Uterine leiomyomas is the most common pelvic tumor in women, developed by monoclonal proliferation of uterine myocytes. One pathogenic hypothesis state that this entity can be regarded as a fibrotic disorder in which transforming growth factor (TGF)-β and TGFβ receptors are overexpressed compared with normal unaffected myometrium. From this point of view we were interested in investigate the immunoreactivity for TGFb1,3 and their corresponding receptors TGFbR1,3 in 15 uterine leiomyomas compared to normal uterine samples. Our study proves that leiomyomas have increased expression of TGFb1,3 and their correspondent receptors TGFbR1,3 compared with autologous myometrium. Also, the expression of all these markers on the smooth muscle cells from both normal myometrium and leiomyomas suggests their involvement in the uterine functions by autocrine/paracrine mechanisms. In the normal uterine samples the TGFb1 was expressed especially in the cytoplasm of glandular epithelial cells and, to a lesser extent, in the cytoplasm of endometrial stromal cells, myometrium smooth muscle cells, and endothelial and smooth muscle cells of uterine vessels. In addition, the inflammatory cells present in the endometrium or myometrium were also positive for TGFb1. A similar immunoreactivity was noticed for the TGFbR1 but with a much lower intensity. In the tumor samples the TGFb3 immunoreactivity was higher than in the myometrium of normal samples and in the autologous myometrium. A similar trend was observed for the tumor TGFbR3 immunoreactivity. Qualitatively the intensity of the TGFbR3 immunostaining was higher than that of the correspondent growth factor TGFb3. Also there were no significant differences regarding the TGFb3 and TGFbR3 immunoreactivity in the leiomyomas samples harvested from patients that associated different malignant and benign gynecological conditions. Overall, regarding the intensity of TGFb1 and TGFb3 immunostaining both in normal uterine samples and leiomyomas we noticed a higher rate of expression for the TGFb1. The highest reactivity in leiomyomas was recorded for the TGFb1 and TGFbR3 with significant correlation between their IRS scores both for typical and non-typical uterine tumors. This reactivity could have prognostic and therapeutically impact on the patients with uterine leiomyomas.

Key words:
uterine leiomyomas, immunohistochemistry, TGFb1, TGFbR1, TGFb3, TGFbR3.