood flow of the vessels of myomatous nodes and foci of adenomyosis were also carried out. During ultrasound examination, the presence of myomatous nodes in the uterus was assessed, indicating their size, number, topography and type, as well as the presence of adenomyotic foci. Doppler analysis determined the presence of a vessel feeding the node, blood flow velocity and resistance index (RI) around and inside myomatous and adenomyotic nodes, as well as in the uterine arteries with diffuse adenomyosis. This made it possible to differentiate uterine fibroids from adenomyosis, to establish the type of node (simple or proliferating).

Color Doppler scanning revealed high vascular resistance of the uterine artery and its branches to the ovary. Especially with grade 2 and 3 adenomyosis, an increase in the resistance of blood flow in the uterine arteries from 0.85 to 0.93 was revealed. RI in the radial arteries was 0.67-0.78.

In 64% of patients of group 1, a combination of proliferating uterine fibroids with various forms of adenomyosis was revealed, of which a combination with diffuse adenomyosis -in 48%, with focal adenomyosisin 4%, with nodular adenomyosis -in 4%, also in 8% of patients 1 -group revealed a combination of proliferating myoma with diffuse-nodular form of adenomyosis. In 36% of patients in group 1, a combination of a simple type of myomatous nodes with various forms of adenomyosis was revealed, of which with diffuse adenomyosis -in 28%, with a focal form -in 4%, with a diffuse-nodular form of adenomyosis -in 4% of patients. In proliferating myoma, the vessel supplying the node and many small vessels around the node were clearly defined, the resistance index (RI) determined in such vessels ranged from 0.40 to 0.53. With simple myoma of small size up to 2 cm in diameter, blood flow was not determined inside the node, and large vessels feeding the node were not detected. RI was higher (from 0.60 to 0.82), which indicated his low blood supply. Avascular nodes were often identified.

In group 2, patients with adenomyosis were found to have diffuse adenomyosis in 26 -55.3%, focal adenomyosis in 14 -29.8%, in 5 -10.6% of nodular adenomyosis and in 2 -4.3% of diffuse-nodular adenomyosis. In this case, the diameter of the foci ranged from 2 to 7.2 mm. The blood flow in the uterine arteries in diffuse adenomyosis was reduced compared with focal adenomyosis (RI 0.78-0.86).

In group 3, patients with myoma in 67.4% of cases revealed a proliferating type of nodes, and in 32.6% -a simple type. RI for proliferating nodes ranged from 0.40 to 0.51, and for simple type of nodes, RI was within 0.56-0.70. Ultrasound examinations of the uterus revealed the presence of hyperplastic endometrium mainly in patients with a combined form of uterine myoma and adenomyosis (group 1) -in 29 -38.7%, and with uterine myoma (group 3) -in 15 -34.9%. Among them, 81.8% of patients had endometrial hyperplasia, and 18.2% of patients had an endometrial polyp.

The treatment was carried out depending on the revealed pathology. In isolated fibroids, ulipristal acetate 5 mg (UPA) was prescribed for 3 months for at least 2 courses of 3 months with a two-month break, in adenomyosis -dienogest 2 mg for 6 months continuously. With the combined form of fibroids and adenomyosis, treatment was started with dienogest for 6 months continuously, then UPA was prescribed for 3 months. The results of treatment within 6-8 months showed that in the majority of patients (112 patients -81.2%), the cycle normalized, the pain disappeared. A quarter of patients became pregnant after the end of treatment.

Among 30 (18.2%) patients of late reproductive age, hysterectomy was performed for various reasons (in 18 (24%) patients in group 1, in 5 (10.6%) patients in group 2, and in 7 (16.3 %) of patients of group 3). The most common cause of hysterectomy in them was bleeding against the background of submucous uterine fibroids or a combination of multinodular fibroids with adenomyosis -25 -83.3%. Algomenorrhea, a symptom of dysfunction of adjacent organs, and rapid growth of nodes in only 2% of patients were indications for hysterectomy. In 3% of patients of reproductive age, myomectomy was performed for infertility after a course of UPA.

Thus, the high frequency of the combination of uterine fibroids and adenomyosis has an extremely negative effect on reproductive and menstrual functions, reduces the quality of life of patients, and also has an increased risk of developing cancer. To select a method of treatment and the selection of drugs, it is important to clarify the clinical and morphological variant of myoma (simple or proliferating node), the features and nature of adenomyosis (focal or diffuse form), the severity of the vascularization process, as well as the presence of hyperplastic changes in the endometrium. This allows you to correctly choose an effective course of treatment, especially with a combined form of the disease.

IV.

5 Conclusions

1. Patients with concomitant pathology in childhood are more exposed to chronic inflammatory diseases, they are more exposed to somatic diseases, often develop functional disorders of the nervous system, which leads to a decrease in the quality of life of a woman. 2. Combined forms of uterine fibroids and adenomyosis have a more pronounced clinical picture, lead to reproductive losses, are often complicated by infertility and require long-term treatment. 3. Comprehensive examination and treatment of these diseases allows women to restore menstrual and reproductive functions in 25% of cases during the first year after treatment. Clinical recovery was noted in 87% of women who had any complaints.

1

Pregnancy outcomes	Control group, n= 21		Group #1, n= 75		Group #2, n=47		Group #3, n=	
	PLT	%	PLT	%	PLT	%	PLT	%
Childbirth	55	87,3±7,3	149	50,5±5,8 p<0,001	108	56,3±7,2 p<0,01	132	68±7,1 p>0,05
Induced abortion	7	11,1±6,9	111	37,6±5,6* p<0,001	63	32,8±6,8* p<0,001	52	26,4±6,7 p<0,01
Spontaneous miscarriages	1	1,6±2,7	21	7,1±2,9* ?<0,05	14	7,3±3,8* t=1,92 p>0,05	9	4,6±3,2* t=1,43 p>0,05
Non-developing pregnancy	-	-	12	4,1±2,3 ?>0,05	5	2,6±2,3	3	1,5±1,8
Ectopic pregnancy	-	-	2	0,7±0,9	2	1,0±1,4	1	0,5±1,1
Total pregnancies	63	100	295	100	192	100	197	100
Infertility patients		-	15	20±4,1 P<0,01	10	21,3±5,9 P<0,01	6	13,9±5,3 P<0,05
Pregnancies per patient		3,1		4,9		5,2		5,3
Childbirth per 1 patient		2,6		2,5		2,9		3,6

Figure 1: Table 1 :

2

1-group (combined pathology)	RIaround the node	RI indicators	RI inside the node
Simple fibroid	0,83±0,04		0,79±0,06
Proliferating fibroids	0,53±0,03		0,49±0,02
In combination with:			
Diffuse adenomyosis	Right Uterine Artery		Left Uterine Artery
IR	0,77±0,02		0,75±0,02
FROM TO	4,14		3,28
2-group			
Diffuse adenomyosis	Right Uterine Artery		Left Uterine Artery
1-degree	0,74±0,01		0,71±0,003
2-3 degrees	0,89±0,02		0,86±0,01
3-group			
	RIaround the node		RI inside the node
Simple myoma	0,76±0,02		0,65±0,03
Proliferating fibroids	0,54±0,01		0,49±0,02

Figure 2: Table 2 :

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