



## Optimization of the Treatment of Pelvic Pain in Endometriosis

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**Abstract:** Gonadotropin-releasing hormone (GnRh), which provides a higher level of regulation of reproductive function, is released by the hypothalamus and binds to the GnRH receptors in the pituitary gland, leading to the release of luteinizing hormone (LH) and follicle-stimulating hormone (FSH).

**Keywords:** external genital endometriosis, chronic pelvic pain, gonadotropin-releasing hormone antagonists, gonadotropin-releasing hormone agonists.

**Relevance.** Pain is the main symptom of endometriosis. The mechanisms of endometriosis-associated pain include nociception, inflammation, and changes in the peripheral and central nervous systems.

Endometriosis is a chronic, hormone-dependent, immune-dependent disease with a prevalence of 11% in the population. It has been proven that among women of reproductive age, approximately 35-50% of those suffering from the above symptoms have chronic pelvic pain, which negatively affects the quality of life of patients by disorganizing the central mechanisms of regulation of the most important functions of the body. The problem of external genital endometriosis (EGE) is of particular relevance for patients of reproductive age, since the disease is accompanied by significant disturbances in menstrual and generative functions.

The aim of the study was to evaluate the effectiveness of the treatment of pelvic pain caused by external genital endometriosis in reproductive years.

**Material and methods.** Conducted a prospective cohort comparative study, which included 65 patients with pelvic pain due to external genital endometriosis. Inclusion criteria were: presence of TB due to IGE; reproductive age (18–45 years old); regular menstrual cycle; the patient's consent to the use of contraceptive methods for the period of treatment. The exclusion criteria were: the presence of concomitant gynecological diseases of inflammatory and non-inflammatory etiology, accompanied by TB, varicose veins; systemic diseases; diseases of the blood coagulation system; malignant neoplasms; adhesive disease; interstitial cystitis; myofascial pain syndrome; irritable bowel syndrome; TB due to neurological disorders; psychogenic pain. The diagnosis of external genital endometriosis (EGE) was verified on the basis of laparoscopy data, the results of histological examination of the material obtained during the operation. The severity of pain syndrome was assessed using the modified Biberoglu and Berman pain syndrome questionnaire (mB & B), pain syndrome questionnaires using the digital rating scale (NRS) and the verbal rating scale (VRS). The assessment of chronic pelvic pain and dysmenorrhea was at least 2 points on the Biberoglu and

Berman scale, the assessment of pain syndrome was at least 4 points on the NRS scale and 2-3 points on the VRS scale. Depending on the therapy received, two groups of patients were identified: the first group - 35 patients (n = 35) receiving therapy with GnRH antagonists, the second group included 30 patients (n = 30) receiving therapy with GnRh agonists. Depending on the severity of the pain syndrome, both groups of patients were subdivided into subgroups. The first group (n = 35) - the patients were divided into three subgroups: 15 patients (n = 15) with mild pain syndrome, 10 patients (n = 10) with moderate pain syndrome and 10 patients (n = 10) with severe pain syndrome. The second group (n = 30), the patients were divided into 10 patients (n = 10) with mild pain syndrome, 10 patients (n = 10) with moderate pain syndrome and 10 patients (n = 10) with pronounced pain syndrome.

**Research results.** The treatment was effective within 12 weeks of taking gonadotropin-releasing hormone antagonists (antGnRh) and gonadotropin-releasing hormone agonists (aGnRh). The intensity of the pain syndrome was assessed, echographic monitoring of the pelvic organs was performed. Within 12 months after cessation of treatment, the frequency of recurrence of pain syndrome was assessed. The average age of the patients was  $36 \pm 2$  years. Against the background of ongoing therapy, in the first group of patients with mild pain syndrome, TB relief was noted already at the end of the first week in 12 (34%) people, in three (8.6%) - at the end of the 2nd week, in the group with moderate pain relief was observed in 7 (20%) patients at the end of the 2nd week, in three (8.6%) patients at the 3rd week of treatment. In the first group of patients with severe pain syndrome, TB relief was observed in 8 (23%) patients - at the end of the 3rd week of treatment, in 2 (5.7%) patients - at the 6th week. In the second group of patients with severe pain syndrome, TB relief was observed only in 8 (26.7%) patients at the end of the 4th week of treatment, in one (3.3%) patient - at the 9th week, and in one patient (3.3%) pain syndrome persisted, and this was the basis for changing treatment tactics. With mild pain syndrome, TB relief was observed at the end of the 3rd week in 7 (23.3%) people, in three (10%) - at the end of the 4th week, in the group with moderate pain syndrome, pain relief was observed in 7 (23.3%) patients at the end of the 4th week, in two (6.7%) patients - at the 6th week of treatment, in one (3.3%) patient TB persisted until the 8th week. After discontinuation of therapy, by the end of the 12th month in patients taking GnRH agonists, in the first and second subgroups in 16 patients (53.3%), amenorrhea was noted, as well as regression of pain syndrome. Among the patients taking antGnRh, preserved menstrual function was observed in 30 (85.7%) women, regression of pain syndrome was observed in all patients. The severity of chronic pelvic pain in patients of the first group decreased 4.1 times in the group with mild pain syndrome; 3.7 times in the group with moderate pain syndrome and 1.7 times in the group with severe pain syndrome. In the patients of the second group, pain symptoms decreased by 3.9, 2.8 and 1.2 times in the corresponding groups ( $p < 0.05$ ). The most common side effects were observed in patients of the second group who received treatment with a GnRH-a. Most often, when taking GnRH-a, the patients complained of hot flashes (87%), sweating (88.6%), vaginal dryness (42%), depression (50%), headache (35%), skin rashes (56%) ... In the first group of patients, the following were noted: intermenstrual bleeding (22.8%), headache (22%). The recurrence rate after discontinuation of treatment within a year at the 3rd, 6th and 12th months of observation in the first group was 5, 12 and 20%, respectively, and in the second group - 10, 24 and 3%, respectively.

**Conclusion.** The study allows us to conclude that a comparative assessment of the two classes of drugs demonstrates a very similar efficacy in the relief of pain syndrome caused by external genital endometriosis. When patients were followed up for a year after discontinuation of therapy, there was also a smaller number of relapses in the group taking antGnRh. In conclusion, it should be said that GnRH antagonists have shown the greatest efficacy and safety in stopping PP caused by EGE. This class of drugs is quite promising and has the potential to become a powerful tool in the fight against conditions aggravating the life of patients with endometriosis-associated pelvic pain.

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