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ЕЖЕМЕСЯЧНЫЙ НАУЧНЫЙ ЖУРНАЛ

Медицинские новости Грузии

საქართველოს სამედიცინო სიახლენი

GEORGIAN MEDICAL NEWS

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GMN: Georgian Medical News is peer-reviewed, published monthly journal committed to promoting the science and art of medicine and the betterment of public health, published by the GMN Editorial Board since 1994. GMN carries original scientific articles on medicine, biology and pharmacy, which are of experimental, theoretical and practical character; publishes original research, reviews, commentaries, editorials, essays, medical news, and correspondence in English and Russian.

GMN is indexed in MEDLINE, SCOPUS, PubMed and VINITI Russian Academy of Sciences. The full text content is available through EBSCO databases.

GMN: Медицинские новости Грузии - ежемесячный рецензируемый научный журнал, издаётся Редакционной коллегией с 1994 года на русском и английском языках в целях поддержки медицинской науки и улучшения здравоохранения. В журнале публикуются оригинальные научные статьи в области медицины, биологии и фармации, статьи обзорного характера, научные сообщения, новости медицины и здравоохранения. Журнал индексируется в MEDLINE, отражён в базе данных SCOPUS, PubMed и ВИНИТИ РАН. Полнотекстовые статьи журнала доступны через БД EBSCO.

GMN: Georgian Medical News – საქართველოს სამედიცინო სიახლენი – არის ყოველთვიური სამეცნიერო სამედიცინო რეცენზირებადი ჟურნალი, გამოიცემა 1994 წლიდან, წარმოადგენს სარედაქციო კოლეგიისა და აშშ-ის მეცნიერების, განათლების, ინდუსტრიის, ხელოვნებისა და ბუნებისმეტყველების საერთაშორისო აკადემიის ერთობლივ გამოცემას. GMN-ში რუსულ და ინგლისურ ენებზე ქვეყნდება ექსპერიმენტული, თეორიული და პრაქტიკული ხასიათის ორიგინალური სამეცნიერო სტატიები მედიცინის, ბიოლოგიისა და ფარმაციის სფეროში, მიმოხილვითი ხასიათის სტატიები.

ჟურნალი ინდექსირებულია MEDLINE-ის საერთაშორისო სისტემაში, ასახულია SCOPUS-ის, PubMed-ის და ВИНИТИ РАН-ის მონაცემთა ბაზებში. სტატიების სრული ტექსტი ხელმისაწვდომია EBSCO-ს მონაცემთა ბაზებიდან.

WEBSITE

www.geomednews.com

К СВЕДЕНИЮ АВТОРОВ!

При направлении статьи в редакцию необходимо соблюдать следующие правила:

1. Статья должна быть представлена в двух экземплярах, на русском или английском языках, напечатанная через **полтора интервала на одной стороне стандартного листа с шириной левого поля в три сантиметра**. Используемый компьютерный шрифт для текста на русском и английском языках - **Times New Roman** (**Кириллица**), для текста на грузинском языке следует использовать **AcadNusx.** Размер шрифта - **12**. К рукописи, напечатанной на компьютере, должен быть приложен CD со статьей.

2. Размер статьи должен быть не менее десяти и не более двадцати страниц машинописи, включая указатель литературы и резюме на английском, русском и грузинском языках.

3. В статье должны быть освещены актуальность данного материала, методы и результаты исследования и их обсуждение.

При представлении в печать научных экспериментальных работ авторы должны указывать вид и количество экспериментальных животных, применявшиеся методы обезболивания и усыпления (в ходе острых опытов).

4. К статье должны быть приложены краткое (на полстраницы) резюме на английском, русском и грузинском языках (включающее следующие разделы: цель исследования, материал и методы, результаты и заключение) и список ключевых слов (key words).

5. Таблицы необходимо представлять в печатной форме. Фотокопии не принимаются. **Все цифровые, итоговые и процентные данные в таблицах должны соответствовать таковым в тексте статьи**. Таблицы и графики должны быть озаглавлены.

6. Фотографии должны быть контрастными, фотокопии с рентгенограмм - в позитивном изображении. Рисунки, чертежи и диаграммы следует озаглавить, пронумеровать и вставить в соответствующее место текста **в tiff формате**.

В подписях к микрофотографиям следует указывать степень увеличения через окуляр или объектив и метод окраски или импрегнации срезов.

7. Фамилии отечественных авторов приводятся в оригинальной транскрипции.

8. При оформлении и направлении статей в журнал МНГ просим авторов соблюдать правила, изложенные в «Единых требованиях к рукописям, представляемым в биомедицинские журналы», принятых Международным комитетом редакторов медицинских журналов - http://www.spinesurgery.ru/files/publish.pdf и http://www.nlm.nih.gov/bsd/uniform_requirements.html
В конце каждой оригинальной статьи приводится библиографический список. В список литературы включаются все материалы, на которые имеются ссылки в тексте. Список составляется в алфавитном порядке и нумеруется. Литературный источник приводится на языке оригинала. В списке литературы сначала приводятся работы, написанные знаками грузинского алфавита, затем кириллицей и латиницей. Ссылки на цитируемые работы в тексте статьи даются в квадратных скобках в виде номера, соответствующего номеру данной работы в списке литературы. Большинство цитированных источников должны быть за последние 5-7 лет.

9. Для получения права на публикацию статья должна иметь от руководителя работы или учреждения визу и сопроводительное отношение, написанные или напечатанные на бланке и заверенные подписью и печатью.

10. В конце статьи должны быть подписи всех авторов, полностью приведены их фамилии, имена и отчества, указаны служебный и домашний номера телефонов и адреса или иные координаты. Количество авторов (соавторов) не должно превышать пяти человек.

11. Редакция оставляет за собой право сокращать и исправлять статьи. Корректура авторам не высылается, вся работа и сверка проводится по авторскому оригиналу.

12. Недопустимо направление в редакцию работ, представленных к печати в иных издательствах или опубликованных в других изданиях.

При нарушении указанных правил статьи не рассматриваются.

REQUIREMENTS

Please note, materials submitted to the Editorial Office Staff are supposed to meet the following requirements:

1. Articles must be provided with a double copy, in English or Russian languages and typed or compu-ter-printed on a single side of standard typing paper, with the left margin of **3** centimeters width, and **1.5** spacing between the lines, typeface - **Times New Roman** (**Cyrillic**), print size - **12** (referring to Georgian and Russian materials). With computer-printed texts please enclose a CD carrying the same file titled with Latin symbols.

2. Size of the article, including index and resume in English, Russian and Georgian languages must be at least 10 pages and not exceed the limit of 20 pages of typed or computer-printed text.

3. Submitted material must include a coverage of a topical subject, research methods, results, and review.

Authors of the scientific-research works must indicate the number of experimental biological species drawn in, list the employed methods of anesthetization and soporific means used during acute tests.

4. Articles must have a short (half page) abstract in English, Russian and Georgian (including the following sections: aim of study, material and methods, results and conclusions) and a list of key words.

5. Tables must be presented in an original typed or computer-printed form, instead of a photocopied version. **Numbers, totals, percentile data on the tables must coincide with those in the texts of the articles.** Tables and graphs must be headed.

6. Photographs are required to be contrasted and must be submitted with doubles. Please number each photograph with a pencil on its back, indicate author's name, title of the article (short version), and mark out its top and bottom parts. Drawings must be accurate, drafts and diagrams drawn in Indian ink (or black ink). Photocopies of the X-ray photographs must be presented in a positive image in **tiff format**.

Accurately numbered subtitles for each illustration must be listed on a separate sheet of paper. In the subtitles for the microphotographs please indicate the ocular and objective lens magnification power, method of coloring or impregnation of the microscopic sections (preparations).

7. Please indicate last names, first and middle initials of the native authors, present names and initials of the foreign authors in the transcription of the original language, enclose in parenthesis corresponding number under which the author is listed in the reference materials.

8. Please follow guidance offered to authors by The International Committee of Medical Journal Editors guidance in its Uniform Requirements for Manuscripts Submitted to Biomedical Journals publication available online at: http://www.nlm.nih.gov/bsd/uniform_requirements.html
http://www.icmje.org/urm_full.pdf
In GMN style for each work cited in the text, a bibliographic reference is given, and this is located at the end of the article under the title "References". All references cited in the text must be listed. The list of references should be arranged alphabetically and then numbered. References are numbered in the text [numbers in square brackets] and in the reference list and numbers are repeated throughout the text as needed. The bibliographic description is given in the language of publication (citations in Georgian script are followed by Cyrillic and Latin).

9. To obtain the rights of publication articles must be accompanied by a visa from the project instructor or the establishment, where the work has been performed, and a reference letter, both written or typed on a special signed form, certified by a stamp or a seal.

10. Articles must be signed by all of the authors at the end, and they must be provided with a list of full names, office and home phone numbers and addresses or other non-office locations where the authors could be reached. The number of the authors (co-authors) must not exceed the limit of 5 people.

11. Editorial Staff reserves the rights to cut down in size and correct the articles. Proof-sheets are not sent out to the authors. The entire editorial and collation work is performed according to the author's original text.

12. Sending in the works that have already been assigned to the press by other Editorial Staffs or have been printed by other publishers is not permissible.

Articles that Fail to Meet the Aforementioned Requirements are not Assigned to be Reviewed.

ავტორთა საყურადღებოდ!

რედაქციაში სტატიის წარმოდგენისას საჭიროა დავიცვათ შემდეგი წესები:

1. სტატია უნდა წარმოადგინოთ 2 ცალად, რუსულ ან ინგლისურ ენებზე,დაბეჭდილი სტანდარტული ფურცლის 1 გვერდზე, 3 სმ სიგანის მარცხენა ველისა და სტრიქონებს შორის 1,5 ინტერვალის დაცვით. გამოყენებული კომპიუტერული შრიფტი რუსულ და ინგლისურენოვან ტექსტებში - **Times New Roman (Кириллица)**, ხოლო ქართულენოვან ტექსტში საჭიროა გამოვიყენოთ **AcadNusx.** შრიფტის ზომა – 12. სტატიას თან უნდა ახლდეს CD სტატიით.

2. სტატიის მოცულობა არ უნდა შეადგენდეს 10 გვერდზე ნაკლებს და 20 გვერდზე მეტს ლიტერატურის სიის და რეზიუმეების (ინგლისურ, რუსულ და ქართულ ენებზე) ჩათვლით.

3. სტატიაში საჭიროა გაშუქდეს: საკითხის აქტუალობა; კვლევის მიზანი; საკვლევი მასალა და გამოყენებული მეთოდები; მიღებული შედეგები და მათი განსჯა. ექსპერიმენტული ხასიათის სტატიების წარმოდგენისას ავტორებმა უნდა მიუთითონ საექსპერიმენტო ცხოველების სახეობა და რაოდენობა; გაუტკივარებისა და დაძინების მეთოდები (მწვავე ცდების პირობებში).

4. სტატიას თან უნდა ახლდეს რეზიუმე ინგლისურ, რუსულ და ქართულ ენებზე არანაკლებ ნახევარი გვერდის მოცულობისა (სათაურის, ავტორების, დაწესებულების მითითებით და უნდა შეიცავდეს შემდეგ განყოფილებებს: მიზანი, მასალა და მეთოდები, შედეგები და დასკვნები; ტექსტუალური ნაწილი არ უნდა იყოს 15 სტრიქონზე ნაკლები) და საკვანძო სიტყვების ჩამონათვალი (key words).

5. ცხრილები საჭიროა წარმოადგინოთ ნაბეჭდი სახით. ყველა ციფრული, შემაჯამებელი და პროცენტული მონაცემები უნდა შეესაბამებოდეს ტექსტში მოყვანილს.

6. ფოტოსურათები უნდა იყოს კონტრასტული; სურათები, ნახაზები, დიაგრამები - დასათაურებული, დანომრილი და სათანადო ადგილას ჩასმული. რენტგენოგრამების ფოტოასლები წარმოადგინეთ პოზიტიური გამოსახულებით **tiff** ფორმატში. მიკროფოტოსურათების წარწერებში საჭიროა მიუთითოთ ოკულარის ან ობიექტივის საშუალებით გადიდების ხარისხი, ანათალების შეღებვის ან იმპრეგნაციის მეთოდი და აღნიშნოთ სურათის ზედა და ქვედა ნაწილები.

7. სამამულო ავტორების გვარები სტატიაში აღინიშნება ინიციალების თანდართვით, უცხოურისა – უცხოური ტრანსკრიპციით.

8. სტატიას თან უნდა ახლდეს ავტორის მიერ გამოყენებული სამამულო და უცხოური შრომების ბიბლიოგრაფიული სია (ბოლო 5-8 წლის სიღრმით). ანბანური წყობით წარმოდგენილ ბიბლიოგრაფიულ სიაში მიუთითეთ ჯერ სამამულო, შემდეგ უცხოელი ავტორები (გვარი, ინიციალები, სტატიის სათაური, ჟურნალის დასახელება, გამოცემის ადგილი, წელი, ჟურნალის №, პირველი და ბოლო გვერდები). მონოგრაფიის შემთხვევაში მიუთითეთ გამოცემის წელი, ადგილი და გვერდების საერთო რაოდენობა. ტექსტში კვადრატულ ფჩხილებში უნდა მიუთითოთ ავტორის შესაბამისი N ლიტერატურის სიის მიხედვით. მიზანშეწონილია, რომ ციტირებული წყაროების უმეტესი ნაწილი იყოს 5-6 წლის სიღრმის.

9. სტატიას თან უნდა ახლდეს: ა) დაწესებულების ან სამეცნიერო ხელმძღვანელის წარდგინება, დამოწმებული ხელმოწერითა და ბეჭდით; ბ) დარგის სპეციალისტის დამოწმებული რეცენზია, რომელშიც მითითებული იქნება საკითხის აქტუალობა, მასალის საკმაობა, მეთოდის სანდოობა, შედეგების სამეცნიერო-პრაქტიკული მნიშვნელობა.

10. სტატიის ბოლოს საჭიროა ყველა ავტორის ხელმოწერა, რომელთა რაოდენობა არ უნდა აღემატებოდეს 5-ს.

11. რედაქცია იტოვებს უფლებას შეასწოროს სტატია. ტექსტზე მუშაობა და შეჯერება ხდება საავტორო ორიგინალის მიხედვით.

12. დაუშვებელია რედაქციაში ისეთი სტატიის წარდგენა, რომელიც დასაბეჭდად წარდგენილი იყო სხვა რედაქციაში ან გამოქვეყნებული იყო სხვა გამოცემებში.

აღნიშნული წესების დარღვევის შემთხვევაში სტატიები არ განიხილება.

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PATHOMORPHOLOGICAL AND CLINICAL CHARACTERISTICS OF THE UTERUS IN COMBINED ADENOMYOSIS AND MYOMA

M.E. Azizova.

Azerbaijan Medical University, Department of Obstetrics and Gynecology II, Baku.

Abstract.

The aim of the study: To examine the pathomorphological and clinical characteristics of the uterus in the combined form of fibroids and adenomyosis.

Methods: The research work was conducted within the framework of the scientific program of the Department of Obstetrics and Gynecology II at Azerbaijan Medical University for the years 2021-2024. In the course of this study, a comprehensive clinical, laboratory, and instrumental prospective examination was conducted on 113 patients aged 30 to 50 years (mean age 42,0±1,8 years) with combined adenomyosis and uterine fibroids. These patients formed the main study group. The patients in the main group were divided into two subgroups depending on the form of adenomyosis: Group 1 - diffuse form (60 women) and Group 2 - nodular form (53 women). The control group consisted of 24 relatively healthy women of reproductive age, with regular ovulatory menstrual cycles and no history of gynecological diseases.

All patients had 2D (two-dimensional) transvaginal ultrasound examination. Based on indications, 3D transvaginal ultrasound of the pelvic organs was performed.

Statistical processing of the results was carried out using commonly used methods of parametric and non-parametric statistics on a personal computer with the standard software package for applied statistical analysis (Statistica for Windows v.6.0). The critical level of significance for the null statistical hypothesis was set at 0.05.

Results: The ultrasound data in the patients showed that the most common combination was diffuse adenomyosis with uterine fibroids – in 60 (56.60±4.8%, $p<0.01$) patients, compared to the nodular form of adenomyosis with uterine fibroids – in 53 (44.93±4.6%) patients.

The study of the localization of fibroid nodes in combination with different forms of adenomyosis revealed that the most common combination was diffuse adenomyosis with intramural fibroid nodes (4-type according to FIGO) – in 64 (60.4%) patients. The next most common combination was diffuse adenomyosis with intramural- subserosal (5-type according to FIGO) fibroid nodes – in 18 (16.9%) patients. In cases of nodular forms of adenomyosis, the combination with intramural fibroid nodes (i.e., 4-type according to FIGO) was most common – in 8 (7.5%) and 5 (4.7%) patients, respectively. In rare cases, 0-type (submucosal fibroid on a stalk) was found – in 1 (0.9%) patient, and 2-type (intramural fibroid protruding into the uterine cavity less than 50%) – in 2 (1.9%) patients. The number of nodes (multiple/single nodes) in combination with different forms of adenomyosis was also studied. We found a predominance of the combination of multiple fibroid nodes with adenomyosis – in 58 (54.7%) patients, and a single node with adenomyosis – in 48 (45.3%) patients.

Conclusion: Ultrasound examination performed on expert-class equipment not only allows for the correct diagnosis but also helps identify the type of fibroid (simple or actively proliferating) and assess the degree of adenomyosis in the uterine wall. Pathomorphological studies are crucial for confirming and accurately diagnosing combined forms of fibroids and adenomyosis, determining the proliferative activity of fibroid nodules, and, when adenomyosis is combined with endometrial hyperplasia, assessing the risk of malignant transformation of the endometrium.

Key words. Adenomyosis, myoma, diagnosis, hysterectomy, uterus, differential diagnosis.

Introduction.

Adenomyosis of the Uterus is a condition characterized by the ectopic presence of endometrial glands and stroma within the myometrial layer, presenting as localized or diffuse lesions. Recent advances in imaging techniques for adenomyosis, particularly in 2D and 3D transvaginal ultrasound and magnetic resonance imaging (MRI), have led to improved clinical diagnosis of this condition in women of reproductive age. Many patients report symptoms such as dysmenorrhea, pelvic pain, abnormal uterine bleeding, and/or subfertility. Dysmenorrhea is one of the main clinical symptoms and is thought to positively correlate with adenomyotic foci [1-4].

The true prevalence of adenomyosis is unknown due to the various histopathological and ultrasound criteria used to define the condition, as well as the large number of asymptomatic patients with undiagnosed disease [5,6]. Clinical and radiological diagnosis of adenomyosis has improved over the past two decades, the impact of clinically significant adenomyosis on fertility and obstetric outcomes requires thorough investigation in order to provide counseling for patients with adenomyosis who wish to conceive. This is especially important for patients in older age groups, who are at the highest risk of developing adenomyosis and for whom the use of assisted reproductive technologies has significantly increased the likelihood of pregnancy [7-9]. Uterine fibroids are monoclonal, benign smooth muscle tumors of the myometrium and are the most common cause of gynecological surgeries in women. Clinical studies have shown that approximately 34% of women with uterine fibroids experience pelvic pain and/or dysmenorrhea symptoms. Endometrial hyperplasia ranks second among gynecological pathologies (up to 40%) after infectious diseases and is often associated with uterine fibroids and adenomyosis (ranging from 30% to 76.8%) [10-12]. These findings have prompted research into the combination of adenomyosis with other gynecological conditions.

The use of ultrasound as a screening tool for detecting gynecological pathologies allows for the visual identification of the presence and proliferative activity of uterine fibroid nodules

and adenomyosis, as well as the location of the fibroid nodules and adenomyotic foci. Additionally, the application of color Doppler mapping allows for the assessment of blood flow quality both within (intranodular) and around (perinodular) fibroid and adenomyotic nodules, as well as in the uterine arteries in cases of diffuse adenomyosis. In this regard, the aim of our study is to investigate the pathomorphological and clinical characteristics of the uterus in the combined form of uterine fibroids and adenomyosis.

Materials and Methods.

The research work was conducted within the framework of the scientific program of the Department of Obstetrics and Gynecology II at Azerbaijan Medical University for the years 2021-2024 (The study was conducted not over months, but during the period from 2021 to 2024, i.e., over 4 years). The examinations were carried out prospectively at the Department of Obstetrics and Gynecology II and the laboratory of the Teaching-Surgical Clinic of Azerbaijan Medical University. In this study, a comprehensive clinical, laboratory, and instrumental prospective examination was conducted on 113 patients with a combination of adenomyosis and uterine fibroids, aged 30 to 50 years (mean age: 42,0±1,8 years). These patients formed the main study group. The patients in the main group were divided into two subgroups depending on the form of adenomyosis: Group 1 (diffuse form) included 60 women, and Group 2 (nodular form) included 53 women. The control group consisted of 24 relatively healthy women of reproductive age with regular ovulatory menstrual cycles and no gynecological diseases in their medical history. The cohort studies were prospective in nature.

Inclusion criteria for the study: patients diagnosed with adenomyosis; patients aged 30 to 50 years; written consent from the patient to participate in the examinations.

Exclusion criteria from the study: The presence of a malignant pathological process in the reproductive organs or other locations; Presence of hormone-producing ovarian tumors; Pregnancy and lactation; Patients younger than 30 years or older than 50 years; Refusal to participate in the study.

All patients initially underwent a 2D (two-dimensional) transvaginal ultrasound examination. Then, based on indications, a 3D transvaginal ultrasound (3D TVE) of the pelvic organs was performed. Pelvic ultrasound examinations were conducted using both transabdominal and transvaginal probes on a digital stationary ultrasound diagnostic machine, the Accuvix XQ-EXP, an expert-class device by Medison Co Ltd (South Korea).

There is a classification of the disease that takes into account the depth of the pathological process [13]. According to this classification, there is four stages of adenomyosis:

- Stage I – pathological changes are limited to the submucosal layer of the uterine body.
- Stage II – the pathological process spreads to the muscular layers.
- Stage III – the pathological process has spread throughout the thickness of the uterine muscular layer up to its serous covering.
- Stage IV – involvement of the pathological process, in addition to the uterus, includes the parietal peritoneum of the pelvis and adjacent organs.

The clinical characteristics of the examined women were based on the study of complaints, obstetric-gynecological, and somatic medical histories. For all patients, data from the general and gynecological medical history were examined, along with the specifics of menstrual function. Special attention was given to previous inflammatory diseases of the genital organs, spontaneous abortions in the medical history, premature pregnancies, antenatal fetal death, the course of pregnancy, and their outcomes. Statistical processing of the results was performed using commonly used methods of parametric and non-parametric statistics on a personal computer with the standard software package for applied statistical analysis (Statistica for Windows v.6.0). The critical level of significance for the null statistical hypothesis was set at 0.05.

Results and Discussion.

The study of the number of fibroid nodes in combination with different forms of adenomyosis showed a difference between simple and proliferating fibroids, which aligns with the opinion of most scientists regarding the etiopathogenesis of endometrial pathology [8-11]. For example, in a patient with a simple fibroid in combination with adenomyosis, the number of nodes ranged from 1 to 3, while in a patient with proliferating fibroids in combination with adenomyosis, the number of nodes ranged from 2 to 8 (Table 1).

The results of the study of ultrasound data in patients showed that the most common combination was diffuse adenomyosis with uterine fibroids – in 60 (56,60±4,8%, $p<0.01$) patients, compared to the nodular form of adenomyosis with uterine fibroids – in 53 (44,93±4,6%) patients. The study of the localization of fibroid nodes in combination with different forms of adenomyosis showed that the most common combination was diffuse adenomyosis with intramural fibroid nodes (4-type according to FIGO) – in 64 (60,4%) patients. The second most common combination was diffuse adenomyosis with intramural-subserosal (5-type according to FIGO) fibroid nodes – in 18 (16,9%) patients. In cases of nodular forms of adenomyosis, the combination with intramural fibroid nodes (i.e., 4-type according to FIGO) was most common – in 8 (7,5%) and 5 (4,7%) patients, respectively. In rare cases, 0-type (submucosal fibroid on a stalk) was found – in 1 (0,9%) patient, and 2-type (intramural fibroid protruding into the uterine cavity less than 50%) – in 2 (1,9%) patients. The number of nodes (multiple/single nodes) in combination with different forms of adenomyosis was also studied. We found a predominance of the combination of multiple fibroid nodes with adenomyosis – in 58 (54,7%) patients, and a single node with adenomyosis – in 48 (45,3%) patients, which is also confirmed by the data of other authors [4,5] (Figure 1).

In terms of the type of fibroid nodules in combination with simple and proliferating fibroids and adenomyosis, it was found that the majority of the nodules were proliferating nodules (65 nodules, 61,3±4,6%). The combination of adenomyosis with simple fibroid nodules accounted for 41 nodules (38,7±4,6%) (Figure 2).

The total uterine volume in patients with uterine fibroids, as measured by ultrasound, corresponded to 9-10 weeks of pregnancy, with a maximum of 8 fibroid nodules detected in

Table 1. *Combination of Adenomyosis Forms with Different Types of Fibroid Nodules According to the FIGO Classification (Based on the Number of Fibroid Nodules).*

Classification of uterine fibroids (myomas) FIGO	*Form of Adenomyosis*				*Total fibroids*	
	Diffuse (group 1, n=60)		*Nodular (group 2, n=53)*			
	Abs.	*%*	*Abs.*	*%*	*Abs.*	*%*
0	1	0,9	-		1	0,9
1	-		-		-	
2	2	1,9	-		2	1,9
3	3	2,6	-		3	2,6
4	64	60,4	8	7,5*	72	67,9
5	18	16,9	5	4,7	23	22,0
6	3	2,8	2	1,9	5	4,7
7	-		-		-	
8	-		-		-	
Total fibroids	91	85,4	15	14,6*	106	100
Total patients	60	56,60±4,8	53	44,93±4,6	113	50,45±3,4

Note:* *- The differences are statistically significant compared to the nodular form of adenomyosis (p < 0,01).*

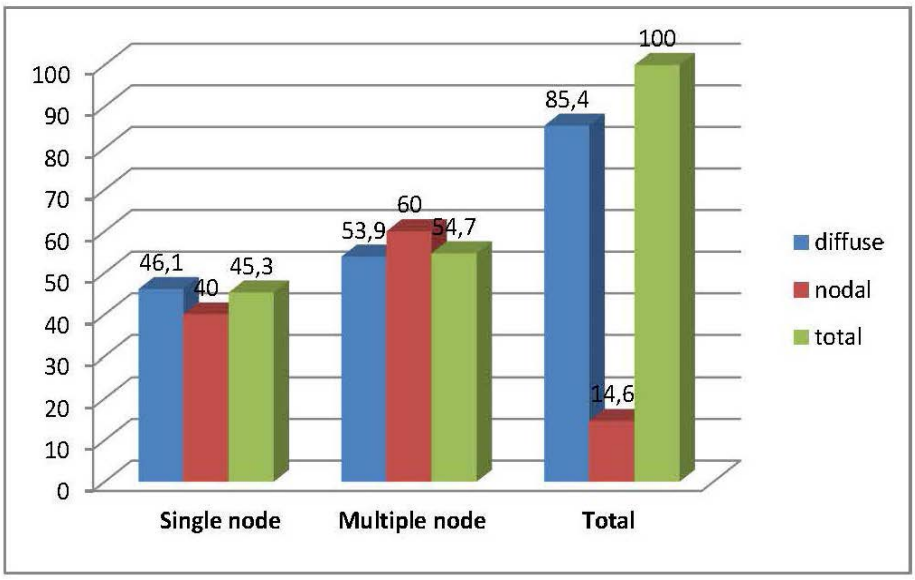

Figure 1. *Combination of adenomyosis type with single or multiple myomatous nodes, % (the number of nodes - n=106).*

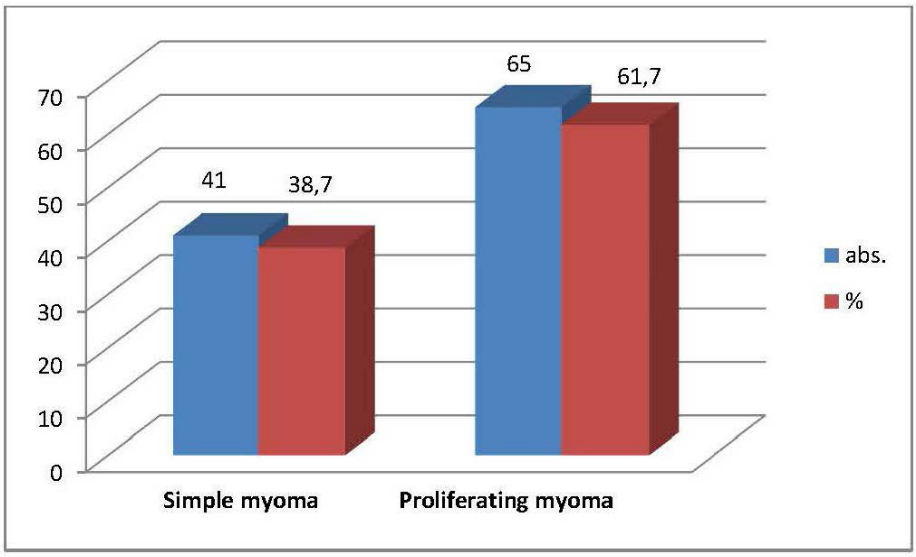

Figure 2. *Combination of Simple and Proliferating Fibroids with Adenomyosis (the number of nodes- n=106).*

two patients. However, in some cases, it was difficult to count the total number of nodules because larger nodules obscured smaller ones. The nodule sizes ranged from 4,5-5 mm to larger nodules measuring 60-65 mm in diameter. Single, relatively large nodules were also observed, which indicates the low informativeness of total uterine volume for determining the type of fibroid nodules. To assess the proliferative activity of the fibroids, we used color Doppler imaging, which determines the blood flow quality around and inside the fibroid and adenomyotic nodules, as well as the uterine arteries in cases of diffuse adenomyosis. The study of the localization of fibroid nodules in the uterus showed that the majority of nodules were located in the middle third of the uterine body—51,3±4,7% (58 cases). Nodules were found in the upper third of the uterine body in 34,5±4,5% (39 cases), and in 12 cases (10,6±2,9%), the nodules were located in the lower third of the uterine body. The topography of the nodules in uterine fibroids was similar to that in cases of combined fibroids and adenomyosis. On the anterior wall of the uterus, the nodules were located in 49 cases (43,4±4,7%), on the posterior wall in 45 cases (39,8±4,6%), and on the lateral walls in 15 cases (13,3±3,2%) (Figure 3).

The most frequently identified form was diffuse adenomyosis of Grade 1, found in 33 (55,0± 6,4%) patients. Diffuse adenomyosis of Grade 2 was observed in 8 (13,3±4,5%) patients, and diffuse adenomyosis of Grade 3 was found in 19 (31,7±6,0%) patients. No cases of grade 4 severity were identified in our patients. (Table 2).

In 53 (44,9±4,6%) patients, the nodular form of adenomyosis was identified. Among them, 14 (26,4 ±6,0%) patients had Grade 1 nodular adenomyosis, 27 (51,0±6,7%) had Grade 2, and 12 (22,6± 5,8%) had Grade 3 adenomyosis. The obtained data are consistent with the results of studies by several authors published previously [1-3].

Upon examining the removed uteri with fibroids, it was macroscopically found that fibroid nodules occurred in varying numbers and sizes. Typically, they had a firm consistency and lacked a capsule. Histological examination of the fibroids revealed characteristic signs of tissue atypia, typical of benign tumors, i.e., muscle fibers of varying orientation and thickness with uneven distribution of the stroma and blood vessels (Figure 4).

During total abdominal hysterectomy and bilateral salpingo-oophorectomy, the following changes were identified: In the cervix: chronic cervicitis, Nabothian cysts. In the endometrium: predecidual changes (progesterone effect), in the myometrium: adenomyosis, nodules of cellular leiomyoma, in the ovaries: presence of white particles, in the fallopian tubes: paratubal cysts (Figure 5).

Table 2. *Severity Stages of Different Forms of Adenomyosis (number of patients n=113). (There is no discrepancy. Number of nodes: 106, number of patients: 113.)*

Form of Adenomyosis	*Severity of Adenomyosis*						*Total*	
	1 grade		*2 grade*		*3 grade*			
	Abs.	*%*	*Abs.*	*%*	*Abs.*	*%*	*Abs.*	*%*
Diffuse form	33	55,0±6,4	8	13,3±4,5	19	31,7±6,0	60	56,60±4,8
Nodular form	14	26,4±6,0	27	51,0±6,7*	12	22,6±5,8*	53	44,93±4,6
Total patients	47	41,6±4,6	35	30,9±4,4	31	27,5±4,2	113	100

Note:* *- The differences are statistically significant compared to the nodular form of adenomyosis.*

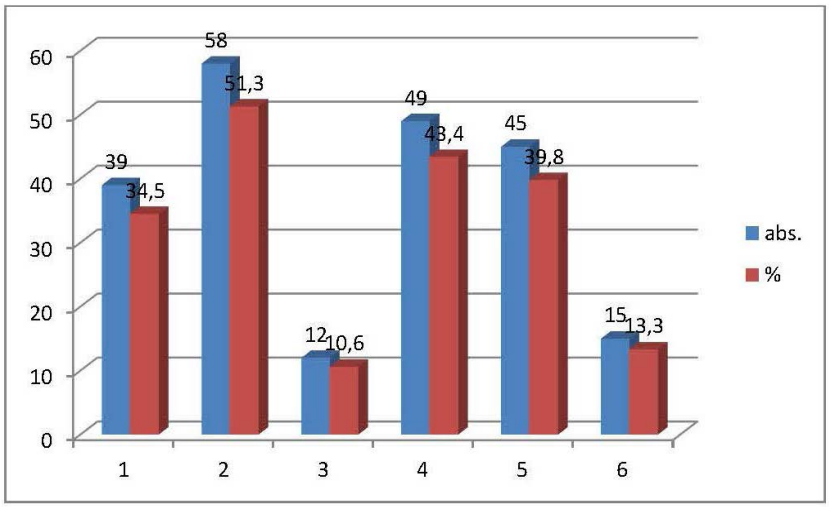

Figure 3. *Location of Fibroid Nodules (of the total number of fibroid nodules)*

1. In the upper third of the uterine body.
2. In the middle third of the uterine body.
3. In the lower third of the uterine body.
4. On the anterior wall.
5. On the posterior wall.
6. On the lateral walls.

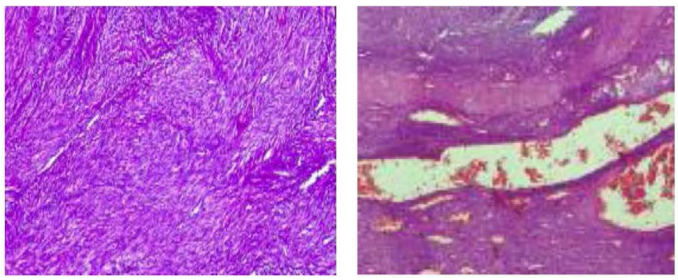

Figure 4. *Patient T.G., 49 years old, Medical History No. L0043645. Uterine Fibroid. Stained with Hematoxylin and Eosin. Magnification: 10×10.*

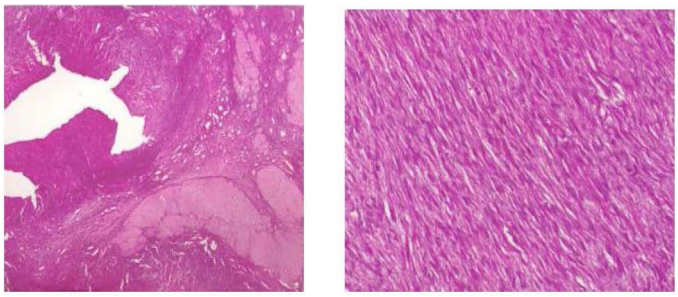

Figure 5. *Changes Identified During Total Abdominal Hysterectomy and Bilateral Salpingo-Oophorectomy. Patient B.S., 52 years old, Medical History No. L0111778. Stained with Hematoxylin and Eosin. Magnification: 10×10.*

Conclusion.

Ultrasound examination performed on expert-class machines not only allows for the correct diagnosis but also helps in identifying the type of fibroid nodule (simple or actively proliferating) and the degree of adenomyosis development in the uterine body. On standard ultrasound machines, the nodular form of adenomyosis is often misdiagnosed as fibroids. Diffuse adenomyosis of Grade 1 is also not detected on ultrasound, which often leads to low treatment efficacy. Pathomorphological studies allow for the accurate diagnosis and confirmation of combined forms of fibroids and adenomyosis, the assessment of the proliferative activity of fibroid nodules, and, in cases of adenomyosis combined with endometrial hyperplasia, the identification of the risk for malignant transformation of the endometrium. The results of the pathomorphological studies highlighted the necessity of conducting high-quality examinations using devices with high resolution. The results of our research on the diagnosis and treatment of combined uterine fibroids and adenomyosis have been implemented into clinical practice at the Department of Obstetrics and Gynecology of the Teaching-Surgical Clinic of the Azerbaijan Medical University (AMU). The implementation of these results has contributed to improving the quality of medical care. The use of comprehensive diagnostic and treatment methods led to a reduction in the number of radical surgeries among women of reproductive age.

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