Introduction
Endometrial hyperplasia has a high risk for malignant transformation and relapses; existing mini-invasive treatments may lead to irrevocable endometrium destruction. The aims were to analyze receptor systems in endometrial hyperplasia, to evaluate the capabilities of ultrasonography, sonoelastography for diagnosis and treatment control, and to develop treatment algorithm.

Materials and methods
We included 313 women (20-45 years), assessed into the following: group 1 (n = 112) with glandular cystic hyperplasia, group 2 (n = 98) endometrial polyps, and group 3 (n = 103) atypical hyperplasia; and 82 controls who have undergone hysteroscopy before in vitro fertilization in tubal origin infertility were also included. Patients underwent clinical examination, transvaginal ultrasound, immunohistochemical study, and hormonal therapy/hysteroresectoscopy.

Results
In patients with glandular hyperplasia, we registered increase of endometrium oestrogen receptors (75.6% in the epithelium and 30.9% in the stroma; in controls, 43.3% and 29.6%, respectively); in polyps, there was a significant oestrogen receptor increase in the stroma (48.2% vs 29.6% in controls), and in atypical hyperplasia, progesterone receptors significantly increased in the stroma. Ki-67 increased (40% to 50%) in the epithelium without changes in the stroma. Ultrasound has a sensitivity of 96% and a specificity of 85% for early detection of endometrial pathology and prediction outcome of intervention, and sonoelastography has a sensitivity of 91% and a specificity of 83% for polyp diagnosis. Personalized treatment was effective in 88.8%, relapse was diagnosed in 11.2% after 6 months, and conservative treatment of atypical hyperplasia was effective in 45%; in 25.8%, ablative hysteroresectoscopy was performed, while in 22.6% with comorbidities, hyster/oophorectomies were performed.

Conclusions
The evaluation of receptor status with ultrasound data in patients with endometrial hyperplasia allows for a clear definition of the treatment policy, avoidance of relapse, treatment optimization, and observation of such patients.