

**ANALYSIS OF PATHOMORPHOLOGICAL CHANGES IN HISTOLOGICAL FORMS
OF UTERINE MYOMYAMIA IN WOMEN OF THE FERGANA VALLEY**

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Annotation: In the study of pathomorphological examination of uterine myoma in women of the Fergana Valley, the prevalence of apoptosis over proliferation of leiomyocytes in normal leiomyoma, their hypertrophy, an increase in stromal elements and its secondary changes, proliferation and hypertrophy of leiomyocytes in cellular leiomyoma, a decrease in apoptosis, cell proliferation in mitotically active leiomyoma were established. It was established that it has a significant advantage, less stroma, immaturity and signs of neoangiogenesis.

Key words: uterine myoma, leiomyoma, pathomorphological studies, proliferative, mitotically active, atypical myoma, reproductive age.

Annotatsiya. Tadqiqotda Farg'ona vodiysi ayollaridagi bachaddon miomasini patomorfologik tekshirishlarda oddiy leyomiomada leyomiotsitlarda proliferatsiyadan apoptozning ustunligi, ularni gipertrofiyasi, stroma elementlarini ko'payishi va uning ikkilamchi o'zgarishi, hujayrali leyomiomada leyomiotsitlarni ko'payishi va gipertrofiyasi, apoptozning kamayishi, mitotik faol leyomiomada hujayralarni proliferatsiyasi apoptozga nisbatan sezilarli ustunligi, stromasi kamroq, yetilmagan, neoangiogenez belgilari bilan namoyon bo'lishi aniqlandi.

Kalit so'zlari: bachadon miomasi, leyomioma, patomorfologik tekshirishlar, proliferatsiyalanuvchi, mitotik faol, atipik mioma, reproduktiv yosh.

Аннотация. В исследовании при патоморфологическом исследовании миомы матки у женщин Ферганской долины установлено преобладание апоптоза над пролиферацией лейомиоцитов при нормальной лейомиоме, их гипертрофия, увеличение стромальных элементов и ее вторичных изменений, пролиферация и гипертрофия лейомиоцитов при клеточной лейомиоме. , уменьшение апоптоза, пролиферации клеток при митотически активной лейомиоме. Установлено, что он имеет существенное преимущество, меньше стромы, незрелости и признаков неоплазии.

Ключевые слова: миома матки, лейомиома, патоморфологические исследования, пролиферативная, митотически активная, атипичная миома, репродуктивный возраст.

Relevance: Over the past 40 years, the incidence of uterine fibroids in women under 30 has increased from 2 to 12.5%. The peak of myoma detection and manifestation of clinical symptoms corresponds to the late reproductive age (32-35 years), which accounts for 45-50% of all women with uterine myoma [1.2.3] . By the age of 40-50, the percentage of women with uterine fibroids with clinical manifestations increases to 60-70% [4.5].

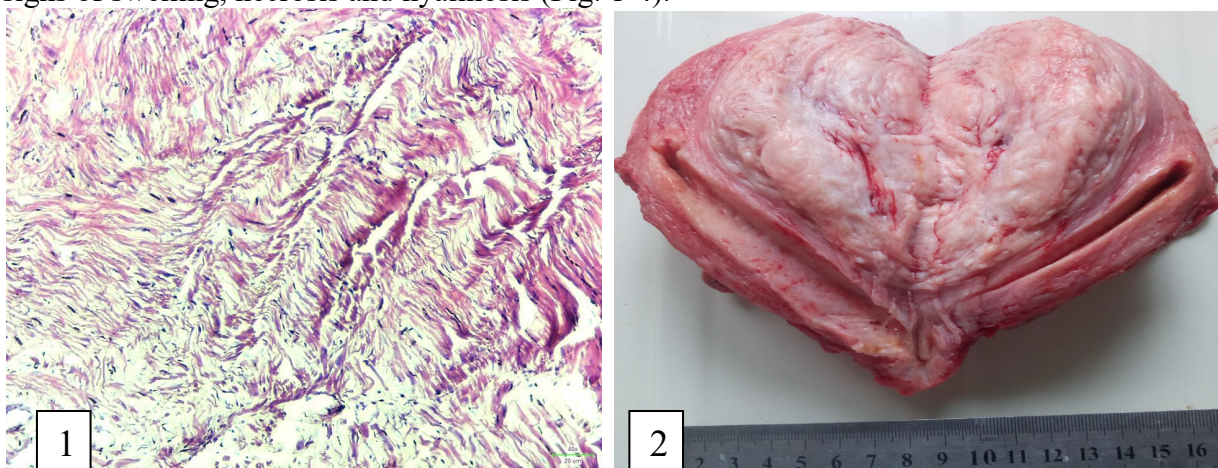
The purpose of the study: to study the specific aspects of pathomorphological changes in leiomyomas of different histological types.

In this study, the pathomorphological changes of the biopsies of uterine fibroids of 50 patients who underwent hysterectomy and 5 uterine amputations for other reasons during 2019-2022 were studied.

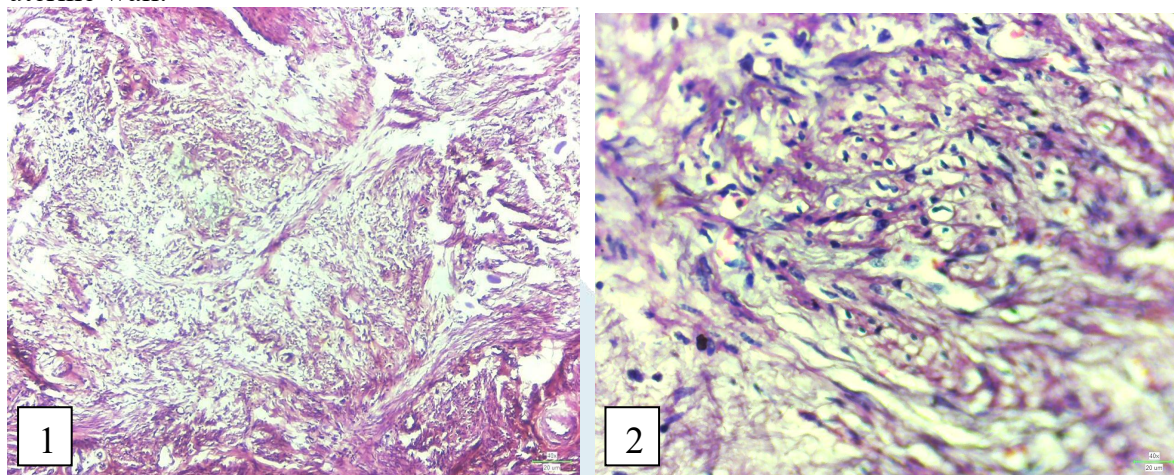
Results: Macropreparations (removed uterus and myomatous nodes) were studied. From each tumor, 2-5 sections were cut, and in addition, myometrial and endometrial tissues near the tumor were examined. Sections were examined histologically by staining with hematoxylin-eosin method and with picrofuchsin dyes with Van Gison method. Morphological features of normal, cellular and mitotically active leiomyomas were compared.

According to the histological analysis of 32 removed uterine myomatous nodular tumors, all of them were characterized as normal uterine fibroids without stromal tumor. In them, smooth muscle cells were found without chaotically located bundles, and the tumor nodules were predominantly intermuscular and subserous. In the tissue structure, the dominance of connective tissue components and a small number of vessels was observed.

Normal leiomyoma histologically was observed to consist of irregularly arranged short bundles of smooth muscle cells and well-developed layering barriers of mature connective tissue containing abundant collagen fibers. When compared with the myometrium of the control group, leiomyocytes in the tumor were found to have an elongated spindle shape and larger sizes (hypertrophied). The stroma was represented mainly by fibrocytes and fibroblasts, with a small number of vessels with sclerotized walls. Secondary changes were determined by microscopic signs of swelling, necrosis and hyalinosis (Fig. 1-4).



Picture-1-2. 1. Normal cell leiomyoma. Disordered growth and proliferation of smooth muscle cells and connective tissue cells and fibrous structures. Stained by the hemm.-eosin method. Magnification ob. 10 ok. 12.5. 2. The tumor node is located intramural, unicentric growth, clearly demarcated from the myometrium, 5 cm in diameter, full-blooded, sharply thickening of the uterine wall.



Picture-3-4. 1-2. Simple cell leiomyoma. Disordered growth, proliferation of smooth muscle cells and connective tissue cells and fibrous structures, moderate fullness of blood vessels. Stained by the hemm.-eosin method. Magnification ob. 10 and 40, ok. 12.5.

Cellular leiomyomas are large, elongated, hyperchromic nuclei, hypertrophied and densely located, composed of clusters of leiomyocytes with ill-defined borders and weakly expressed stroma. Cell atypism and signs of mitosis were not observed, cell hypertrophy and multicellularity were observed (Fig. 5-8).

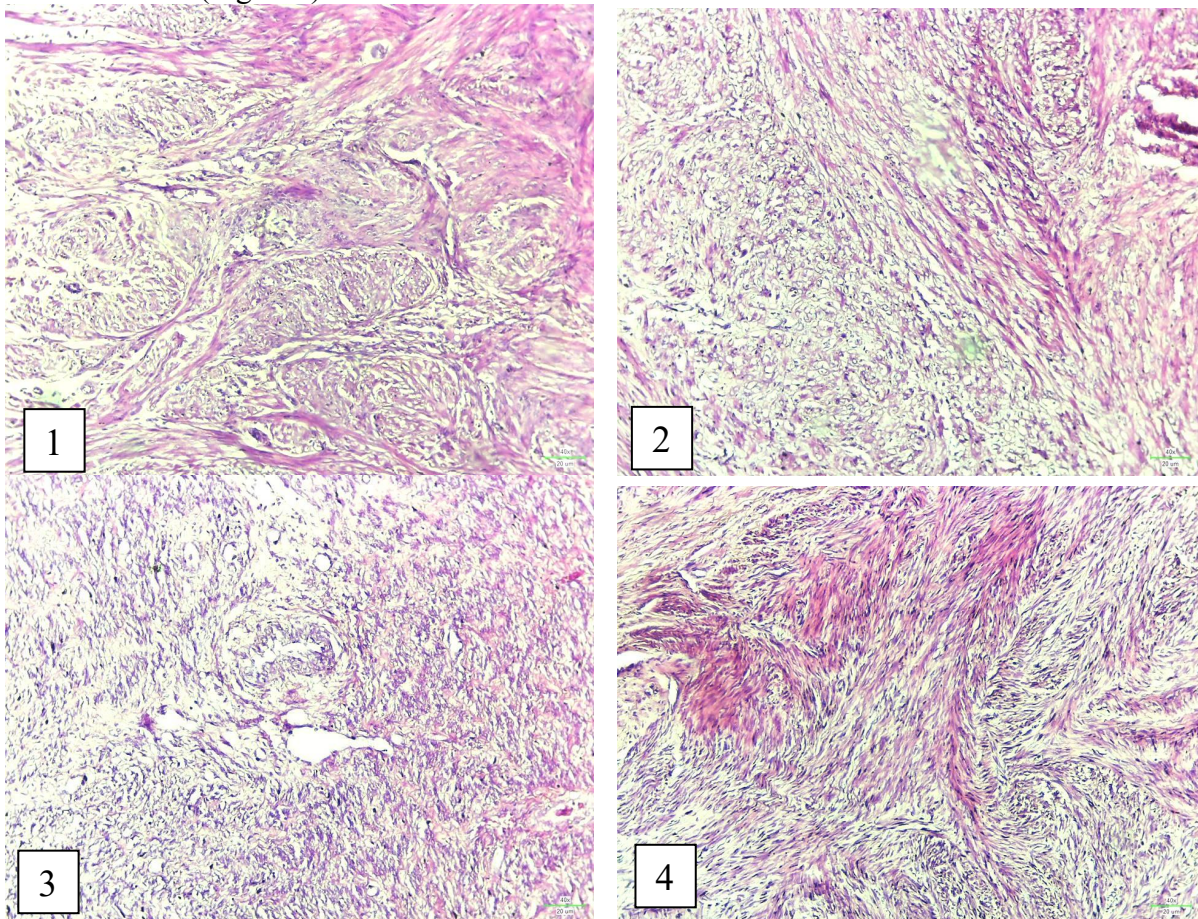


Figure-5-8. 1-4. Epithelioid cell leiomyoma. Focal proliferation of myoid cells (smooth muscle cells with a bright nucleus and cytoplasm), chaotically located smooth muscle cells of a cord-like appearance, polymorphous smooth muscle and connective tissue cells, disordered growth, proliferation of fibrous structures around the vessels. swelling in the interstitial tissue. Stained by the hemm.-eosin method. Magnification ob. 10 ok. 12.5.

Mitotically active leiomyoma was characterized by the presence of hypertrophied leiomyocytes and immature vascular stroma. At high magnification (x400), 5-10 mitotic signs were observed in 10 fields of view. Mitotic activity was detected in the form of separate reproduction foci, in "growth zones" located around sinusoidal vessels (Fig. 9-10).

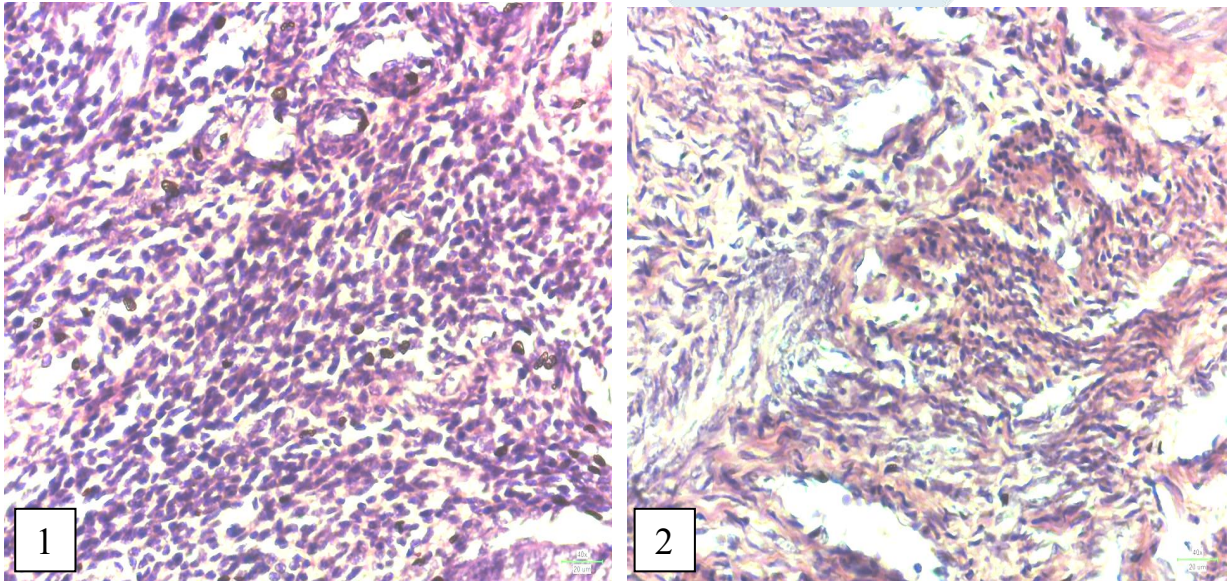
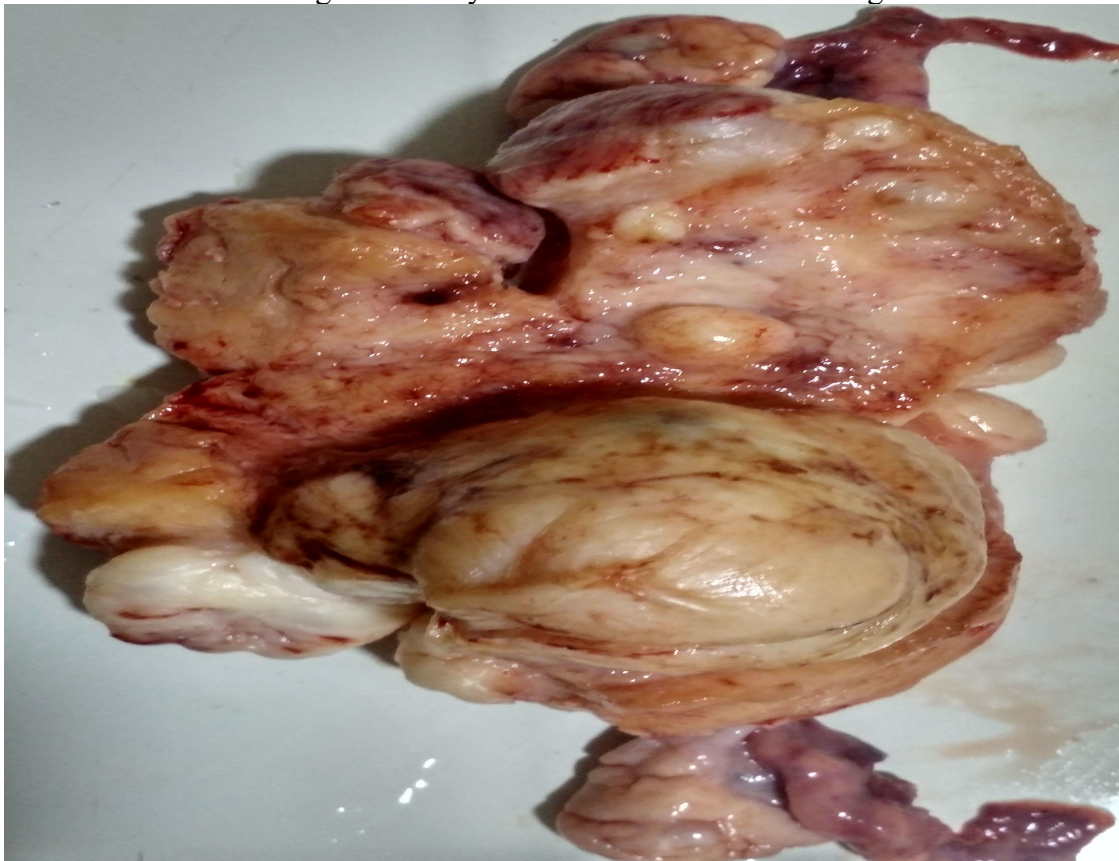


Figure-9-10. 1-2. Atypical leiomyoma. Polymorphic, hyperchromic, many mitoses, chaotically located smooth muscle and connective tissue cells, disorderly compression of fibrous structures, interstitial tissue swelling. Stained by the hemm.-eosin method. Magnification ob. 10 ok. 12.5.



Picture-11. Atypical leiomyoma. Tumor nodes are multicentric, submucosal and intramural, and of various sizes. The wall of the uterus was thickened, deformed, and appeared with the foci of hemorrhage.

In 18 biopsies characterized as proliferative uterine fibroids, the presence of proliferation foci was noted. High cellularity of myomatous nodes was determined. It was observed that myocytes are mainly represented by large-sized cells tightly connected to each other. Proliferation was mainly

observed around the vessels and it was found that they could be detected both in the thickness of the nodule and around it. Muscle cells near the proliferation branches in the nodes are located in dense bundles, and they are distinguished by the lack of development of oval nuclei and stroma (Fig. 12-13).

In age group 1 (premenopause) mitotically active leiomyomas predominated (70%), in age group 2 (postmenopause) simple leiomyomas predominated (65%). Cellular leiomyomas were found both in the 1st age group (60%) and in the 2nd age group (40%). It was observed that normal leiomyomas are located mainly in the form of subserous and intramural nodes, cellular leiomyomas - nodes of different localization, mitotically active leiomyomas - submucosal nodes. Rapid tumor growth was noted in 30 leiomyomas.

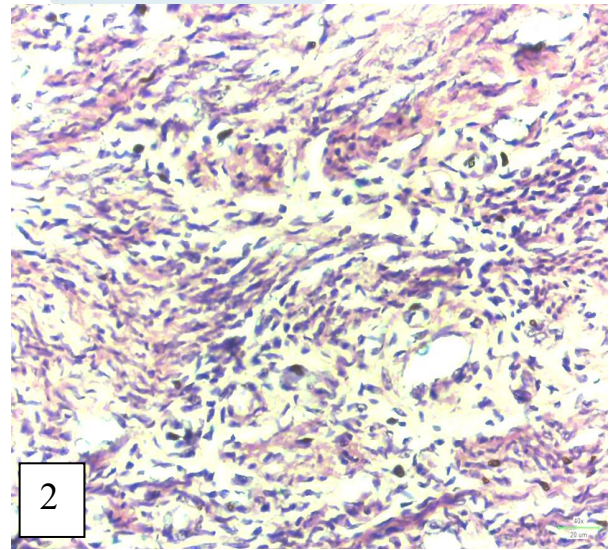
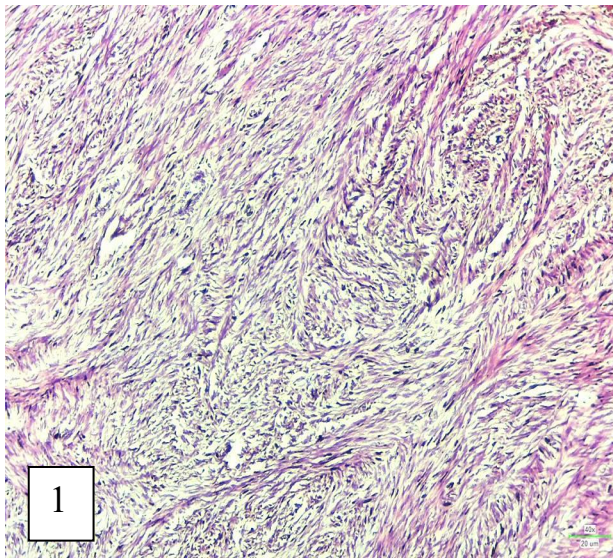
The growth of leiomyoma was determined due to hypertrophy, proliferation and apoptosis of leiomyocytes, as well as the formation of stroma and secondary changes.



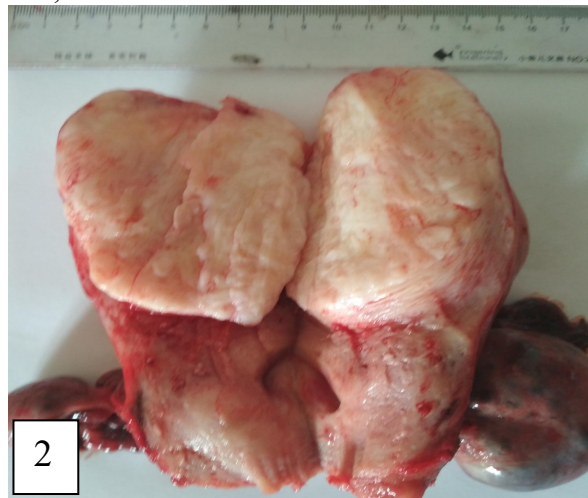
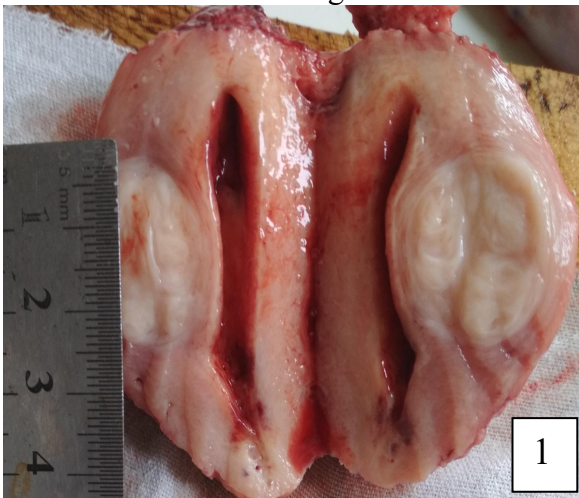
Picture-12-13. Proliferative leiomyoma. The size of the uterus has increased, the tumor nodes are of different sizes, the submucosal and intramural multicentric have grown, the periphery is clearly demarcated from the myometrium, and the uterine wall has thickened. The size of tumor nodes is from 0.5 cm to 4 cm. (biopsy no.)

An increase in the size of a normal leiomyoma occurs due to the hypertrophy of leiomyocytes, the formation of stroma, and secondary changes in the tumor. The process of hypertrophy is clearly manifested in cellular leiomyomas. Cellular leiomyomas have high cellularity.

An increase in the mass of mitotically active leiomyoma, proliferative activity of cells of "growth zones" - pericytes, fibroblasts, myocytes was observed.



Picture-14-15. 1-2. Proliferative leiomyoma. Focal proliferation of smooth muscle cells, smooth muscle and connective tissue cells, disordered growth, proliferation of fibrous structures, moderate fullness of vessels, diapedesis hemorrhages, interstitial tissue swelling. Stained by the hemm.-eosin method. Magnification ob. 10 and 40, ok. 12.5.



Picture-16-17. 1-2. Proliferative leiomyoma. Growth nodules are located intramural and subserous, unicentric growth, clearly demarcated from myometrium, wall thickened. Serous-hemorrhagic cysts in ovaries.

Conclusions: Histological types of leiomyoma are characterized by pathogenetic and morphological characteristics, which are associated with a change in the ratio of proliferation and apoptosis processes in tumor cells, which causes differences in their growth mechanisms. Normal leiomyoma is distinguished by the predominance of apoptosis over proliferation in leiomyocytes. An increase in the size of such a tumor is probably the result of not only the proliferation of tumor cells, but also their hypertrophy, as well as the increase of stroma elements and its secondary changes. is characterized by a slight advantage. The increase in the size of cellular leiomyoma is associated with the proliferation and hypertrophy of leiomyocytes, as well as the accumulation of cells due to the prolongation of their life against the background of a decrease in apoptosis. Mitotically active leiomyoma is characterized by a significant predominance of tumor cell proliferation processes over apoptosis, which is the main condition for tumor growth. Formation of stroma, hypertrophy of leiomyocytes and prolongation of their life also lead to increase in size of mitotically active leiomyomas. Stroma-parenchyma ratio in simple leiomyoma with mature

stroma containing collagen fibers and fibroblastic cells leading to secondary changes, in cellular leiomyoma the stroma is connective tissue with a small amount of collagen fibers and vessels, in mitotically active leiomyomas the amount of stroma is greater than parenchyma. less often, it is characterized by signs of immature neoangiogenesis and fibroblast cell “growth zones” and the presence of leiomyocytes around vessels.

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