

LONG-TERM RESULTS OF APPLICATION OF PHOTODYNAMIC THERAPY IN CASES OF INFILTRATIVE FORMS OF GENITAL ENDOMETRIOSIS

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Introduction. In modern conditions of evolution of medicine there is no universal method of treatment of genital endometriosis (GE) which will guarantee absence of recurrence of the disease. Currently, surgical removal of endometriotic lesions with subsequent hormonal therapy is considered to be the standard of GE treatment. It is known that the most "aggressive" form of GE, with poor response to hormonal therapy, which requires repeated surgery, is retrocervical endometriosis. It is characterized by involvement of rectovaginal space, affection of vaginal wall and rectum. Authors studied the efficacy of photodynamic therapy (PDT) in the treatment of infiltrative forms of GE. Materials and methods. PDT was conducted in 12 patients with severe recurrent infiltrative forms of GE. All the patients were performed laparoscopic surgery with excision to the extent of possible endometriotic lesions and histological verification of the diagnosis, followed by hormonal therapy with the use of aGnRH or dienogest for 6 months. Four patients in connection with recurrent chronic pelvic pain underwent repeated laparoscopic excision of endometriotic infiltrates, including vaginal access. The photosensitizer (PS) "Photoditazin" (chlorin E6) was administered intravenously, 1.0 mg/kg of body weight of the patient. PDT started in 1.5-2 hours from the end of the infusion of PS and was performed in pulse-periodic mode with a pulse duration of 0.5 seconds, pulse interval of 0.5 seconds. The irradiation was carried out using the apparatus for photodynamic therapy "ATCUS - 2" with the wavelength of the laser radiation of 662 nm, the output radiation power of 2 watts. The energy density of irradiation was 150-260 J/cm². The process of accumulation of PS in tissues and the degree of fading of fluofoor during irradiation was monitored by quantifying the intensity of red fluorescence using multi-spectral fluorescent videocolposcope "LuxCol-S/R" that determined the duration of exposure. Results. Duration of PDT ranged from 2 to 13 minutes and was determined by dynamics of fluorescence. Complete epithelization in the postoperative period was achieved within 4-6 weeks. During control examination, in 3-6-12-18 months after PDT, clinical effect was verified in all the patients. There were no cases of recurrence of the disease during the follow-up period. The possibility of monitoring of the process of accumulation of PS in the light of fluorescence and its fading during the course of PDT allowed to irradiate the areas with the greatest brightness of fluorescence precisely and to stop exposure at the moment of full bleaching of the fluorophore PS due to its complete degradation. Conclusions. Monitoring of the process of accumulation and fading of PS during photodynamic therapy allowed to implement the principle of laser surgery "I irradiate what I see and I see what is irradiated". This new approach can be considered as a variant of theranostics (therapy + diagnosis), and can be defined as "photodynamic theranostics". Our positive experience of application of methods of fluorescent diagnosis and photodynamic therapy can be considered as a promising and effective way of treatment for this group of patients, but, of course, it requires further observation for long-term results.

Keywords : Infiltrative endometriosis, fluorescent diagnostic, photodynamic therapy
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