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IMMUNOHISTOCHEMICAL CHARACTERISTIC OF MYOMA TISSUE IN PATIENTS WITH UTERINE LEIOMYOMA AFTER TREATMENT WITH ULIPRISTAL ACETATE

The study was performed as a part of scientific research work "Improvement of minimally invasive surgical methods for treatment of certain diseases of vessels, internal and reproductive organs, abdominal wall, thyroid and parathyroid glands, joints, particularly with the use of implants with individually modified surface based on nanobiosensory technologies" (state registration number 0114U002120).

ABSTACT. Background. Uterine leiomyoma is one of the most common benign tumors of the female genital organs. The main conservative treatment of leiomyoma is progesterone receptor blockers that suppress myoma growth and may lead to its regression. **Objective**. To study the immunohistochemical features of myoma tissue in patients with uterine leiomyoma after treatment with selective progesterone modulator - ulipristal acetate. **Methods**. Leiomyoma tissue obtained from 9 patients after ulipristal acetate treatment were investigated. Group for comparison - leiomyoma from patients without hormonal therapy. Immunohistochemical study of progesterone and estrogen receptors, proliferative activity marker Ki-67 and inhibitor of apoptosis Bcl-2 was performed. **Results**. In the group of patients without preoperative hormonal treatment progesterone receptors were expressed in 76,4±6,8% of the nuclei, estrogen receptors - in 32,8±2,6%. In the group of patients after treatment with ulipristal acetate there was a significant decrease of progesterone receptor expression – 36,8±1,28% ($p < 0,05$) and a nonsignificant decrease of estrogen expression – 30,7±3,4% ($p > 0,05$) . Bcl-2 in the control group was found in 65,4±7,2% cells, in leiomyoma after treatment there was a significant decrease of bcl-2 – 42,6±3,2% ($p < 0, 05$). In leiomyomas without hormonal treatment Ki-67 was determined in 11,8% of the nuclei of smooth muscle cells, and in leiomyomas after ulipristal acetate – in 7,2% leiomyoma cells. **Conclusions**. In patients after three months of ulipristal acetate treatment there was a significant decrease of expression of progesterone receptor, bcl-2, and Ki-67. Taken together these data evidence reduced action of progesterone on leiomyoma cells, induction of apoptosis and decreased proliferation processes that may cause involution of fibroids.

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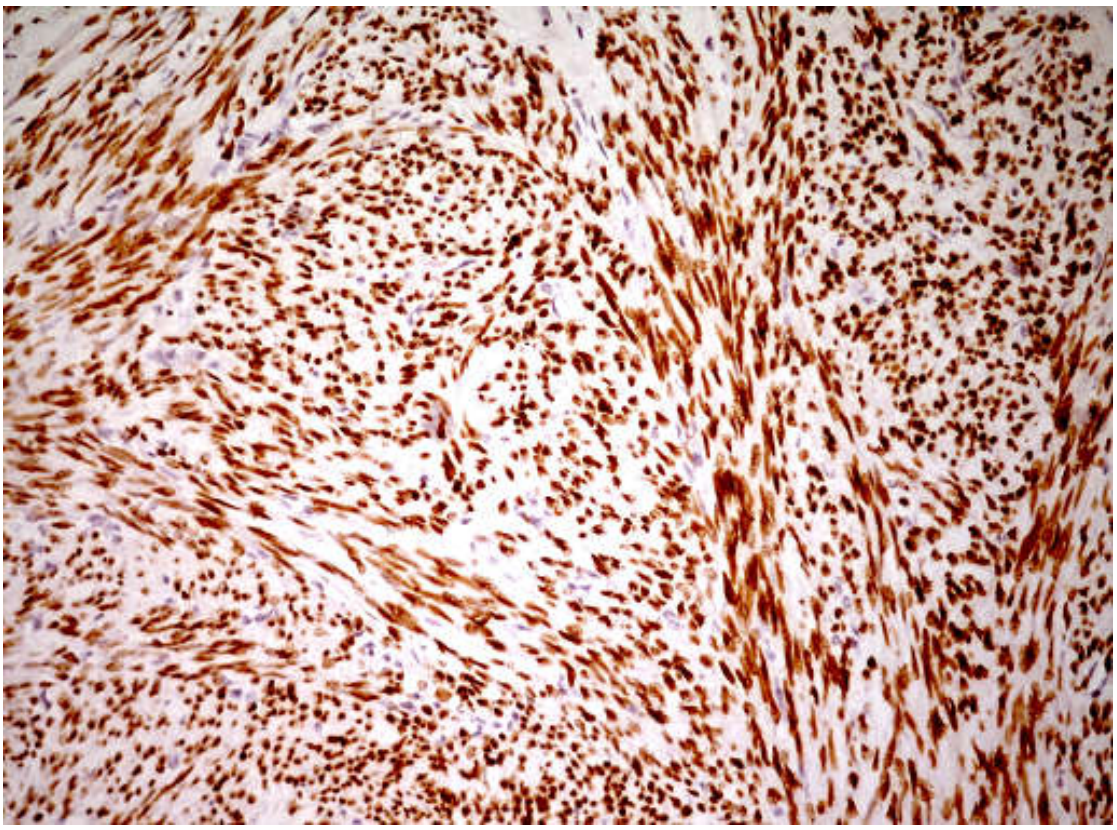

Fig. 1. Expression of receptors for progesterone in the nuclei of leiomyoma smooth muscle cells. Control group. Immunohistochemical investigation. ×200.

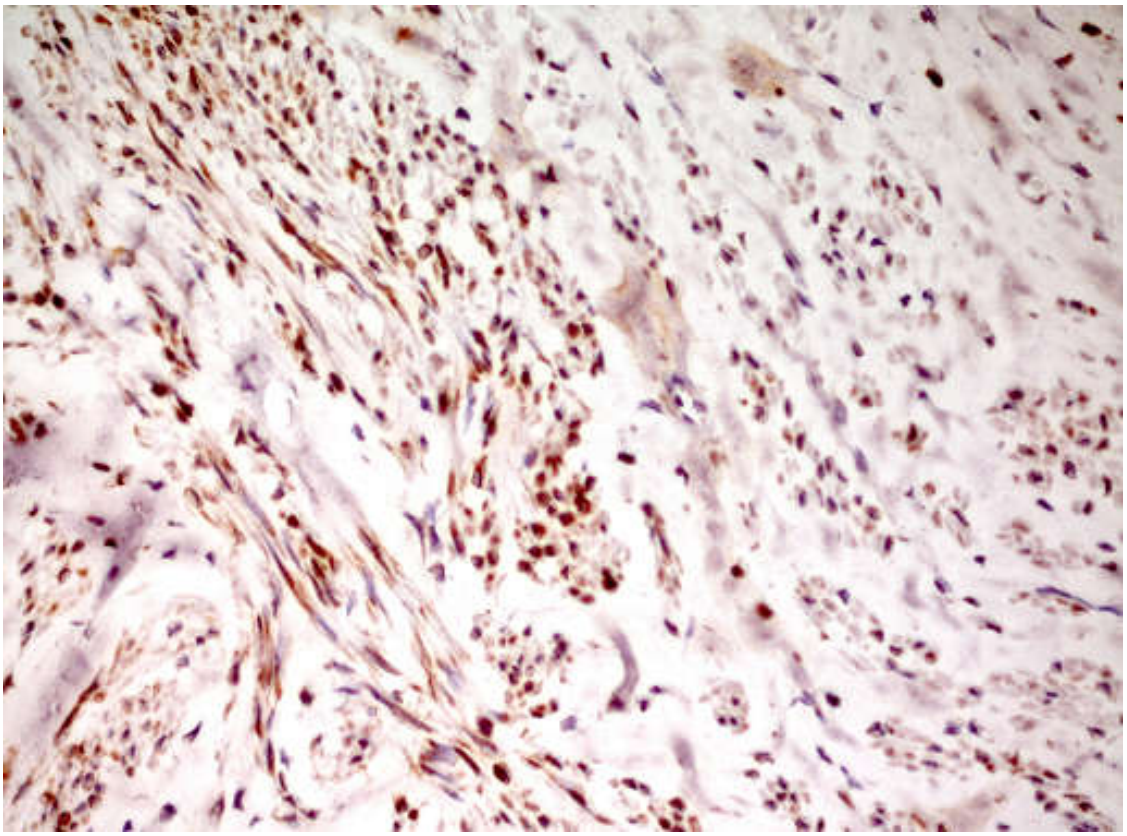

Fig. 2. Expression of receptors for progesterone in the nuclei of leiomyoma smooth muscle cells. Group of patients who received ulipristal acetate. Immunohistochemical investigation. ×200.

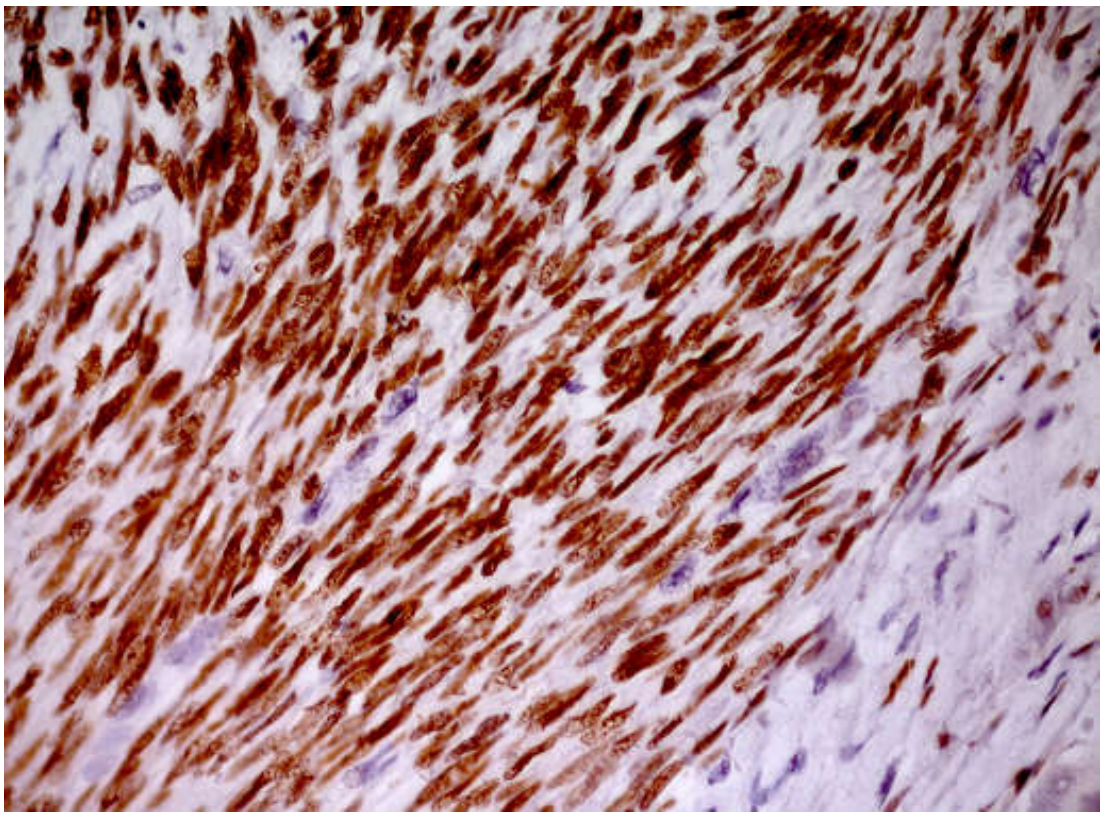

Fig. 3. Expression of apoptosis inhibitor bcl-2 in the nuclei of leiomyoma smooth muscle cells. Control group. Immunohistochemical investigation. ×400.

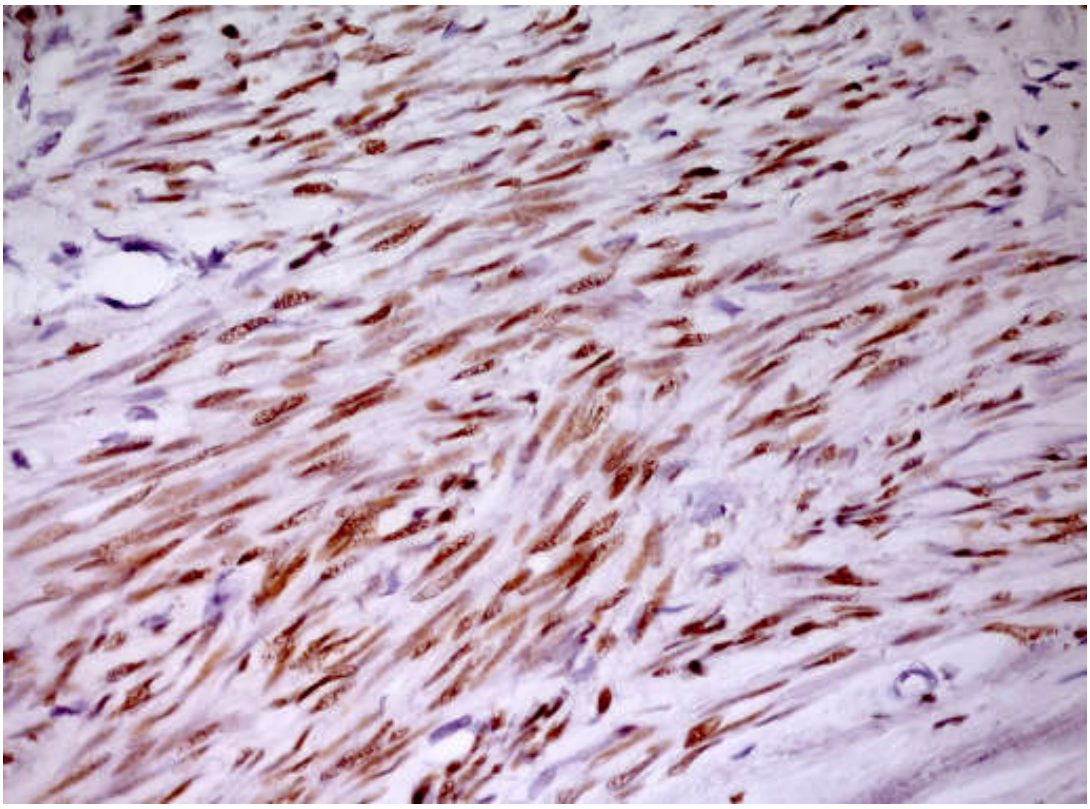

Fig. 4. Expression of apoptosis inhibitor bcl-2 in the nuclei of leiomyoma smooth muscle cells. Group of patients who received ulipristal acetate. Immunohistochemical investigation. ×400.

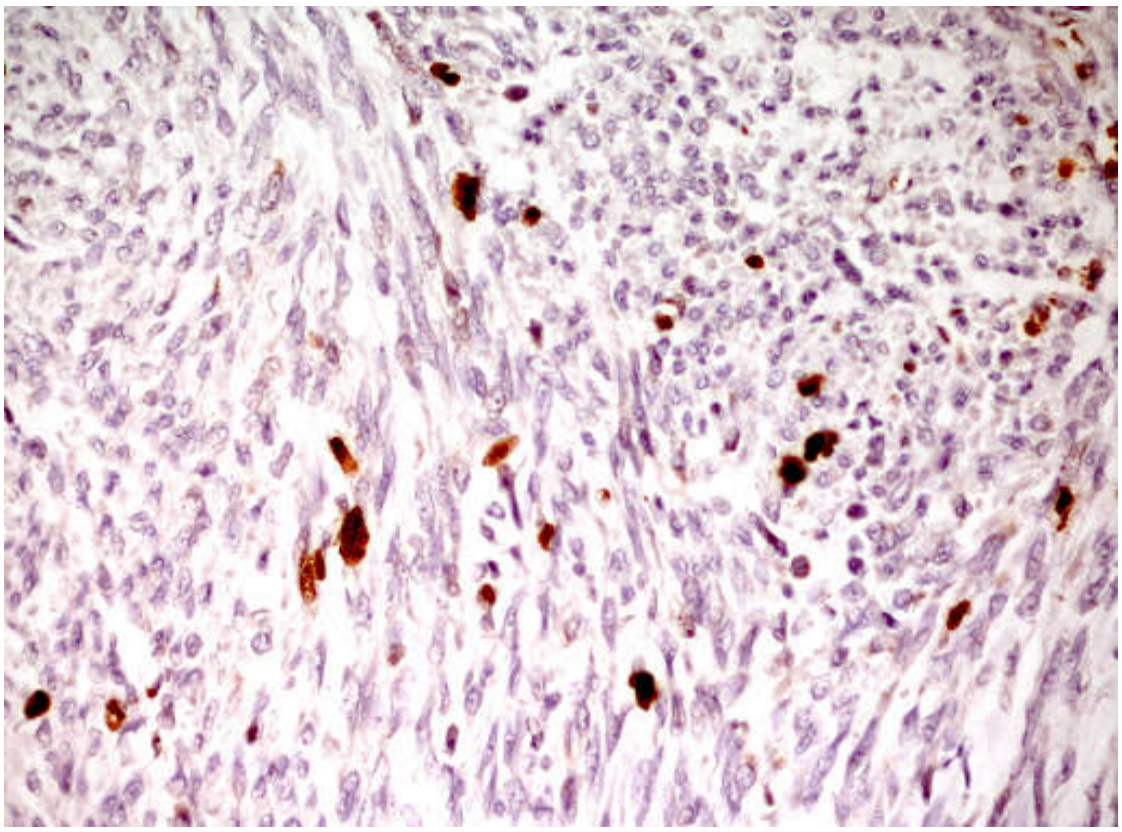

Fig. 5. Expression of Ki-67 protein in the nuclei of leiomyoma smooth muscle cells. Control group. Immunohistochemical investigation. ×400.

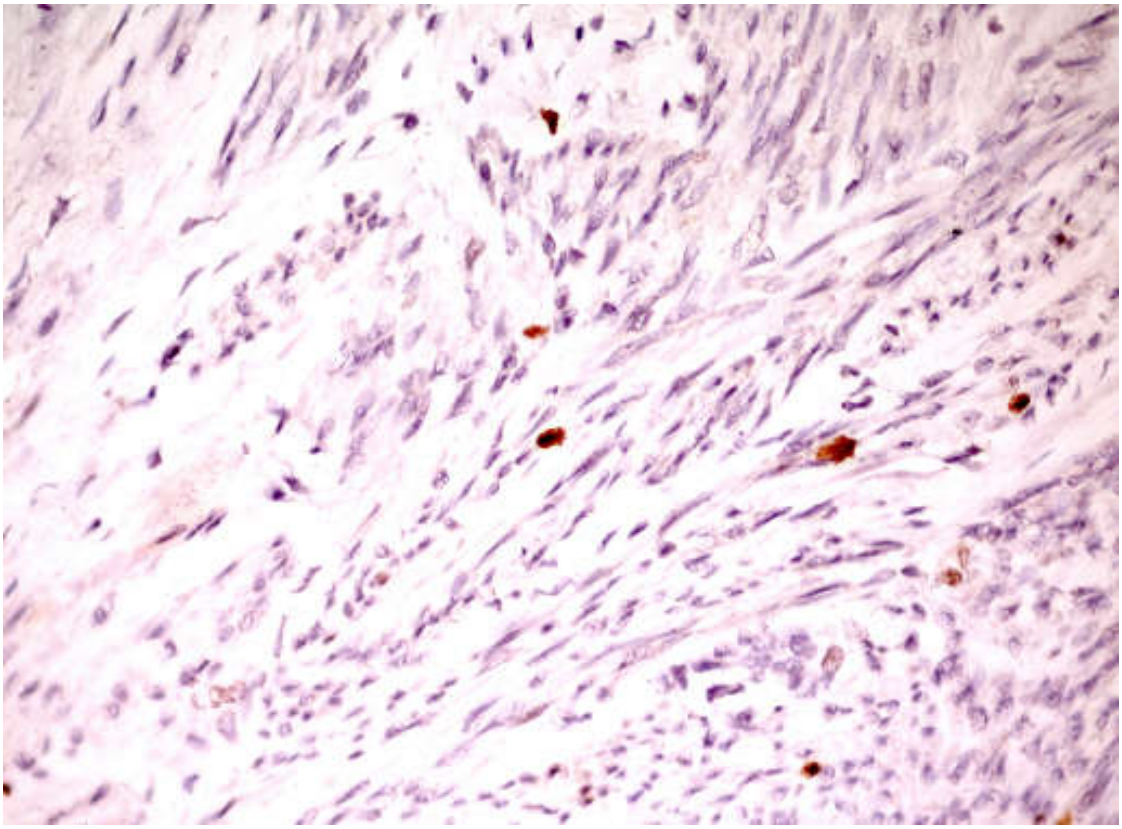

Fig. 6. Expression of Ki-67 protein in the nuclei of leiomyoma smooth muscle cells. Group of patients who received ulipristal acetate. Immunohistochemical investigation. ×400.

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