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CHRONIC ENDOMETRITIS: CURRENT TREATMENT AND REHABILITATION OPTIONS.

[1]Petrov Yu. A and [2]Kupina A.D.

FGBOU VO «Rostov State Medical University» of the Ministry of Health of the Russian Federation, 344022, Rostov-on-Don, Russia.

[1] Doctor of Medicine, Professor, Department of Obstetrics and Gynecology № 2, Federal State Budgetary Educational Institution of Higher Education «Rostov State Medical University» of the Ministry of Healthcare of the Russian Federation, Rostov-on-Don, Russian Federation - mr.doktorpetrov@mail.ru

[2]Clinical Resident of the Department of Obstetrics and Gynecology №2 Federal State Budgetary Educational Institution of Higher Education «Rostov State Medical University» of the Ministry of Healthcare of the Russian Federation, 344022, Rostov-on-Don, Russian Federation – anastasya1997@bk.ru

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Abstract:

Aim: *The purpose of this study was to analyze the effect of SCENAR therapy on the course of chronic endometritis (CE) in women of different ages, based on the results of hematological and immunological examinations.*

Materials and methods: *The study involved 550 women aged 23-57 years with a reproductive loss history of up to 6 months after intrauterine interventions. All women were divided into 3 groups: in the group 1 (408 women) comprehensive rehabilitation treatment with physiotherapy (SCENAR) was carried out, in the group 2 (100 women) rehabilitation measures without physiotherapeutic impulse therapy were carried out, in the group 3 the patients refused rehabilitation treatment (42 women). One of the modern SCENAR VX 735 v 5Ag models was used for treatment. The zones of general action and local areas were subjected to treatment. Before starting SCENAR-therapy and after its completion, the leukocyte formula was counted in a peripheral blood smear.*

Results: *During the study it was found out that adequate rehabilitation therapy for pathogenetic CE variants in cohorts with early reproductive losses in combination with SCENAR-therapy determined the maximum recovery of altered immunoreactivity, corresponding to favorable adaptive reactions of the body.*

Keywords: *chronic endometritis, macrotypes, SCENAR, reproductive loss, leukocyte formula.*

Corresponding author:

Kupina Anastasia Dmitrievna,
Clinical Resident,
Federal State Budgetary Educational Institution of
Higher Education «Rostov State Medical University»
of the Ministry of Healthcare of the Russian Federation,
344022, Russian Federation, Rostov region, Rostov-on-Don, 29 Nakhichevan lane.
Phone: 89518268150, E-mail: anastasya1997@bk.ru

QR code

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INTRODUCTION:

Chronic endometritis (CE), despite a number of studies and information about its high prevalence (up to 60–65%), continues to interest gynecologists [1,2,3,4]. The conclusion of the FIGO section (Barcelona, 2007), which obliges to consider CE as the cause of an undeveloped pregnancy, has led to a new interest in the problem of chronic inflammatory process in the uterus, making the choice of treatment tactics paramount [5,6,7,8]. The need to improve the existing treatment algorithms for CE is also justified by the inconsistency of the results of ultrasound, endoscopic and pathomorphological examinations determined by pathogenetic variants of CE, and consequently by different approaches [9,10,11,12].

The variability of immunological disorders is determined by pathogenetic variants of CE [13,14,15,16]. Thus, it is advisable to correct immunological deficiency using new highly effective technologies - SCENAR-therapy. The immunomodulating and anti-inflammatory effects of electropulse therapy are proved by separate studies: in the early postoperative period - after surgical treatment of tubo-peritoneal infertility, in case of miscarriage of infectious genesis [17,18]. The principle of action of SCENAR (Self-Controlled Neuro-Adaptive Regulator) is the effect on the skin of low-frequency electrical impulses that initiates the restoration of lost functions not by suppressing protective adaptive mechanisms (as a result of which even more serious diseases arise), but by harmonizing one's own body reserves [19,20,21].

Based on the literature data on the positive effect of electro-pulse therapy on the body, it seems appropriate to study the effectiveness of the combined action of pathogenetic rehabilitation treatment, including SCENAR-therapy, on hematological and immunological parameters in the treatment of CE [22,23,24,25].

The purpose of this study was to analyze the effect of SCENAR therapy on the course of chronic endometritis in women of different ages, based on the results of hematological and immunological examinations.

MATERIALS AND METHODS:

The study involved 550 women aged 23-57 years with a reproductive loss history of up to 6 months after intrauterine interventions. In 491 women with an undeveloped pregnancy, spontaneous abortion, artificial termination of pregnancy, failed attempts at an IVF history, the diagnosis of CE was confirmed. All women were divided into 3 groups: in the group 1 (408 women) comprehensive rehabilitation treatment with physiotherapy (SCENAR) was carried out, in the group 2 (100 women) rehabilitation measures without physiotherapeutic impulse therapy were carried out, in the group 3 the patients refused rehabilitation treatment (42 women).

With the consent to treatment and rehabilitation, anti-inflammatory drugs were used (pyrogenal, gonovaccine, ultraviolet blood irradiation, hyperbaric oxygenation), enzymatic anti-adhesions, antibacterial therapy for the detection of an infectious agent, and also depending on the macrotype CE detected during hysteroscopic examination, hormonal drugs.

Before starting SCENAR-therapy and after its completion, the leukocyte formula was counted in a peripheral blood smear. According to G. Selye, stress is a non-specific basis for the development of pathological conditions, characterized by leukocytosis, aneosinophilia, lymphopenia and neutrophilia. Depending on the measure and amount of the stimulus, on the one hand, and the individual characteristics of the body, on the other, qualitatively different reactions can develop: training, calm and increased activation, reactivation, stress.

Deviation from the characteristic for the training reaction and the activation reaction of the parameters of white blood indicates the intensity of this reaction, the violation of harmony in the functioning of different systems, and the decrease in reactivity. The conditions for training and calm or increased activation are optimal for the macroorganism, in which the level of nonspecific resistance of the organism increases, allowing it to cope with the problems that have arisen. One of the modern SCENAR VX 735 v 5Ag models was used for treatment. The zones of general action (spinous processes and two paravertebral lines at a distance of the width of the electrode from the spine; six points - the exit points of the trigeminal nerve on the face on both sides; cervical-collar zone) and local areas (sacro-lumbar, suprapubic, liver, adrenal glands and etc.) were subjected to treatment. The treatment was carried out in constant and individually dosed modes, taking into account the signs of small asymmetry. Procedures in an amount of 10 were performed daily, lasting 20-40 minutes each. Statistical processing of the obtained results was performed using the statistical programs Statistica v.6.0. and Microsoft Office Excel 2003.

RESULTS AND DISCUSSION:

The analysis of adaptive reactions, depending on the presence and type of rehabilitation measures, showed that before treatment, various training macroscopic types were equally dominated by the

training reaction: 60% with mixed, 66% with hypoplastic, 62% with hyperplastic.

In addition to SCENAR-therapy, agents of complex anti-inflammatory therapy were used to level autoimmune disorders (gonovacine, "pyrogenal", UV or laser irradiation of autologous blood, HBO), with anti-adhesive action, antibacterial therapy, in the second stage, depending on the pathogenetic CE variants - hormonal preparations.

The effectiveness of comprehensive rehabilitation in combination with SCENAR is confirmed by results other than indicators in cohorts, the treatment and health course of which did not include the physiotherapeutic factor and in the absence of rehabilitation measures. Registration of the calm activation reaction after a week increased in comparison with the initial values for all CE macrotypes, but to the least extent with the hypoplastic variant (8% and 15%, respectively) ($p < 0.05$). The reduction in the training reaction was most pronounced in mixed (from 60% to 29%) and hypoplastic macroscopic types (from 66% to 40%) ($p < 0.05$).

The distinctive adaptive feature in the hypoplastic variant of CE was the significant (almost four-fold) increase in episodes of the increased activation reaction (from 7% to 32%) ($p < 0.05$).

The occurrence of the reaction of chronic stress was reduced, however, to the greatest extent - with hypoplastic (from 17% to 9%) ($p < 0.05$) and hyperplastic macrotype CE (from 10% to 4%) ($p < 0.05$).

In the absence of the comprehensive rehabilitation (without SCENAR-therapy), the lowest frequency of the training reaction was observed with the mixed CE macrotype (20.8%) ($p < 0.05$). The similar tendency with this variant of CE was noted in relation to the reaction of calm activation (19.5%) ($p < 0.05$), whereas with the hypoplastic macrotype the indicators were comparable (15% and 12.9%), regardless of the volume of rehabilitation events. The marked increase in the reaction of increased activation is almost 3 times (39.1%) compared with the value in the recovery course, which provides for physiotherapeutic effects (12.8%) ($p < 0.05$). Selective rehabilitation therapy determined the increase in the response of chronic stress - with the hyperplastic macroprotein chemotherapy, it is almost two times higher than the indicator in the cohort, the course of which included SCENAR-therapy ($p > 0.05$). Women with the hypoplastic variant of CE had the significant increase in the reaction of acute stress (from 5.0% to 19.6%) ($p < 0.05$). In the case of the mixed CE type, the frequency of acute stress reaction episodes was comparable (7.1% and 8.0%, respectively), regardless of the inclusion of SCENAR-therapy in the rehabilitation course. The absence of rehabilitation measures minimized the registration of the calm activation reaction in cohorts, the reaction of chronic stress prevailed - to the greatest extent with the hypoplastic macrotype CE (56.3%), with mixed and hyperplastic - 40%.

The spectrum of reactions evaluated in the studied cohorts after a month after the initial analysis showed the predominance of the favorable adaptive response after the rehabilitation complex in conjunction with SCENAR-therapy: the rate of calm activation reaction increased almost one and a half times with the mixed CE macrotype (62.1%) ($p < 0.05$), twice - with hyperplastic (58.7%) ($p < 0.05$). The smallest increase in episodes of the calm activation reaction was noted in the hypoplastic variant of CE (from 15 to 51.8%) ($p < 0.05$). The registration of the training reaction decreased by 1.5 times in case of hypo- and hyperplastic variants of CE (25.8% and 24.9%, respectively) ($p < 0.05$).

The registration of the training reaction decreased by 1.5 times with hypo- and hyperplastic variants of CE (27.1% and 26.8%, respectively) ($p < 0.05$). The similar trend was noted with respect to the frequency of episodes of the increased activation reaction, with the exception of the hypoplastic variant, in which the similar reaction was observed in every fourth patient (24.1%). Episodes of the reaction of chronic stress in the cohorts of patients whose rehabilitation course included SCENAR-therapy were rare.

Without SCENAR-therapy, one should note the tendency towards an increase in the occurrence with all macrotypes of the CE reaction of training, in comparison with the initial indices, the certain increase after a month was noted only for the mixed variant (20.8% and 39.1%).

It is noteworthy that the frequency of the reaction of increased activation was comparable for all variants of CE, the monthly interval contributed to the increase in its episodes with hypo- and hyperplastic macrotypes (25.1% and 22.5%, respectively). The calm activation reaction turned out to be inherent in the cohort with incomplete rehabilitation therapy to a much lesser extent than when included in the SCENAR-therapy complex. The decrease in this indicator was noted only with the hyperplastic macrotype CE (from 25.9 to 22.5%), with hypoplastic and mixed variants, it remained unchanged. The statement of the increase in episodes of chronic stress reaction after a month after the incomplete course of rehabilitation therapy (with the mixed macrotype - twice, 19.5%)

convinces of the groundlessness of such the "selective" approach.

Without rehabilitation measures, the aggravation of existing reproductive disorders was revealed in dynamics - the incidence of chronic stress reactions increased, most of all with the hypoplastic variant (from 56.3% to 67%). The number of episodes of a reaction of increased activation was halved in the case of a mixed CE macro type (from 18.2% to 9.1%), while in hyperplastic - it remained unchanged (8.0%). The parameters of the calm activation reaction remained unchanged for all types of CE, the contrast was striking in relation to the training reaction: its frequency decreased with hyperplastic (from 45.8 to 39.1%) and hypoplastic (from 30.4% to 22.1%).

CONCLUSION:

Adequate rehabilitation therapy for pathogenetic CE variants in cohorts with early reproductive losses in combination with SCENAR-therapy determined the maximum recovery of altered immunoreactivity, corresponding to favorable adaptive reactions of the body.

List of symbols and Abbreviations:
CE - chronic endometritis.

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