

OPTIONS OF MEDICATION MANAGEMENT OF CLIMACTERIC SYNDROME OF ARTHROLOGICAL TYPE IN WOMEN WITH SURGICAL MENOPAUSE

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The article describes the analysis of data on climacteric syndrome of arthrological type in women with surgical menopause, along with the typical evidence of climacteric syndrome.

The inclusion of hormone replacement therapy in complex therapy in conjunction with cartilage protector gives the best results concerning the clinical arthropathies.

On one hand this allows to correct the deficit of sex hormones, the severity of typical climacteric syndrome symptoms, as well as to slow the process of the joint tissue disintegration.

The prospects for further research is the development of the optimal treatment regimen of climacteric syndrome which includes the symptoms of arthritis and criteria for its appointment in the practice of obstetrician-gynecologist.

Keywords: climacteric syndrome, arthropathy.

МОЖЛИВОСТІ МЕДИКАМЕНТОЗНОГО ВЕДЕННЯ АРТРОЛОГІЧНОГО ВАРІАНТА КЛІМАКТЕРИЧНОГО СИНДРОМУ В ЖІНОК ІЗ ХІРУРГІЧНОЮ МЕНОПАУЗОЮ

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Проаналізовано дані про артропатичний варіант клімактеричного періоду в жінок, які перенесли хірургічну менопаузу, разом із типовими проявами клімактеричного синдрому.

Включення в комплекс замісної гормональної терапії у поєднанні з хондропротекторами дає найкращі клінічні результати щодо артропатій клімактеричного періоду.

Це дає змогу, з одного боку, скоригувати дефіцит статевих гормонів, тяжкість типових проявів клімактеричного синдрому, а також гальмує процеси розпаду суглобової тканини.

Перспективами подальших досліджень є розробка оптимальної схеми лікування клімактеричного синдрому, до складу якого входять прояви артрозу і критеріїв її призначення в практичній діяльності акушера-гінеколога.

Ключові слова: клімактеричний синдром, артропатії.

ВОЗМОЖНОСТИ МЕДИКАМЕНТОЗНОГО ВЕДЕНИЯ АРТРОЛОГИЧЕСКОГО ВАРИАНТА КЛИМАКТЕРИЧЕСКОГО СИНДРОМА У ЖЕНЩИН С ХИРУРГИЧЕСКОЙ МЕНОПАУЗОЙ

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Проанализированы данные об артропатическом варианте климактерического периода у женщин, перенесших хирургическую менопаузу, наряду с типичными проявлениями климактерического синдрома.

Включение в комплекс заместительной гормональной терапии в сочетании с хондропротекторами дает наилучшие клинические результаты в отношении артропатий климактерического периода.

Это позволяет, с одной стороны, скорректировать дефицит половых гормонов, тяжесть типичных проявлений климактерического синдрома, а также тормозит процессы распада суставной ткани.

Перспективами дальнейших исследований является разработка оптимальной схемы лечения климактерического синдрома, в состав которого входят проявления артроза и критериев ее назначения в практической деятельности акушера-гинеколога.

Ключевые слова: климактерический синдром, артропатии.

Osteoarthritis (OA) is a chronic, progressive, degenerative joint disease characterized by cartilage degradation with subsequent changes in the subchondral bone and the development of marginal osteophytes, this disease leads to the loss of cartilage and concomitant lesion of other components of the joint (synovium, ligaments) [2, 5].

Endocrine status of the woman's body is an important factor in the possible development of OA. Currently, it is proved that hormonal effects

are essential regulators for the growth and development stages of cartilage, while chondrocytes have specific receptors for thyroxin, insulin, glucocorticoids, somatotropin, estradiol, and testosterone. It was shown under experimental conditions that hormone imbalance in the body leads to the change in the metabolism of cartilage, for which cause disturbances in endocrine system can be considered as risk factors for osteoarthritis [4, 6].

As for today, the least studied course of climacteric syndrome (CS) is the arthropathy, due to the direct influence of estrogens on the metabolic processes in the cartilage.

Clinically more pronounced CS arises in early menopausal women (in the age of 38–42 years) and in women whose menopause occurred due to surgical interventions, which requires drug correction. The gold standard for the treatment of CS is hormone replacement therapy (HRT). It can significantly improve the quality of life of these patients.

Characteristic feature of arthropathy arisen during menopause is their clinical manifestations similar to those of rheumatoid arthritis. Their major difference from rheumatoid arthritis is the lack of positive serology and radiographic changes. In the case of arthropathies in menopause the periarticular soft tissues are not involved in the process. Women with high body mass suffer more often. Joint diseases of endocrine genesis — arthritis are degenerative dystrophic, and accompanying arthritis are secondary. Such factors as changes in systemic responsiveness and metabolism, and other mechanical effects are essential for the genesis of these lesions along with endocrine disorders.

Pathogenetic basis of OA is metabolic disorder of the cartilage, first of all, of its proteoglycan complex, in response to various damaging moments. This leads to the disruption of biochemical properties of cartilage, in particular, of its ability to deform reversibly. Developing depolymerization of proteoglycan complex is accompanied by the formation of smaller polysaccharide complexes that evacuate the cartilage. Degeneration of articular cartilage leads to the formation of erosions and cracks up to the loss of cartilage. Biochemical aspect of proteoglycan insufficiency involves activating hydrolytic proteases as well as anti-inflammatory cytokines that can damage both the extracellular matrix and the synthetic function of chondrocytes.

During menopause, under hypoestrogenic state the degeneration and the death of chondrocytes occurs, depolymerization of the basic substance develops, the amount of glycosaminoglycans reduces. The loss of proteoglycan complexes leads to the decrease in strength and degeneration of cartilage [1, 3, 4].

In this connexion, it became necessary to optimize the medication approach in the management of climacteric syndrome of arthrological type in women with surgical and natural menopause for detailed assessment of the effectiveness of treatment.

GOAL OF RESEARCH: to identify the assessment of pain, the degree of restriction of functions, the severity of osteoarthritis in women with surgical menopause, as well as to determine the possibility of the drug correction.

MATERIALS AND METHODS

We observed 45 patients with surgical menopause occurred within 1 to 3 years. We divided them

into two clinical groups, depending on the cause of menopause. The study group included 20 patients who had undergone surgical menopause. During the observation, women of this group took HRT together with cartilage protectors. 25 women included into the second group did not receive special medical support.

The average age of the examinees by groups was $49 \pm 0,8$, 50 ± 1.5 years respectively, thus, the population was randomized by age. The average duration of CS syndrome in patients of the first group against surgical castration was $1,3 \pm 0,4$ years, while the duration of menopause in the second group was $1,2 \pm 1,8$ years.

Examination of all patients included: analysis of complaints and features of history, BMI calculation, general clinical examination, ultrasound examination on the SonoX6 Medison apparatus, Korea. Ultrasound examination of the pelvic organs in women with natural menopause evaluated the structure of the myometrium and endometrium, as well as the structure of the ovaries was evaluated in the mode of grayscale: overall dimensions, characteristics of follicular apparatus, the ratio of the stroma/follicular apparatus, the retention structures in ovaries.

Lequesne index (points) was used to assess the pain syndrome and the severity of osteoarthritis.

The hormonal status of the examinees was evaluated in terms of the levels of FSH, LH in the blood plasma (determined by immunochemiluminometric assay on analyzer Immulite 2000 presented by Siemens Healthcare Diagnostics, made in Germany, using the appropriate test kits Immulite XPI).

Along with hormonal examination, laboratory parameters of mediators of inflammation in the blood were assessed (C-reactive protein was determined by spectrophotometry, Latex method on biochemical analyzer Olympus IU 480.). Patients with positive inflammatory markers were excluded from the study.

To assess the condition of the connective tissue, as a marker of the joint disease, we investigated the level of chondroitin sulfate in serum; determining the total content of chondroitin sulfate (g/l) was determined by reaction with rivanol according to the method developed by Y.Y. Laps and L.I. Slutsky (1969).

During the observation period the character of changes in the joint was determined on the base of integrated use of ultrasound and X-rays. Assessment of joints was carried by ultrasound scan on the SonoX6 Medison apparatus.

We analyzed the following radiological signs: the height of the joint space (5 mm (normal) < 5 mm < 4.5 mm < 4.3 mm), subchondral sclerosis (absent, moderate, local, over the entire surface; pronounced over the entire surface and deep), congruence (preserved; slight subluxation, subluxation, dislocation with severe deformities), osteophytes (absent), strain (absent, slight deformation, flattening of articular surfaces, deformation due to marginal osteophytes, severe deformity), cysts (absent; isolated in

the head or the cavity, multiple, of smaller sizes in the head or the cavity). Each sign was ranked from 0 to 3 points [4].

The effectiveness of the therapy was evaluated also according to the symptom score according to the points of intensity of clinical manifestations of menopausal index.

We chose Femoston-Conti for HRT, since it is metabolically neutral, which is important for this group of patients. The course of treatment was 5 months. As patients received normal dosings of Arthron Complex as chondroprotector. Patients of the second group did not receive medical correction.

RESULTS AND DISCUSSION

According to our observations, the leading symptom of arthropathy in patients of all clinical groups was morning stiffness (20 %). Pain in the joints at active physical activity were observed in (21.7 %) patients, meteorosensitive pain in (16.7 %) patients, muscle weakness in (17.5 %) patients, myalgia in (18.5 %) cases (Fig. 1).

The severity of functional disorders in the control and primary groups at the baseline were similar, lesions of the knee and hip joints were more common.

Women in both groups had the most common manifestation of the COP such as hot flushes, excessive sweating (21.7 %), headache, dizziness (16.7 %), weakness, fatigue, irritability (17.5 %). Along with that in the control group such manifestation prevailed as increased fatigue, tendency to hysteria, depression (5.7 %), sleep disturbances, insomnia (12.5 %).

The above results were confirmed by evaluation of menopausal index. Indicator of menopausal index is the sum of conversion factors of individual symptoms multiplied by the degree of their severity [3, 7]. This method allows to get a more complete characterization of the syndrome with a clear allocation of neurovegetative, endocrine and metabolic, and psycho-emotional disorders. So in both groups the MI index ranged from 22 to 27 points.

Along with this, the laboratory marker of inflammation the C-reactive protein did not exceed 5 units in patients of all clinical groups.

Evaluation of FSH changes in patients of both groups ranged from 65 to 98 mIU/mL. Before treatment the cholesterol concentration in patients of both groups ranged from 0.240 to 0.441 g/l, which is significantly different from the normal value of 0,100g/l. In 5 months, the general cholesterol concentration in the control group ranged 0,180–0,240 g/l, and in the primary group of women who were treated it was from 0,150 to 0,200 g/l, it is closer to the normal value.

The results of X-ray and ultrasound dynamic observation of patients of all groups revealed predominant damage of the synovial membrane, change in dimensions of the joint space, presence of deformities, bone growth and exudative manifestations. After 5 months of observation sonographic control showed no essential dynamics in any clinical groups. This confirms the postulate that the X-ray picture or ultrasound image of arthrosis is not related to the power of pain syndrome.

When analyzing the dynamics of pain (Lequesne index) it was found that the patients of the primary group (PG) showed clearly expressed effect of decreased joint pain, it became easier to walk. Lequesne index, on average, in the primary group decreased by 25 %, whereas in the OG it remained unchanged. It should also be noted that the intensity of pain did not meet the clinical and laboratory signs of the severity of degenerative changes, as the sensation of pain is always subjective and depends not only on the substrate that induced it, but also on the individual pain responsiveness. This is largely due to the emotional state of the patient and shall be equally significant for diagnostics as well as for treatment efficacy. Thus, the assessment of the dynamics of menopausal disorders in scores was based for observed women.

Analysis of the Lequesne index components after 5 months in the PG showed that the pain when long walking reduced by 48%, morning pain reduced by 33%, and problems when long walking also reduced. At the same time, the meteorosensitivity of pain was not changed significantly. In addition to improving the state of the knee joints, about a third of patients noted a decrease in pain in the hip joints. In the CG, the algofunctional indice has been still consistent with 22%, and severe morning pain and morning stiffness remained.

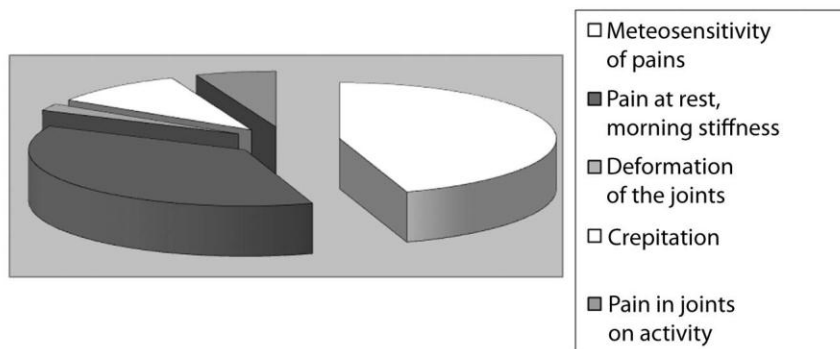


Fig. 1. Symptoms of manifestations of arthrologic pathology in examined women

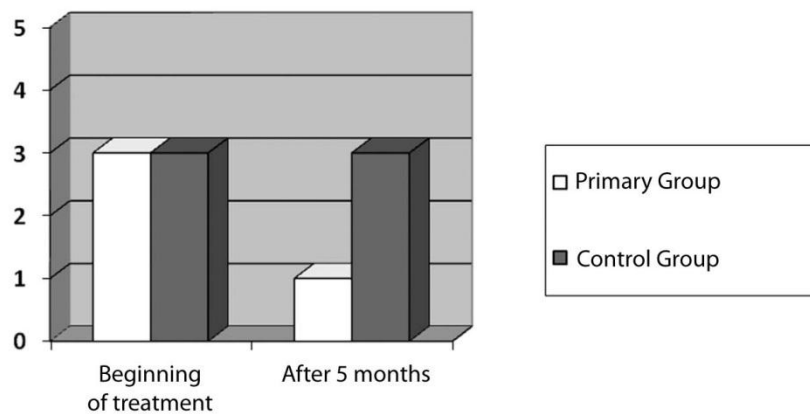


Fig. 2. Scale of arthropathic manifestations Conclusion

Study data suggest that the effect of HRT in combination with cartilage protectors led to improvement by expanding the motor mode, as a result of reducing the inflammatory process by influencing the reparative processes in the structure of cartilage in the joints.

When compare the results of treatment of patients from two study groups, a stable positive (laboratory-confirmed) effect of therapy in women with surgical menopause can be noted (Fig. 2).

On the basis of our study, we can conclude that in menopausal women underwent a surgical menopause typical CS symptoms are often followed by expressed

arthrological pain. HRT in conjunction with cartilage protectors produces better clinical results in terms of arthropathies in the CG. This approach makes it possible to correct hormonal disorders and to reduce the severity of typical CS symptoms, as well as slows the process of disintegration of the joint tissue. The obtained data necessitate early correction of possible CS manifestations and the development of arthropathy in patients with surgical menopause.

Prospects for further research is the development of optimal treatment of the climacteric syndrome with symptoms of osteoarthritis, as well as the ways to prevent them.

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